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CATALOGUE

OF THE

PATHOLOGICAL MUSEUM

OF

ST. GEORGE'S HOSPITAL.

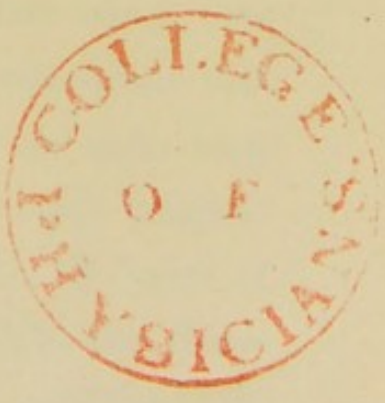
EDITED BY

JOHN W. OGLE, M.D., F.R.C.P.

AND

TIMOTHY HOLMES, F.R.C.S.





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PREFACE.

The publication of this volume has been so long delayed that an apology is required to those who subscribed, now some years ago, when the Catalogue was first in preparation. This was a short time previous to the sudden death of Mr. Gray, who had drawn up the scheme on which the Catalogue was then arranged and partially printed. That scheme was judged by the present Editors (and by the Medical School Committee to whom the question was referred) to be too complicated, and it was accordingly abandoned. This change of plan involved a very long and laborious re-arrangement of the whole collection, besides the loss of time which was occasioned by Mr. Gray's death and by the subsequent discussion of the scheme. Hence the work has been long delayed; but the delay has not been without some compensation, as it has permitted those additions which all parts of the collection have acquired, especially as respects the drawings and models. The most recent of these additions are placed in the Appendix, the others being embodied in the General Catalogue.

With respect to the Museum Collection itself, no efforts have been spared, either by the present Editors or their successor

in the curatorship, Dr. Dickinson (who constructed the Appendix of the Catalogue), to render it as available for the purposes of study as the limited space of the present Museum allows. Each Series of Preparations is placed in a separate compartment, under a label showing the general subject; and the indexed Catalogue of the Series is placed in each compartment. Thus the student who wishes to investigate any simple subject, as, for instance, Fractures or Diseases of the Heart, has merely to direct his steps to the compartment bearing those headings, where he will find references to all the preparations bearing on any point which he may have in view. In more complicated subjects (for instance, Tumours, which may be arranged either under that heading, or under diseases of the organ affected,) it will only be necessary to search through two Series, or to have recourse to the General Index at the end of the Catalogue. In this way, it is believed, all the facilities which can be secured by cataloguing have been given; and when the acquisition of the new Museum which is contemplated, shall render it possible to arrange the preparations themselves more conveniently, nothing will remain to be desired in order to display the rich Pathological collection which the industry of our predecessors has founded, and to which we have endeavoured to make such additions as our opportunities have enabled us.

THE EDITORS.

COLLEGE OF PHYSICIANS

PATHOLOGICAL CATALOGUE.

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1. Extensive Fracture of the Right Parietal and Occipital Bones. A large portion of the parietal bone, and a small part of the occipital have been removed during life.
2. Depressed Fracture of the Left Parietal Bone, Laceration of the Middle Meningeal Artery, and extensive Extravasation of Blood between the Bone and Dura Mater. On post mortem examination, an extensive starred fracture was found near the suture joining the back part of the squamous portion of the left temporal with the parietal bone. One of the branches of the fracture crossed the canal for the meningeal artery near the anterior inferior angle of the latter bone, and had ruptured the artery. A clot of blood, an inch in thickness, was found between the bone and dura mater, in the neighbourhood of the fracture; this clot very considerably compressed the middle lobe of the brain; some blood was found in the cavity of the arachnoid on both sides, and there was slight laceration of the middle lobe of the brain. This preparation was taken from the body of Patrick F., aged 45 years, who was admitted into the Hospital on May 28th, 1849, in a state of insensibility from concussion, having fallen backwards from a height of five or six feet. In a short time he became sensible, complained of pain at the back of his head, and was able to get out of bed to make water. He soon, however, again relapsed into a state of insensibility, and became very restless; the pupils were contracted, and the stupor gradually increased. There was incontinence of urine, and palsy of the left portio dura: the flexor muscles of the arms, especially on the left side, were in a state of tonic spasm. On the 30th, the breathing became stertorous. An incision was now made

down to the bone on the right side, but no fracture was found. The coma became more profound, and he died the following morning. *Post Mortem and Case Book.* 1849. p. 116.

3. Extensive Fracture of the right side of the Frontal Bone. Both the trephine and Hey's saw appear to have been used in order to remove depressed bone. The skull is that of a young subject.

4. Portion of the left Parietal Bone, from the body of a child aged 5 years. This preparation exhibits a nearly vertical fracture of the bone, which commences about an inch from the sagittal suture and passes through the parietal eminence, terminating near the centre of the lower border of the bone. The line of fracture crosses the grooves formed for some of the branches of the middle meningeal artery. Blood was found extravasated both on the outer surface of the skull cap, and also between the bone and dura mater. The middle meningeal artery was ruptured at the point where it was crossed by the line of fracture, but the dura mater was not lacerated. The subarachnoid cellular tissue was infiltrated with purulent fluid. The child fell down stairs, and was admitted a week afterwards, with a swelling situated above the left ear. This swelling was said by the mother to have made its appearance soon after the accident. The child was quite free from symptoms, and apparently well and lively until the morning of the fourth day after admission ; he was then seized with fever accompanied by constant sickness, and other symptoms of meningitis. Twitchings of the muscles came on next day, and, on the fourth day from the commencement of the symptoms, the child died comatose. *Post Mortem and Case Book.* 1849. p. 159. The preparation No. 76 is from the same patient, and a preparation in a subsequent series shows the extravasation on the dura mater.

5. Fracture of the left Temporal Bone, extending into the base of the skull. The patient died two months afterwards from a different cause. The preparation shows the condition of the fracture through the squamous portion of the temporal bone. "The edges of the fissure have been so thinned away by absorption, that an opening in the bone is formed, $1\frac{1}{2}$ in. in length, tapering to its extremities, and $\frac{1}{8}$ in. in breadth at its centre. At the points where the edges of this fissure are in contact, no bony union has taken place, as ascertained by Mr. TOMES, on endeavouring to make a section for the microscope."—*Lancet*, vol. i., 1849, p. 580. *Presented by* J. GREGORY FORBES, Esq.

6. The middle Zone of the Skull, showing a Fracture, traversing its whole extent from one side to the other, so as to divide the cranium into two nearly equal portions. Starting

from the vertex, the fracture is seen to pass for a considerable distance in the course of the coronal suture. It leaves this suture close to the sagittal suture on the left side, and at this point a small fissure may be seen, running forwards, which has been cut through by the saw. On the right side the line of fracture quits the coronal suture further outwards. It passes into the base of the skull near the root of each zygoma, and across the glenoid cavity. It then runs directly across the base of the skull, where it is somewhat comminuted, the basilar process and the petrous portion of the right temporal bone being quite loose. From the posterior part of the fracture through the basilar process, a small fissure runs into the foramen magnum; but with this exception the posterior fossa seems free from injury, as the anterior was. The left pterygoid process is detached from the rest of the skull.*

This preparation was taken from the body of William M., aged 30, who lost his life by falling into the coffer dam of a bridge, a height of 30 feet. He was brought to the Hospital insensible, bleeding profusely from both ears, with dilated and insensible pupils, and great tonic spasm of both arms and legs, especially the right. He died in less than five hours from the receipt of the injury. The brain was only slightly bruised and the membranes quite uninjured. *Post Mortem and Case Book.* 1860. p. 67.

7. Fracture of the Skull, with Depression of the internal Table of the Bone: no corresponding depression of the external Table. There is extensive linear fracture of both parietal bones, and in the left parietal, where the blow seems to have been struck, there are numerous fissures in the external table. In the course of the principal fracture, corresponding to this part, there is a conical depression of the internal table, formed by a number of small plates converging to a point, and separated by minute fissures. The greatest depth of the depression is about a quarter of an inch. From the body of Robert C., aged 68, who was admitted with a scalp wound, symptoms of concussion, and fracture of the olecranon. He went on very well for some days; but symptoms of inflammation soon made their appearance, and he died three weeks after his admission.

8. Fracture of the Skull, with Depression of the internal Table. The preparation consists of a portion of the right side of the frontal, and part of the right parietal. There is a fracture of the external table, with very slight depression of the bone; the fracture is situated on the right side of the parietal bone, close to the coronal suture; the depression of this table is not very considerable. On

* In examining this preparation, it is necessary to discriminate between the lines of fracture and the fissures caused by the separation of the sutures in maceration. Of course, the horizontal line of section of the skull made at the post mortem examination will be at once recognised.

the inner surface of the skull, and corresponding nearly with the outer depression, is a more considerable fracture of the internal table, with a greater degree of depression than on the outer surface; and the fractured portions are more comminuted. A small extravasation of blood, about half an inch in diameter, was found on the surface of the dura mater, opposite to the fracture. This preparation was taken from the body of Wm. W., who was admitted with a small wound on the right side of the head; he became delirious on the following day, and died four days after his admission. *Post Mortem and Case Book.* 1847. p. 125.

9. Skull-Cap, from the body of James A. Two crowns of the trephine were applied in the neighbourhood of, and upon the fronto-parietal suture, for brain symptoms consequent upon fracture of the skull with depression of bone. The injury was caused by a fall off a coach-box; after recovering from the effects of a slight concussion, he remained well for a year (with the exception of an occasional head-ache) until a fortnight previous to his admission, when the pain in the head became constant. Upon the application of the trephine, a fracture with depression of bone was detected; the bone was sawn through, with some difficulty from its thickness and density, and, when removed, a small portion of the internal table was found broken into fragments, which were united to each other and to the dura mater by dense fibrous tissue. A minute quantity of purulent matter was also found beneath the bone. The patient died from diffuse inflammation of the sub-arachnoid areolar tissue. *Post Mortem and Case Book.* 1844. p. 14.
10. Fracture and Depression of the Frontal Bone, from a boy who died, in the Hospital, 24 hours after the accident. The brain in this case was wounded; and is preserved in a subsequent series.
11. Fracture and Depression of the Frontal Bone, just over the left superciliary ridge. The trephine was applied, but a portion of the internal table of the bone still projects into the cavity of the cranium. The bones are exceedingly thick, especially the frontal, where the diploë is excessively developed.
12. Extensive Fracture of the left Parietal, with Depression of a large fragment. One portion of the fracture passes across a main branch of the middle meningeal artery, close to the anterior inferior angle of the parietal.
13. Fracture, with Depression, just over the right Frontal protuberance. A trephine was applied to the right side of the fracture, and the depressed portions of bone removed.
14. Fracture of the Skull, with Depression of the Bone. From the body of Thomas C., a boy, aged 12. At the post mortem examination, a fracture with slight depression of the right side of the frontal bone was found; a fracture was also

observed traversing the right parietal bone from before backwards. At the anterior inferior angle of each parietal bone, the end of the coronal suture was a good deal separated, and this separation communicated with a fracture in each temple across the squamous suture. The temporal bone was separated at its suture in the basis, and the sella turcica was fractured, so that the injury had separated the skull into two portions perpendicularly. A great deal of blood was found beneath the scalp, along the coronal suture and below the fracture, especially in the temples. Some blood was also found in the fractured sphenoid bone, and in the nasal cells, as well as below the dura mater, on the surface of the left hemisphere. There was a good deal of injury of the surface of the brain at the bottom of each hemisphere, especially of the left, and a little also of the cerebellum. No blood was effused in the interior of the brain. The patient was admitted into the Hospital in a state of insensibility, with paralysis chiefly of the left side, and great effusion of blood outside the skull. Great excitement and stertor soon came on. An incision having been made on the right side of the head, over the middle meningeal artery, fracture with depression of the parietal bone was detected. The trephine was applied so as to raise the bone and give exit to the blood below; the meningeal artery was found bleeding, and was tied on the dura mater by a needle, just where it had been opened by the sharp end of the broken bone. No relief being afforded, an incision was made in nearly the same situation on the left side, where also fracture was found; but the strength failing, nothing further was done. The patient died three hours afterwards. The accident was produced by a heavy stone falling on the top of his head and knocking him off a scaffold about five feet high. *Presented by* CÆSAR HAWKINS, Esq.

15. The Vertex of a Skull. About the centre of the left parietal bone an oval-shaped fracture is seen, the length of the portion of bone included in the fractured space being about two inches and a half, its breadth two inches. This fracture appears to extend only through the outer table. Running along the centre of this space is a second fracture, of a spiral form and about two inches in length, comminuted behind, and traversing both tables: the margins of this fracture are depressed, the depression being greater in front, where another fracture marks off a small triangular portion of bone, still more depressed than the other fractured portion. A part of the bone has been removed by the trephine. The dura mater corresponding to the situation where the trephine had been applied was found covered with granulations, and in one part in a sloughy condition, with an opening in the mem-

brane; and below it was a corresponding wound of the brain. This preparation was taken from the body of Thomas C., aged 45, who was admitted into the Hospital on October 5th, 1843. The only history that could be obtained was that he had been kicked on the side of the head by a horse. He was sensible on admission. *Post Mortem and Case Book.* 1843. p. 208.

16. Vertex of the Skull, with an extensive and depressed Fracture; the depressed portion was locked in beneath the projecting edges of the sound skull. The latter were removed by means of the trephine and Hey's saw, and the depressed bone elevated to the level of the rest of the skull. The fracture was found to have traversed the groove for the middle meningeal artery, in the base of the skull, and there was much blood between the bone and dura mater in this situation, probably proceeding from a wound of that vessel. The symptoms of compression were temporarily relieved by the trephining so that the patient became a little more sensible, and was able to speak. *Post Mortem and Case Book.* 1860. p. 190.

17. Fracture of the Skull, produced by a chisel, which, falling perpendicularly from a height of about 80 feet, struck the right branch of the lambdoid suture and penetrated through the cerebrum into the right lobe of the cerebellum. The patient, James C., lived 23 hours after the accident. A piece of the occipital bone has been cut and turned upwards. A preparation in a subsequent series shows the injury to the cerebellum. *Post Mortem and Case Book.* 1845. p. 177.

18. Extensive Fracture of the Skull; from the body of William B., æt. 4, who was admitted into the Hospital with compound fracture of the skull, and depression of the fragments. The trephine was applied six days after his admission. The patient went on well for some days; but afterwards the dura mater sloughed, and a portion of the brain came through the opening. The child died, about five weeks after the accident, of extensive suppuration between the membranes of the brain. *Old Museum Case Book.* p. 14.

19. Extensive Fracture of the Right Parietal Bone; from the body of J. W., aged 42, who was admitted into the Hospital with compound fracture of the skull and depression of the bone. No cerebral symptoms existed at the time of his admission; but they came on two days afterwards, and the portions of depressed bone were removed by the use of Hey's saw.

20. Fracture of the Skull, just over the occipito-parietal suture; from the body of Wm. H., aged 12, who was admitted into the Hospital with compound fracture of the skull and depression of bone. The depressed portions of bone were removed shortly after the boy's admission. The patient died, 14 days after the accident,

of a secondary abscess in the right hip-joint. The brain and its membranes were healthy, with the exception of the portion of denuded dura mater which is preserved in a subsequent series. *Post Mortem and Case Book.* 1841. p. 254.

21. Skull-Cap of F. H., a boy, aged 14; which presents an extensive loss of substance in the middle of the frontal bone, caused by the recoil of a pistol, the muzzle of which came against his head. The portions of depressed bone were removed shortly after the patient's admission into the Hospital; but the dura mater, which had been wounded, sloughed, and hernia cerebri ensued. Several spicula of bone were, after death, found in the corresponding portion of dura mater, which is preserved in a subsequent series. The patient lived 13 days after the accident. *Post Mortem and Case Book.* 1846. p. 168.

22. A Skull, showing the deficiency left after the removal of portions of loose bone, in a compound comminuted fracture of the bones of the forehead and orbit on the right side. (The portions of bone removed at the operation, are shown in the next preparation.) It will be seen that the fracture extends, as a linear fissure, for a considerable distance backwards, into the substance of the parietal bone. There was laceration of the dura mater and brain, a portion of which latter escaped during the operation. Hernia cerebri followed, and a large quantity of the anterior lobe of the brain was lost. The patient, Frederick W., lived 18 days, retaining his consciousness throughout, and then died of pyæmia. *Post Mortem and Case Book.* 1855. p. 165.

23. The Portions of Bone removed by operation in the foregoing case. The edge of the sound bone having been taken off by means of Hey's saw, the largest of the pieces which are lying at the bottom of the bottle, and which formed part of the perpendicular portion of the frontal bone, was removed. The small comminuted pieces were then drawn out, and, finally, the piece which is hanging up, and which forms almost the entire roof of the orbit.

24. Fracture of the Base of the Skull, principally situated in the right orbital plate of the frontal bone, which is separated into two fragments. The cribriform plate of the ethmoid was widely separated from the frontal, as well as the articulation of the frontal from the lesser wing of the sphenoid. A fracture also extends in an oblique direction, through the anterior part of the body of the sphenoid, and another leads transversely through the body into the canal (which in this preparation presents the appearance of a foramen), serving for the lodgment of the carotid artery. The brain presented at the under surface of the left middle lobe, an extensive laceration, which had given rise to extravasation of a large a quantity of blood. It is preserved in a subsequent series. The preparation was

taken from the body of Richard P., who was admitted in a state of insensibility, having fallen from a considerable height. The left pupil acted but slightly, the right not at all; the right extremities were paralysed; there was bleeding from the nose, and the right eye was protruded from the orbit by an extensive extravasation of blood, which could be discerned through the upper eyelid and underneath the conjunctiva. Convulsions came on in the left extremities soon after his admission. He lived but a few hours after the accident. *Post Mortem and Case Book.* 1842. p. 52.

25. Fracture through the middle Fossæ of the Base of the Skull. The fracture commenced on the right side, in the parietal bone, about an inch from the occipito-parietal suture; it ran forwards for about an inch and then turned downwards, passing through the mastoid portion of the temporal bone, through the external auditory foramen, the spheno-temporal suture, and the junction of the body of the sphenoid with the basilar portion of the occipital bone; it then took almost the same direction upwards on the left side, and terminated in the left parietal bone, rather lower, and further forwards than on the right side. When the skull-cap was removed, the anterior half of the base readily moved on the posterior. The patient from whom this preparation was taken, was brought to the Hospital dead, a cart-wheel having passed over his head. *Post Mortem and Case Book.* 1847. p. 144.

26. Fracture through the middle Fossa of the Base of the Skull. The fracture commenced at the posterior inferior angle of the parietal bone, and passed obliquely downwards through the mastoid portion of the temporal bone, and through the cavity of the tympanum, into the suture connecting the petrous portion of the temporal bone with the spinous process of the sphenoid. The patient, Philip B., aged 37, was admitted July 27th, 1835, with a scalp wound, denuding the posterior and inferior part of the left parietal bone, and with epileptic fits immediately following the blow. He left the Hospital on August 5th, apparently going on well, but was re-admitted on the 27th, with suppuration from the meatus auditorius, rigors, perspirations, and delirium. He was trephined over the exposed bone on September 3rd, the instrument taking in the end of a fracture. The dura mater was found healthy. He died on the 6th of September. *Presented by* CÆSAR HAWKINS, Esq.

27. Fracture through the middle Fossa of the Base of the Skull. In the preparation, a fracture is seen passing downwards between the squamous and mastoid portions of the left temporal bone, across the roof of the tympanum, and the upper wall of the external meatus, through the middle of the petrous

portion of the bone, and terminating at the spheno-temporal suture. Another fracture separates the apex of the temporal bone from its junction with the occipital. On post mortem examination, the membrana tympani was found lacerated, and the tympanic cavity filled with blood. There was also some separation of the left sphenoido-temporal suture. The fracture separating the squamous from the mastoid portion of the bone, was traced upwards through the lower part of the parietal bone to the occipital, where it was met by another fracture, meeting the former at an acute angle. Here there was a slight depression. The fracture then extended around the right side of the head to the temple. There was a good deal of effused blood on the top of the head and in each temporal muscle, a large quantity on the upper surface of the right hemisphere of the cerebrum, and some also under the arachnoid membrane; the greatest effusion was at the basis on the right side, and was caused by an extensive laceration of the substance of the brain, which extended for about two inches into each lobe, across the fissure of Sylvius; the brain around the laceration was of a yellow colour. There was also a smaller laceration of the anterior lobe, close to the falx. There were a few bloody puncta in both hemispheres, and a little fluid in the ventricles. The patient, William A., aged 25, was admitted May 16th, 1840, having fallen down a stone staircase. There was bleeding from the left ear, nose, and mouth; insensibility, and stertorous breathing. After some slight change of symptoms, he died on the 20th. *Presented by* Cæsar Hawkins, Esq.

28. A Specimen, shewing the condyle of the lower jaw driven through the glenoid cavity of the temporal bone, and thus producing fracture of the middle fossa of the skull. On post mortem examination there was found a comminuted fracture of the left middle fossa of the skull, corresponding to the anterior smooth portion of the glenoid fossa externally. The inter-articular fibro-cartilage and condyle of the jaw were partially displaced upwards, so as to push the fragments about a third of an inch above the level of the rest of the bone. The inter-articular cartilage was not ruptured, and the synovial cavities were intact. The condyle of the jaw was not injured. There was found also an extensive comminuted fracture of the lower jaw, and compound fracture of both thighs. The heart was ruptured. The patient, Richard B., aged 12, was admitted in a dying state, having fallen out of the fourth story of a house into the area. The ruptured heart is preserved in a subsequent Series, and a preparation of the fracture of one of the thigh bones as No. 184 in this Series. *Post Mortem and Case Book.* 1853. p. 31.

29. Fracture of the Base of the Skull, confined to the Posterior Fossæ. The patient, John P., aged 40, was admitted Feb. 17th, 1829, having received a blow from a piece of timber falling on the back of his head. He had profuse bleeding from the mouth and nose, nearly perfect consciousness when spoken to, and perfect command of the muscles, except that the speech was indistinct. He was admitted at eight o'clock, a.m., and was bled at ten, p.m., the pulse rising. The following forenoon he somewhat suddenly became delirious, with powerful convulsions, and a considerable swelling made its appearance at the back of the neck and occipital region. It was not very tense; but an incision was made down upon the bone, in order to examine the part, so that if any pressure existed it might be removed. The occipital bone was broken and depressed; the fragments were so loose, and the interspaces between them so freely open, that the blood escaped readily, and therefore nothing further was done. The irritation produced by the hæmorrhage did not last long, and at the time the incision was made, he was comatose, with stertorous breathing. He sank gradually, and died in the afternoon of the 18th. The whole surface of the brain, and the intervals between the convolutions, were covered with blood, which was in greatest quantity between the dura mater and base of the brain, especially of the cerebellum. The anterior lobe was lacerated at the base, and had blood mixed with the nervous matter. Both hemispheres of the cerebellum were deeply lacerated at their back part, so that nearly half the interior was broken into a pulp, and mixed with blood. The lateral ventricles contained a little bloody serum. The occipital bone was broken into several portions. On the right side, one piece of a somewhat triangular shape, which was moveable and partly depressed, was separate from the rest of the bone, the fracture extending into the foramen magnum. Opposite to this fractured edge of bone was a longitudinal rent in the dura mater, which thus communicated with the ruptured cerebellum, and the upper extremity of the rent just reached to the end of the superior longitudinal sinus, from which the principal part of the hæmorrhage, both internal and external, appeared to have come. Another line of fracture ran across the end of the right lateral sinus, whence some of the blood among the muscles of the neck might have proceeded; but it was not observed that the dura mater was injured at this part. A separate line of fracture also extends from the jugular fossa in front of the right condyle of the occipital bone, partially separating it from the basilar portion. A starred fracture may also be seen in the left half of the bone, one line of which runs into the middle of the left margin of the foramen magnum. *Presented by* Cæsar Hawkins, Esq.

30. Fissure in the Occipital Bone, leading down to the Foramen Magnum ; from the body of James J., aged 13. This boy fell off a donkey, and struck the back part of his head and the sacrum. He was admitted into the Hospital a week after the accident, with inflammation of the membranes of the brain, and severe pain in the back. He died 14 days after admission. Extensive suppuration had taken place between the membranes of the brain and in the left sacro-iliac joint, where the bones were denuded of their cartilage. There was no scalp wound. *Post Mortem and Case Book.* 1842. p. 29.

31. A preparation to show separation of the coronal suture. The suture is completely separated on the right side and the fracture extends across the base of the skull. The preparation was taken from the body of a child two years and a half old, who was run over by a cabriolet, and the head so crushed as to be almost separated into two portions. The child was dead at the time of admission. *Presented by* CÆSAR HAWKINS, Esq.

32. Fracture of the Occipital Bone, with separation of part of the left branch of the Lambdoid Suture. This specimen was taken from the body of John C., aged 12, who was admitted on December 27th, 1852, and died on the 12th of the following month. On post-mortem examination, much blood was found extravasated into the cavity of the arachnoid. The fracture of the occipital bone was comminuted, and ran through the course of the lambdoid suture for some extent. In the upper part it will be observed that the teeth of the suture belonging to the parietal bone are broken off. The upper loose portion lay somewhat in the position in which it has been preserved, with its outer edge raised above the level of the rest of the skull. The brain was lacerated. There was no scalp wound. The accident was a fall from a first-floor window. *Post Mortem and Case Book.* 1853. p. 7.

33. An old Fracture of the Frontal Bone, with depression, firmly united. The depressed portion of bone is as large as a crown piece, and presents a double edge above, like a pair of steps, the fracture having been somewhat comminuted at that part. The external depression is considerable, more than equal to the thickness of the entire skull, and the projection internally, though slighter, is very well marked. The preparation was taken from a subject in the dissecting-room, who had been a convict. Nothing was known about the old injury.

34. Fracture of the Base of the Skull, of two months' duration, united, with irregular deposit of new bone in the vicinity of the fracture. A fracture with very slight depression of the internal table, was found commencing on the outer side of the right frontal eminence, whence it was traced along the lower border of the frontal bone, behind the external angular process,

through the great wing of the sphenoid, across the back part of the orbital plate of the frontal bone, through the lesser wing and body of the sphenoid, to the inner side of the left optic foramen, where it terminated. In the preparation, the dura mater has been turned down, to exhibit a clot of blood, which, partially deprived of its colouring matter, is adherent to the outer surface of the membrane, while its inner surface is coated with a layer of organised fibrine. A considerable deposit of spongy vascular new bone is seen on the inner surface of the frontal bone. This deposit is not altogether confined to the immediate neighbourhood of the fractured edges, but encroaches upon them in some places; in the situation of the lesser wing of the sphenoid, the line of fracture is obliterated by the new bony deposit, whilst across the body of the sphenoid no new bone has been thrown out. Besides this, a thin elevated edge of new bone is seen in some places near the contiguous edges of the fracture, and between the edges there is a thin but dense layer of fibrous tissue. On the inner surface of the parietal arachnoid is a thin layer of false membrane, having all the characters of extravasated blood partially deprived of its colouring matter; it was found attached to that part of the dura mater which covered the upper part of the right hemisphere. A similar thin layer was found on the parietal portion of the arachnoid covering the left hemisphere. This preparation was taken from the body of W. B., aged 53, who fell down stairs while in a state of intoxication, and was picked up insensible, having received a scalp wound over the right frontal eminence, exposing the bone. On admission into the Hospital, his mouth was drawn to the left side, and his eyelids were so swollen from extravasated blood, as to prevent the pupils from being seen. On the third day after the accident, some degree of sensibility began to return; but improvement took place very slowly, and for many days he was more or less incoherent and peevish in his manner, and his intellect was impaired. At the end of a month, he began to improve very rapidly; and in six weeks from the time of the accident, he was able to leave his bed. He had still some defect of memory; but he continued to do well until seven weeks after the accident, when he was attacked with erysipelas, which carried him off in the course of a few days. *Post Mortem and Case Book.* 1849. p. 260.

35. Part of the Frontal and Right Parietal Bones, exhibiting the commencement of the fracture noticed in the description of the preceding specimen. At the beginning of the principal fracture, there is a minute fissure about two inches long, directed from before backwards. New bone is deposited on the inner

table of the skull, near the fracture, and also between the edges of the latter. On the outer surface there is a small portion of bone, partly necrosed, which corresponds with the angle at which the lines of fracture meet. It will be seen that the fissure above mentioned is confined entirely to the internal table.

36. Fracture of the Occipital Bone, leading down to the foramen magnum, united, in part of its extent, by bone. The following description of this specimen is extracted from the Transactions of the Pathological Society, vol. vii., p. 282:

The patient, James S., aged 46, was admitted into the Hospital in March, 1856, with extensive ulceration of the stomach, of which he died the following month. On his admission he stated, that, three years before, he fell from his horse on the back of his head, which caused an extensive lacerated wound of the scalp, and that he was delirious for some days after the accident. On examination of the cranium after death, a very distinct line of fracture was detected on the left side of the skull. It commenced at the upper part of the occipital bone, on the left side, and passed almost perpendicularly downwards through the cerebral and cerebellar fossæ, becoming lost where the groove for the lateral sinus terminates in the jugular foramen. The upper half of this line of fracture is distinct externally in the form of a linear groove, complete bony union having taken place between the contiguous fractured edges. On the inner surface, corresponding to the same part, the bone is thickened, apparently from recent deposit, and more vascular than natural. The lower half of the line of fracture is not united, but a distinct fissure is left between the contiguous edges of the fractured part, the margins of the fissure being thinned and rounded, as if from absorption. A quantity of fibrous tissue was found in the recent state, completely filling up this fissure. Just where the groove for the lateral sinus terminates in the jugular foramen, in the situation where the above-mentioned fissure ends, a series of inequalities are observed, as if the bone in this situation had been broken up and subsequently united, thus almost obliterating the groove for the sinus in this part. The posterior part of the petro-occipital suture is obliterated, and complete bony ankylosis has taken place between the articular surfaces of the atlas and occipital bone on this side. The left lateral sinus was obliterated near its termination. *Post Mortem and Case Book.* 1856. p. 78.

37. A specimen, showing union of an old Fracture of the Roof of the Orbit. A slight line of union externally shows the commencement of the fracture in the perpendicular portion of the frontal bone. In the orbit it is marked by the projection of

one edge, behind which the fracture seems to have bifurcated to enclose a small piece, which is on a different level to the rest, and is light and porous. The traces of the fracture were lost in the middle fossa. The vault of the skull was much hypertrophied; it is preserved in a subsequent Series. There was the scar of an old scalp wound over the commencement of the fracture. The patient, Sarah N., aged 60, was admitted in a dying condition from pneumonia, combined with disease of the heart and kidneys. She was also the subject of a large congenital phrenic hernia. Her friends seemed to know nothing about the old accident. *Post Mortem and Case Book.* 1858. p. 70.

38. Fracture of the Lower Jaw, which has united. The fracture is situated on the right side of the symphysis. Small nodulated outgrowths of bone may be seen at the lower and back part of the jaw, in the immediate vicinity of the fracture, where the bone itself is also much thickened.

39. The right Branch of the Inferior Maxillary Bone, with an oblique fracture running just anterior to its angle. The patient died a few days after his admission, of other injuries which he had received at the time of the accident.

40. Fracture of the neck of the condyle of the lower jaw, the lower fragment of which was displaced into the meatus auditorius, causing a partial separation of the membranes from the osseous part of the meatus. This was followed by a copious serous discharge, mixed with blood from the ear ; closely resembling the discharge which so often occurs in fractures of the base of the skull. The skull, however, is quite uninjured, though the membrana tympani appeared to have been lacerated. The coronoid process of the jaw is also seen to be fractured. A considerable quantity of blood lay around the fracture ; and the serosanguineous discharge was due, either to the draining away of the more watery part of this blood through the laceration in the meatus, or to inflammation of the lining membrane of the meatus, in consequence of the injury. The patient had fallen out of a loft, while drunk, and was brought to the Hospital partly sensible. He died, four days after the accident, from delirium tremens. The case is reported in *Post Mortem and Case Book.* 1860. p. 209., and in *Path. Soc. Trans.*, vol. xii. p. 159.

40*a*. The Temporal Bone, from the same preparation as the former, showing the laceration of the meatus.

41. Dislocation of the fifth and sixth cervical vertebræ from each other. On the right side, the transverse process of the fifth vertebra is seen resting upon the superior articular process of the sixth ; on the left side, the articular surfaces are only partially displaced, the capsular ligament not being quite torn through.

The posterior common ligament is entire. The spinal marrow was crushed and the lungs gorged. The sternum was also fractured. This preparation was taken from the body of Henry B., aged 24, who fell about twenty feet from a loft upon his head and shoulders, bending the body backwards. There was paralysis of motion and sensation of all parts below the shoulders, and in great measure of the arms also, especially on the left side. There was priapism. Pulse, from 56 to 44. He lived from January 23rd, 1842, to the 28th, respiration getting by degrees more laboured. The fractured sternum is preserved in this Series, No. 61, and the spinal marrow in a subsequent Series. *Presented by* CÆSAR HAWKINS, Esq.

42. Complete separation of the fifth and sixth cervical vertebræ from each other. The ligamenta subflava are torn through, and the contiguous articulating processes of those vertebræ exposed and separated from one another. The inter-articular disc between the bodies of the vertebræ is lacerated, and the anterior and posterior common ligaments torn completely across. The lateral ligaments are entire. The dura mater was found torn in the situation of the injury behind, and the central part of the cord lacerated, soft, and infiltrated with much recently extravasated blood. The body of the fifth cervical vertebra was displaced forwards, in front of that of the sixth, so that the posterior edge of the latter encroached upon the spinal canal. This preparation was taken from the body of William P., aged 33, who was admitted into the Hospital on September 26th, 1853, having, a short time previously, fallen head-first a height of about fourteen feet. There were all the usual symptoms of fracture of the spine high up;—complete loss of motion and sensation in all the extremities and in the trunk; the bladder was paralysed, and there was priapism. The temperature of the body was natural. In the evening of the following day, the breathing became rapidly oppressed, and there was some difficulty in swallowing. He died on the morning of the 28th. *Post Mortem and Case Book.* 1853. p. 199.

43. Dislocation of the last dorsal from the first lumbar vertebra. The intervertebral cartilage is torn through, and the articular processes are dislocated. No fracture exists which could occasion displacement, but the transverse processes have been fractured, probably as a consequence of the displacement. The dislocation was reduced during life, but without any effect upon the symptoms. In preparing the parts, the vertebræ (which were freely moveable on each other) were replaced as nearly as possible in the position which they occupied after the accident. The patient, a man twenty-nine years of age, survived the accident thirty-three days, and died of pyæmia.

Post Mortem and Case Book. 1858. p. 278. The case is reported in *Path. Soc. Trans.*, vol. x. p. 219.

44. Dislocation of the fifth and sixth Cervical Vertebræ, from each other. The articular process (right side) of the sixth vertebra seems slightly broken at its upper edge, but there is no distinct fracture of any of the parts displaced. The transverse process of the sixth vertebra, on the same side, is fractured. The preparation was taken from the body of a man, aged 29, who, in wrestling with another, was thrown over his antagonist's arm on to the ground. He died twenty hours afterwards. *Post Mortem and Case Book.* 1859. p. 169.

45. Fracture of the body of the first Lumbar Vertebra. The fracture was a transverse one, and comminuted; and there was, moreover, fracture of the laminæ and of the spinous and transverse processes. The spinal cord was in no way injured; but there was considerable extravasation of blood between the bone and dura mater. The preparation was taken from the body of George T. who died September 22nd, 1851, having, on the 19th, sustained a fall from a scaffold, by which also the femur, the pelvis, and the ribs were fractured. On admission, there was much pain at the lower part of the back, but no irregularity of surface could be detected. There was very great difficulty and pain in breathing. Subsequently, a difficulty in passing the urine, and involuntary evacuation of fæces came on; but there was no loss of sensation or motion. The patient died with intense dyspnœa, and much consolidation of the lung from inflammation was found. *Post Mortem and Case Book.* 1851. p. 190.

46. Corresponding section to the preceding.

47. Portion of the Spine of William B., who died in the Hospital in April, 1825. There was a fracture of the fourth dorsal vertebra, partial laceration of the intervertebral cartilage, and displacement of its upper and posterior border backwards into the spinal canal. The spinal cord and its membranes had externally a natural appearance, but the medullary substance was preternaturally soft where pressure had been made. *Presented by* Sir Benjamin Brodie, Bart.

48. Fracture of the Spine, with displacement and irregular union of the various fragments, producing great angular curvature at the union of the dorsal and lumbar regions. The body of the last dorsal vertebra has apparently been crushed, some of the fragments being driven forwards and downwards, where they form an irregular ring of bone lying over the body of the first lumbar vertebra, a great part of which is hidden by it. The other fragments have been driven upwards and backwards into the spinal canal, where they form a projection, occupying the greater part of the cavity of the canal, which has been thus

rendered very irregular. The body of the first lumbar vertebra has been split perpendicularly into two parts, which have been pushed outwards; more, however, at the posterior part than at the anterior, making this vertebra appear somewhat wider than the others. The fracture of the body of this vertebra is scarcely perceptible anteriorly, where the fragments have become united, and are partly hidden by the irregular fragments of the twelfth dorsal; but at the posterior surface there is a great deficiency, produced by the separation of the fragments, where no osseous matter appears to have been thrown out. Irregular depositions of bone have taken place in various parts, uniting the fragments of the twelfth dorsal to the body of the eleventh, and to that of the first lumbar. At the time of the post mortem examination, the spinal cord, corresponding to the injured vertebræ, had entirely disappeared, leaving merely the membranes containing a thick fluid. One hemisphere of the brain was also extensively atrophied. This preparation was taken from the body of a girl, aged 19, who, in a fit of mental derangement, threw herself out of a second story window, and was subsequently admitted into the Hospital with complete paralysis of the lower limbs. There was retention of urine, and the bowels were constipated. In this state she lived for four months and a half, various large sores having formed in every region where pressure existed; her death was accelerated by an attack of erysipelas. *Post Mortem and Case Book.* 1845. p. 41.

49. Fracture of the Spine, with displacement and irregular union of the various fragments, producing slight angular curvature at the union of the dorsal and lumbar regions. The body of the last dorsal vertebra appears to have been crushed, some of the fragments having been driven forwards and downwards, and chiefly to the left side, forming an incomplete ring of bone, which partly overlaps the body of the first lumbar vertebra. A large fragment appears to have been driven backwards into the left side of the spinal canal, and partially separated from the right half of the body by a vertical fracture, the edges of which are partially filled in by new bone. This preparation was taken from the body of James N., aged 22, who fell from a ladder on October 3rd, 1829, and struck his sacrum against a beam. This was followed by complete insensibility, and paralysis of all the parts below the injury. The bladder required the catheter, but the power of expulsion returned on the 20th. The fæces were discharged involuntarily for three days, but then the bowels became costive. Sloughing of the nates took place to a great extent. On October 27th, a large abscess formed in the thigh; and, on November 13th, another formed in the hip, under the glutæus maximus. A succession

of sloughs formed in various parts of both limbs, till he died. On December 22nd, a large solid tumour appeared in the loins by the side of the spine, but was absorbed again in a few days. The patient died, worn out, February 27th, 1830, nearly five months after the accident. *Presented by* CÆSAR HAWKINS, Esq.

50. Oblique fracture of the body of the sixth dorsal vertebra, with displacement of the fragments, producing a considerable angular curvature of the spine. The upper fragment, with the spinal column above, projects backwards, so as to encroach upon the spinal canal. The lower fragment, with the spine below, appears to be thrown somewhat forwards. The ligaments in front had either not been torn across, or had united again with some thickening. The union between the broken portions of bone was strong. The spinal marrow presented no marks of injury upon its outer surface, nor had any blood been effused within its texture; it was softened for about two inches opposite to the fracture, but without any discolouration. The bladder was inflamed, dark-coloured, and softened upon its inner surface, and incrusted with phosphates, especially about the neck; but, on careful examination, the incrustation seemed to be on a sound mucous membrane. Both kidneys were inflamed, and contained purulent secretion; the right was highly vascular, and with phosphates in the pelvis and infundibula; the left not very vascular, but very soft and brittle. There was immense loss of substance over the nates, laying bare the sacrum and coccyx; and even the ligaments between the sacrum and vertebræ were destroyed, so as to open the canal of the vertebral column. Within the canal of the sacrum and lower lumbar vertebræ was a good deal of purulent matter on both surfaces of the theca, and on the arachnoid membrane covering the spinal marrow and cauda equina there was a good deal of lymph, slightly purulent in colour, but not fluid. This was in greatest quantity low down among the nerves of the cauda equina, but extended up to the seat of the injury, though not there in great quantity. The posterior longitudinal ligament was ruptured, but without any projection of bone into the spinal canal. The patient, Henry W., aged 27, was admitted into the Hospital on October 22nd, 1834, having fallen from the second story of a house upon a beam, and thence to the ground, a height of probably thirty feet. There was complete paralysis of motion and sensation in the lower part of the body and bladder, with priapism. Profuse perspiration came on on the 25th, with rapid emaciation. The urine was acid, as indicated by litmus paper, till November 6th, but ammoniacal in smell from the 27th of October. Vesication, followed by extensive sloughing, began on the sacrum on the 27th, vesication on the right ankle on the

30th, and on the left foot on November 1st, with dark serum, but not followed by sloughing. The heat of different parts was observed from November 13th to December 2nd. The axilla was almost uniformly several degrees lower than the groin; the groin once higher than the tongue. The patient died, worn out, December 5th, forty-four days after the fall. *Presented by* CÆSAR HAWKINS, Esq.

51. Comminuted fracture of the seventh and eighth dorsal vertebræ, displacement of the fragments, and partial rupture of the intervertebral cartilage. The body of the seventh dorsal vertebra is comminuted, the upper fragment being displaced downwards and forwards, the lower fragment upwards and backwards, so as to encroach upon the spinal canal. Within the theca vertebralis, opposite the fracture, there was a small quantity of blood effused, and the spinal marrow, for the extent of three inches, was completely disorganised and soft. The extremity of the spinal cord, at the upper part of this space, was in a state of ulceration, and united by adhesions to the theca. The lower end was also ulcerated, but not united to the theca. The brain presented no morbid appearance. The patient from whom this preparation was taken, Jeremiah R., aged 26, was admitted into the Hospital in September, 1825, having fallen from a height of twenty-five feet. His forehead came in contact with the ground, and his body was bent forwards. The injury to the head was slight, but on examining the back a considerable projection was observed about the spinous process of the seventh dorsal vertebra. The spinous process of the sixth vertebra was bent forwards. There was also much swelling of the surrounding parts. There was complete paralysis of all the parts below the injury. He had considerable constitutional disturbance the following day, with constant priapism, and involuntary evacuation of fæces and urine. A large slough formed on the sacrum about the nineteenth day, and he had violent pain and tightness about the epigastrium. On the 1st of October, the slough separated, leaving a deep ulcer. He continued to get weaker until the 15th, when erysipelas took place round the sore on the back, and he died on the 18th of October. The spinal cord is preserved in a subsequent Series. The intervertebral cartilage, between the first and second lumbar vertebræ, was also ruptured, and is preserved in this Series, No. 58.

52. Fracture of the Spine at the twefth dorsal vertebra, the body of which is, for the greater part, destroyed. (A section.) The accident occasioned displacement of the vertebræ and pressure on the cord. The patient, John K., aged 25, fell from a fourth story, and was admitted into the Hospital with paralysis of the lower extremities. Ten days after the accident, a large

slough formed over the sacrum, and the urine was observed to be alkaline: there was paralysis of the bladder. In passing the catheter, a false passage was produced, which led to the formation of a large abscess at the neck of the bladder; this appeared to hasten the death of the patient. He lived seven weeks after the accident. *Post Mortem and Case Book.* 1841. p. 178.

53. The other section of the same spine.

54. Fracture of the Spine in the Lumbar Region, with displacement. The body of the second lumbar vertebra has been crushed, the fragments projecting into the spinal canal; there is also fracture of the laminæ of the vertebræ, and the fragments of the laminæ project into the canal. Another fracture exists in the third vertebra, breaking off the pedicle obliquely, at its junction with the body, a small piece of which has been carried away towards the surface of the canal. Blood was effused in the spinal canal and within the theca, discolouring the nerves of the cauda equina, but not pressing upon them. There was no paralysis in this case. The patient, James W., aged 30, fell from a height of about fifty feet, his fall being broken by some scaffolding. He was in a state of collapse when admitted into the Hospital; there was a scalp wound, and the bone was denuded. He rallied, and complained of severe pain over the last dorsal vertebra and first lumbar, in which region there appeared to be considerable prominence of the spinous processes; but he stated that such had always been the case. He never presented any spinal symptoms, but had inflammation of the cellular tissue of the scalp, and suppuration between the bone and dura mater, with inflammation of the membranes, of which he died. *Post Mortem and Case Book.* 1844. p. 132.

55. Fracture of the Spine in the Lumbar Region, united, but with great displacement. The patient, Edward M., survived the accident more than half a year, and was recovering partially from the symptoms connected with the injury, when he died suddenly from fatty heart. *Post Mortem and Case Book.* 1858. p. 154.

56. Fracture of the Spine with Dislocation. A vertical section has been made through the parts. The under surface of the body of the sixth cervical vertebra has been completely separated from that of the seventh by rupture of the intervertebral substance, and carried forwards, so as to rest upon the front of the body of the lower vertebra, the surface of which presents a deep concavity, which receives the posterior border and the under surface of the sixth vertebra. The body of the seventh cervical vertebra consequently projects very considerably backwards, so as to encroach upon and almost obliterate the spinal canal. There is considerable separation of the laminæ of these

two vertebræ, and the ligamentum subflavum is ruptured. The laminæ of the second and third dorsal vertebræ were also fractured across, but no encroachment upon the spinal cord existed. Much extravasated blood was found between the theca and the parietes of the spinal canal, especially at the lower part of of the cervical region. The spinal membranes were natural; but there was much extravasated blood under the pia mater, corresponding to the second and third dorsal vertebræ, and also within the substance of the cord, to the extent of four inches opposite this part: the cord was soft and diffluent, from a point opposite the fifth cervical as far as the third dorsal vertebra. The brain and the membranes were healthy, excepting slight general congestion. The patient, Thomas M., aged 48, was admitted into the Hospital January 20th, 1849, having fallen a great height from a scaffold. He was taken up insensible, but became conscious in a few minutes. When admitted, half an hour after the accident, he was paraplegic, and was breathing by means of the diaphragm only. He had great pain at the back of the neck, and all sensation was lost below the fourth and fifth ribs. There was numbness in the fingers, and he was very cold, but not collapsed. Pain and loss of motion in the arms came on, accompanied by twitchings of the lower extremities. The pupils became contracted, and tympanitis set in. Stertorous breathing followed, and he died January 24th, 1849.

57. Section corresponding to the preceding preparation.

58. Rupture of the Intervertebral Cartilage, between the first and second lumbar vertebræ. Taken from the same patient as No. 51.

59. Fracture through the first piece of the Sternum, the fragments of which are very slightly displaced, the periosteum being ruptured at the posterior surface only. From the body of Thomas R., who was thrown out of a cart upon his side. He had also fracture of several ribs, with laceration of the lung, of which he died in two days. *Post Mortem and Case Book.* 1844. p. 181.

60. Fracture of the first Piece of the Sternum, the fragments of which are but slightly displaced, the periosteum being partially lacerated at the anterior surface only. From the body of George N, who had also fracture of the ribs and laceration of the lung, of which he died the following day. *Post Mortem and Case Book.* 1844. p. 246.

61. Fracture of the Second Piece of the Sternum, about an inch below its junction with the first bone. The periosteum is lacerated on the anterior surface only. This preparation was taken from a patient who also had dislocation of the spine in the cervical region. See No. 41. *Presented by* CÆSAR HAWKINS, Esq.

62. Fracture of Five Ribs; from a patient who was admitted into the Hospital in 1834, and who had received a kick from a horse, which ruptured the liver and produced almost immediate death.

63. Fracture of several Ribs. *Presented by* CÆSAR HAWKINS, Esq.

64. Fracture of the Cartilage of the Ninth Rib, with extensive laceration of the Intercostal Muscle between the eighth and ninth ribs; from the body of a young man, aged 20, who was admitted into the Hospital shortly after he had been struck, on the right side of the chest, by the shaft of a heavy cart. At the time of his admission he was in a perfect state of collapse, and appeared to be suffering from internal hæmorrhage; he died ten minutes after his admission into the Hospital. The skin in the neighbourhood of the injury was but slightly bruised, with an abrasion on its surface: there were no other external marks of violence. A small quantity of blood was found in the cavity of the right pleura, but the lungs were quite healthy. The diaphragm presented, in its structure, a few patches of ecchymosis. An extensive rupture of the liver had given rise to fatal hæmorrhage into the belly.

65. Portions of three Ribs, from the anterior part of the left side of the chest, one of which was fractured by the passage of a pistol ball. On post mortem examination, it was found that the wound of the chest passed outwards from a point about two inches above the left nipple to the third rib, which was shattered. The left pleural cavity contained a quantity of coagulated blood, and the pleura on this side was covered by a thick coating of dark coloured lymph. The upper lobe of the left lung was found to have been pierced by the bullet about four inches from its apex, and about an inch and a quarter from its left margin. The opening in the lung passed downwards and outwards, and terminated in the upper lobe, at the fissure between it and the lower one, about an inch a half from the margin. The bullet must then have grazed the extreme margin of the lower lobe, the wound at that part being merely covered by a layer of pleura. The lung in the immediate neighbourhood of the wound was firm and consolidated, owing to the effusion of blood and fibrin. Both lungs contained large quantities of diffused tubercle, particularly at their upper parts. The fifth rib, was comminuted about three inches from its posterior extremity, and is shown in the next preparation, and the scapula is preserved in this Series, No. 215. The serratus magnus and subscapularis muscles were pierced, and the scapula perforated just below the triangular surface, near the base of the spine of that bone. The wound of the lung is shown by a preparation in a subsequent Series. This preparation was taken from the body of William W., a butler, aged 40. He was admitted

into the Hospital on January 29th, 1851, having, two hours before, shot himself with a pistol. The weapon had been placed close to the chest, on the left side, and a little above the nipple; and the whole of the charge entered the cavity of the chest. On his admission, the wound, which was large enough to admit the end of the finger, was welling with blood; he complained of severe pain, and stated that he had suffered from cough for months. There was a small prominence at the back of the chest, near the triangular space at the root of the spine of the scapula, from which a small leaden bullet was extracted; it was flattened, and a small portion of bone was adherent to it. Soon after his admission, there was urgent dyspnœa, and emphysema had appeared over the left side of the chest; but the mucus which he expectorated was only slightly tinged with blood. He was bled twice; but the symptoms continued, with scarcely any change, till the time of his death, which occurred rather more than two days after the receipt of the injury. *Post Mortem and Case Book.* 1851. p. 21.

66. Portions of Three Ribs, taken from the posterior part of the thorax. The central rib, the fifth, has been perforated by a bullet, just external to the angle, and the bone comminuted. *From the same Case as the preceding.*

67. A portion of one of the Costal Cartilages, which has been fractured, and united by bone. Taken from the dissecting-room.

68. Two portions of the Costal Cartilages, which have been fractured and are united by bone.

69. A portion of one of the Costal Cartilages which has been fractured, and united by bone. *Presented by* Cæsar Hawkins, Esq.

70. Portions of four Ribs, which have been fractured and are united. In two of them a deposit of newly-formed bone is seen on the surface of the rib, for some little distance on either side of the fractured part. This deposit is more distinct on the outer than on the inner side. *Presented by* Cæsar Hawkins, Esq.

71. Portion of a Rib, which has been fractured and firmly united. A quantity of newly-formed bone has been deposited on the surface of the rib throughout its entire circumference, and, for some little distance on either side of the fracture, thus completely ensheathing the ends of the bone. A section has been made through the rib longitudinally, which shows the greater density of the cancellous tissue of the bone in the situation of the fractured part. *From the Dissecting Room.*

72. Union of a Fractured Rib, three months after the accident. The fragments are seen to be surrounded, externally, with a bony callus of considerable dimensions, and, internally, united by fibrous tissue. The line of union is indicated by bristles. *Post Mortem and Case Book.* 1859. p. 102.

73. Complete separation of one of the ribs from its costal cartilage.

A false joint has formed between them. A strong capsule of fibrous structure connects the broken parts. The patient suffered no inconvenience during life.

74. Fracture of the Sternum, partially united. The second piece of the bone presents a transverse fracture, with some comminution of the lower fragment in front. New bone has been deposited, not only between the contiguous edges of the fracture, but also on the surface of the bone, above and below the fractured part. At the time of the post mortem examination, six weeks after the accident, the fracture was perfectly consolidated, but the new bone being soft and porous, the union gave way in the process of maceration. The fragments have, however, been put together in the position which they occupied. *From the same patient as* No. 122.

75. Fractured Clavicle of a boy, who died in the Hospital, in consequence of a severe injury of the Brain, thirty hours after the accident. The bone is broken on one side, and bent on the other, so that there is fracture without a complete solution of continuity. *Presented by* Sir BENJAMIN BRODIE.

76. Incomplete Fracture of the Right Clavicle. The fracture has taken place through the middle of the bone. The laminæ of the under surface of the bone are broken through, but those of the upper surface are only partially broken and bent outwards. Some soft and recently effused lymph was found between the periosteum and the under surface of the bone, but none on the upper surface, or in the areolar tissue external to the periosteum. The bone was removed from the body of a child, aged 5 years, who was admitted on Aug. 3rd, 1849; and died a fortnight after the accident. The preparation No. 4 in this Series is from the same patient.

77. Fracture of the Left Clavicle, about an inch from the sternal end of the bone. The line of fracture traverses the bone in a direction obliquely downwards and forwards; and the outer fragment was thrown on to the margin of the sternum, giving rise to the appearances which accompany dislocation of the sternal end of the clavicle forwards, for which this injury was mistaken during life. The fractured extremities were united simply by firm fibrinous coagula. An oblique fracture traversed the left side of the upper bone of the sternum, breaking through the posterior and central laminæ of the bone, the anterior remaining uninjured. The cartilage of the first rib was broken through, but the costo-clavicular ligament was uninjured; several ribs were fractured on the left side. No important blood-vessel was injured. The patient, from whom this preparation was taken, Mary E., was admitted into the Hospital on Feb. 25; having been run over, the day previously, by a cab. At the time of the accident, she was suffering from dyspnœa, cough,

etc.; and she sank under aggravated bronchitis, March 2nd. *Post Mortem and Case Book.* 1852. p. 53.

78. Comminuted Fracture of the Shaft of the Right Clavicle.

79. Two Clavicles, which were fractured, together with the sternum and several ribs, by a bough of a tree falling across the chest. The patient, James C., aged 13, was dead when brought to the Hospital. On the right side, one of the fractured portions had penetrated into the neck, and wounded the internal jugular vein. The injured vein is preserved in a subsequent series. *Post Mortem and Case Book.* 1851. p. 145.

80. Oblique Fracture of the Right Clavicle, close to its acromial extremity.

81. Oblique Fracture of the Left Clavicle, close to its acromial extremity.

82. Fracture of the outer part of the shaft of the Right Clavicle, internal to the coraco-clavicular ligament. The bone is broken into several fragments. This preparation was taken from the body of Richard C., aged 56, who fell backwards in ascending a flight of stairs. The patient, also, had an extensive injury of the brain, a fracture of the right scapula, and of several of the ribs. He died in three days. *Post Mortem and Case Book.* 1846. p. 41.

83. Fracture of the Right Scapula, from the same patient as the preceding preparation. A nearly vertical line of fracture extends from the supra-spinous fossa, through the body of the bone, to within two inches of its inferior angle. The fracture in the supra-spinous fossa is comminuted, and a portion of the superior border is completely separated from the rest of the bone.

84. Compound Comminuted Fracture of the Right Scapula. A longitudinal fracture is seen passing from the supra- to the infra-spinous fossa, through the spine, a portion of which is loosened and slightly displaced. The infra-spinous portion of the bone is much comminuted. The ribs below this part were extensively comminuted, and the lung and liver were ruptured. The patient, John H., aged 50, was brought in dead, having fallen from a great height on to the spikes of an area railing. *Post Mortem and Case Book.* 1857. p. 252.

85. Fracture of the Left Clavicle firmly united. The fracture has taken place near the centre of the bone, but the fragments are not much displaced. A considerable deposit of new bone completely surrounds the fractured part, and extends to some distance on either side of it. The new bone exists in much greater quantity at the upper surface, and anterior and posterior borders, than at the under surface. *Presented by* CÆSAR HAWKINS, Esq.

86. Corresponding Section, from the same as the preceding.

87. Longitudinal Section of a Left Clavicle. The sternal end of the bone has been fractured, and the fragments displaced. A large and very irregular deposit of new bone encircles the bone, in the situation of the fracture.

88. Corresponding Section, from the same as the preceding.

89. Fracture of the Neck of the Humerus. The patient, a young man, was carrying a heavy weight under his arm, and fell from a considerable height. Amputation at the shoulder-joint was performed. The fracture is very high up, and for the greater part of its course runs through the 'Surgical Neck,' of the bone; but in one part of its course it touches on the 'Anatomical Neck,' and therefore was classed in the old museum catalogue as 'Fracture of the Anatomical Neck.' *Presented by* Sir B. C. BRODIE, Bart.

90. Fracture of the Shaft of the Humerus, just above the insertion of the deltoid muscle, dried, in order to show the displacement of the fragments by muscular action. The lower fragment, having been drawn upwards and outwards by the deltoid muscle, rides over the upper, which is displaced inwards, by the muscles forming the flaps of the axilla. No union has taken place, though the fracture occurred more than three weeks before death. *Post Mortem and Case Book.* 1859. p. 287.

91. The lower end of the Humerus, with a fracture running transversely above the condyles. The fracture was comminuted, and some fragments of the bone are missing.

92. An old Fracture of the lower end of both Bones of the Fore-arm united by bone, with considerable displacement. No history is attached to this specimen, which was found accidentally in a churchyard. The bones are very short, but appear fully developed. Their lower extremities are firmly united together by bone. The fractured portions have been displaced outwards and somewhat forwards, and fixed in that position. On the end of the Radius, the grooves for the two radial extensors of the wrist and for the extensor secundi internodii pollicis are still perceptible; but the others are filled up by new bone. The surface corresponding to the wrist-joint has in most places a worm-eaten look, but in one part (the styloid process of the Radius), it has a well-marked ivory appearance. *Presented by* F. DAY, Esq., H.E.I.C.S.

93. A Fracture of the lower end of the Radius, occurring in a woman, aged 75, sixteen days before death. The bone is fractured in a nearly transverse direction, about half an inch from its articular surface, which is intact. The lower fragment was connected with the attachment of the tendon of the supinator longus muscle, by which it was slightly rotated. On the posterior surface, a good deal of the bone has crumbled

away in maceration; but the fracture was not comminuted. There was no union. *Post Mortem and Case Book.* 1860. p. 89.

94. Separation of the Lower Epiphysis of the Radius. The shaft is displaced by the action of the pronator quadratus.

95. Oblique Fracture of the centre of the Shaft of the Right Humerus, united. The deposition of new bone is limited to the interspaces between the edges of the fracture.

96. Oblique Fracture of the Shaft of the Humerus, above the insertion of the deltoid, which is united. Large masses of new bone have been thrown out at the point of insertion of the pectoralis major, and behind the inner bicipital ridge. *Presented by* CÆSAR HAWKINS, Esq.

97. Oblique Fracture of the Shaft of the Humerus, just above its lower extremity. It has united somewhat irregularly, the lower fragment being displaced forwards. A small triangular portion at the inside, which seems to have been comminuted, is also firmly united. The specimen is from the body of Thomas W., who was kicked on the elbow by a horse, which also struck him on the side. He was a patient in the Hospital at the time of the accident, in June, 1858, and died here on December 22nd, 1859. The kidney of the same side (the right) was lacerated in the same accident, and is preserved in a subsequent Series. *Post Mortem and Case Book.* 1859. p. 284.

98. Right Ulna, which presents, at about the middle part of its Shaft, a well-united Fracture, the irregularity being very slight.

99. Portion of the Left Humerus, presenting a Transverse Fracture of the lower third of the Shaft. At the time of the examination, the fragments of bone were partially riding over each other, being united by soft tissue, in which a deposition of bone had begun to take place. When the bone was being removed the union gave way. Irregular masses of new bone have been deposited on the shaft, near the fractured part. From the same patient as No. 122.

100. Portion of the Left Humerus. The central part of the shaft of the bone has been extensively comminuted, and the fragments displaced, and firmly united in that position by the deposition of new bone between the various fragments. *Presented by* CÆSAR HAWKINS, Esq.

101. Corresponding section to the preceding specimen.

102. Fracture of the Olecranon Process, extending into the great sigmoid cavity, firmly united by bone. A considerable mass of newly-formed bone, extends from the lower and back part of the olecranon to the upper and back part of the shaft of the bone. This deposit of new bone forms a kind of splint at the back of the joint: it extends across from one fragment to the

other, as a thin layer, perforated by numerous large holes, and separated in many places by a considerable interval from the back of the olecranon process. The edges of the fracture are united by bone at the inner side, but at the outer are separated by a wide interval, in which this new bone is seen from the front.

103. Comminuted Fracture of the lower articulating surfaces and extremities of both Radii. It will be observed, that the various lines of fracture are almost precisely similar on each bone, both at the circumference, and upon the articulating surfaces. The fragments are very much displaced in both bones, particularly at their posterior margins, and are irregularly consolidated, by the deposit of new bone between their contiguous edges. Small irregular pieces of new bone project from the interspaces between the fragments, on the articular surfaces. The preparation was removed from a patient, who died about eleven weeks after a fall of about twenty feet, having sustained other serious injuries. The man stated that he fell on both hands; and from the similarity of the fracture of each bone, the weight must have been equally received by each.

104. Fracture of the lower ends of the Radius and Ulna, immediately above the wrist-joint, firmly united. The lower end of the radius has been displaced somewhat upwards and backwards, and united to the upper fragment in that position. A separate line of fracture traverses the articular surface of the radius from before backwards, the margins of which are also united. The line of fracture, implicating the lower end of the ulna, is situated almost immediately above its inferior articulating surface. The contiguous edges of the fracture are united by a deposit of new bone around the fractured part. *Presented by* CÆSAR HAWKINS, Esq.

105. Fracture of the Humerus, united by fibrous tissue ensheathing the fragments. An irregularly dentated fracture traverses the shaft of the bone, immediately below the insertion of the deltoid muscle. The upper fragment is displaced outwards and backwards by that muscle while the lower fragment is drawn forwards, principally as it seems by the weight of the limb, though the displacement may have been due in part to the action of the brachialis anticus, the origin of which was found to commence just below the fracture. These muscles, however, have been dissected off, in order to show the fracture encased in a sheath, or ferule, of fibrous tissue, about a quarter of an inch thick, and extending about an inch above and below the fracture. The periosteum is seen above, continuous with and lost in this tissue. An incision has been made into this provisional callus over the lower fragment, exposing the

pointed extremity of that fragment, which is seen to be quite un-united to the extremity of the upper fragment, and its surface is free from deposit for a short distance below the actual fracture. The fragments are freely moveable on each other, though firmly bound together by the provisional callus. The patient survived the accident about a month, but the limb could never be kept in position in consequence of his restlessness; as he suffered under repeated attacks of delirium tremens, of which he died. *Presented by* CÆSAR HAWKINS, Esq.

106. Gun-shot Wound of the Elbow-joint. The external condyle and corresponding portion of the shaft of the humerus, for the extent of about two inches above it, have been separated from the rest of the bone by means of a transverse and a vertical line of fracture. The transverse line of fracture passes from the outer edge of the humerus, about two inches above the external condyle, into the centre of the shaft of the bone, where it ceases, and is there joined by a vertical line, which runs down into the elbow joint, just internal to the outer condyle, separating the latter and the contiguous portion of the humerus from the rest of the shaft. A comminuted portion at the angle between the transverse and vertical lines of fracture has been lost in maceration. The upper end of the ulna is also missing, and the trochlear surface of the humerus is slightly comminuted. The trochlear surface of the humerus has been partially broken away; and there is a fracture of the ulna at the junction of its upper and middle third. This preparation was taken from the body of William W., aged 22, who was admitted November 25th, 1829, soon after the accident. He would not consent to have the arm amputated. Extensive sloughing and inflammation of the cellular membrane took place during which the fractured portions were extracted. When this subsided, the arm was amputated, December 21st; but he died January 4th, of pyæmia.

107. Dislocation of the head of the Humerus upwards, with fracture of the coracoid process. The injury occurred in consequence of a fall, from a height of about thirty feet, on the elbow. The head of the humerus has been driven directly upwards, and was found resting on the anterior border of the clavicle, just externally to the junction of the pectoralis major and deltoid muscles, quite above the level of the glenoid cavity. In the preparation, it has fallen somewhat down, so as to be on the same level as that cavity. The coracoid process was fractured, and the head of the humerus had rested partly against it. This had produced erosion of the articular cartilage, so that crepitus was produced, by rotating the head of the humerus against it. The stump of this process can be seen behind the humerus. Its tip is not in sight; it was but slightly separated

from the rest of the bone by the tendons inserted into it, the ligamentous fibres, which are attached to the coracoid process, having opposed further displacement. The tendon of the long head of the biceps is seen not to be ruptured; a shred, however, had been torn off it longitudinally, as low as the junction of the two heads of the muscle. The patient, a man 49 years of age, survived the accident a fortnight. *Post Mortem and Case Book.* 1858. p. 108.

Further particulars may be found in the *Medico-Chirurgical Transactions*, vol. xli., p. 447.

108. An old dislocation of both bones of the fore-arm backwards. The history is unknown, as the patient, a man, aged 29, died from injury to other parts of his body, and no particular attention was paid to the state of his elbow. The preparation shows the head of the radius lodged at the back of the external condyle, where it has formed for itself a new articular cavity, by deposition of fresh bone, and appears to enjoy some amount of motion. The coronoid process may be seen lodged in the olecranon fossa: it was almost immoveable. In the dissection the three principal muscles have been left on the bones: the brachialis anticus is seen to have been torn away from its attachment, and to be adherent to the lower end of the humerus; it has also taken a new attachment to the ulna, below the coronoid process. *Post Mortem and Case Book.* 1859. p. 68.

109. Dislocation of the head of the radius backwards, on the external condyle of the humerus. The head of the radius lay in contact with the back of the external condyle, and its upper end may be seen at the back of the preparation, exposed and considerably altered in appearance, being crossed by a deep furrow. The bicipital tuberosity lies close to the empty lesser sigmoid notch. The orbicular ligament still surrounded the neck of the bone; but its attachments to the ulna were severed, and it was firmly united to the humerus on either side of the dislocated bone. Thus the motions of pronation and supination were completely abolished. The ulna is natural, both in appearance and position. Flexion and extension could be performed through about a quarter of their natural extent. The outer condyle of the humerus is seen to be much changed in shape, from deposit of new bone. No evidence of fracture could anywhere be found. This preparation is from the body of James H., aged 22, who died of phthisis. The affection of the elbow was attributed to an accident two years previous to his death; but the history he gave was not very clear. He said he had been struck upon the elbow by a stone, and noticed the change in the appearance and motion of the part next day. *Post Mortem and Case Book.* 1860. p. 35.

110. Dislocation of the head of the radius forwards, with fracture of the epiphysis of the olecranon. The ulna was fractured below its centre; the irregular end of the piece preserved marks of this fracture. The radius was entire. The dislocated head was exposed by a large lacerated wound (compound dislocation); the accident having been caused by a carriage passing over the arm. The patient, a child, aged 2, died of pyæmia. *Post Mortem and Case Book.* 1860. p. 98.

111, 112. Dislocation of the bones of the fore-arm backwards, with fracture of the coronoid process, on both sides. The head of the radius is also split down on each side, so that the injury was almost identical in the two joints. The patient, a bricklayer, 26 years of age, fell from the top of a scaffolding erected outside the Hospital, during some repairs, a height of about eighty feet, and sustained numerous severe injuries, of which he died next day. *Post Mortem and Case Book.* 1859. p. 107.

113. Two Semilunar Bones, from the body of Richard Q., who was admitted into the Hospital August 27th, 1846, having fallen a great height from a scaffolding. A wound extended entirely across the anterior surface of the right wrist-joint, resembling a clean incision made by a cutting instrument. Through this wound, the inferior extremities of the radius and ulna protruded for about an inch and a half, entirely separated from their carpal attachments. Several of the flexor tendons appeared to be torn; the semilunar bone projected so far through the wound, and was so much detached from the surrounding parts, merely hanging by a small shred of ligament, that it was removed immediately. A wound of a similar kind, but of less extent and severity, was found on the opposite wrist; but the semilunar bone on this side projected so much, and was so very much separated from its proper attachments, that it was likewise removed before the wounds were dressed. Both wounds were apparently occasioned by his falling on his hands. *Post Mortem and Case Book.* 1846. p. 199.

114. Dislocation of the Carpus, with fracture. The dorsal and palmar ligaments of the carpus are extensively torn. The scaphoid bone has been fractured; and the fractured portion, including the greater part of the bone, which is now placed at the bottom of the bottle, was found at the post-mortem examination lying loose in the hollow formed by the laceration of the dorsal ligaments, and somewhat twisted on itself. The rest of the bones of the wrist are seen to be dislocated from the semilunar bone, which retains its connexion to the bones of the fore-arm. The tubercle of the scaphoid has been retained in position by the annular ligament. The radius is not fractured, but a small abrasion may be noticed at the

back of its lower end, in the situation of the groove for the extensor secundi internodii tendon. The patient, a man, aged 35, had leaped out of a third-story window, to escape from a house on fire. He died next day of injury to the brain. *Post Mortem and Case Book.* 1858. p. 235.

115. Extensive comminuted Fracture of the Iliac Portion of the right Os Innominatum.

116. Fracture through the Iliac Portion of the left Os Innominatum, involving a small portion of the upper and back part of the acetabulum.

117. Fragment from an extensive Fracture of the Pelvis, with partial separation of the Pubic Articulation. The injury was produced by a waggon passing over the patient. The urethra was also extensively lacerated. The bones of the pubes are seen to be widely separated from each other at the symphysis, the ligaments of which are ruptured, except at their upper part. Both the horizontal branches of the pubes were fractured close to the ilio-pectineal eminences, and the ischia close to their tuberosities. The front part of the pelvis was thus completely separated from the other parts, and merely maintained in its position by its muscular connexions. *Post Mortem and Case Book.* 1844. No. 161.

118. Fragment from an extensive Fracture of the Pelvis. The injury was produced by a fall from a heavily laden waggon; but there was no distinct evidence of the wheels having passed over the body. The bones of the pubes were completely separated from the other portions of the ossa innominata by two fractures on either side, which ran through the horizontal and descending rami of the pubes. The bladder was ruptured at its apex. The urethra was not lacerated. The ruptured bladder is preserved in a subsequent Series. *Post Mortem and Case Book.* 1844. p. 173.

119. Fracture of the left branch of the Pubes, involving the Obturator Nerve. On post mortem examination of the body, a large quantity of blood was found effused into the areolar tissue of the pelvis, and extended thence nearly to the diaphragm. The left ramus of the pubes presented a comminuted fracture just above the obturator foramen; and the ends of the bone, which somewhat overlapped, were partly connected together by bands of fibrous tissue, in which the obturator nerve was implicated. The brain and spinal cord were healthy. Some bloody serum was effused in the right pleural cavity, and the inferior lobes of both lungs were in an incipient state of hepatization, with some emphysema of the left. The mucous membrane of the larynx and trachea was more vascular than natural. The patient, George S., aged 29, was admitted into the Hospital, December 10th, 1839, having

been run over by a cabriolet. There was a lacerated wound of the integuments near the spine of the ilium, with a fracture of the left ramus of the pubes. Having recovered from the immediate collapse, he went on well until the 19th, when symptoms of tetanus commenced, which proved fatal on the 25th. *Presented by* CÆSAR HAWKINS, Esq.

120. Extensive comminuted Fracture of the Pelvis. Taken from the body of Charles W., aged 17, who was admitted on the 13th of January, 1835, having been run over by a cart, after having been knocked down upon his face by a horse. He seemed to be sinking from internal hæmorrhage at the lower part of the abdomen, where much pain was felt. There was also a considerable effusion of blood in the perinæum. On introducing a catheter, which was left in the bladder, the urine drawn off was free from blood. Peritonitis followed, of which he was getting well, until the 22nd, when he became low and restless, and fœtid pus was observed flowing from the catheter. An incision in the perinæum was made, and a large quantity of fœtid urinous pus evacuated; this came from within the pelvis on the right side, where fractured bone was felt dead and exposed. He died on the 26th. The peritonitis was confined to the lower part of the abdomen, where the omentum and sigmoid flexure of the colon adhered to the parietes. A large quantity of blood was coagulated external to the peritoneum, chiefly around the pubes and centre of the abdomen, the peritoneum being everywhere separated from the adjacent parts, and the blood having even forced its way between the layers of the mesentery into the folds of the small intestine in some parts, and penetrated in the same way on to the surface of the rectum and colon to a great extent. The bladder was contracted, and lying in the midst of a mass of coagulum, an inch thick, which had been extravasated between the peritoneal and muscular coats. There was much blood also in the psoas and iliacus muscles, and in the anterior parietes of the abdomen. There was not much blood among the adductors of the thigh or perinæum, so that the main source of the hæmorrhage must have been internal. Laceration of the urethra had taken place just under the symphysis pubis. The space between the bladder and front of the pelvis formed a large cavity, from which the bloody pus and urine had escaped, and in which many of the fragments belonging to the right side were exposed and dead. The right os innominatum was broken into several portions through the thyroid foramen : the transverse ramus was twisted off from the symphysis, and was quite loose and dead; the ascending branch of the ischium was broken separately, near the tuberosity. The left os innominatum was broken in a similar manner, but to a less extent, and none of it seemed de-

prived of periosteum. Both sacro-iliac synchondroses were separated, and on the left side a small piece of the sacrum was also broken off. *Presented by* CÆSAR HAWKINS, Esq.

121. Separation of the Epiphysal Ends of the Pubes and Ischium in the Hip-joint, accompanied by Fracture of the Pelvis. The preparation has been macerated; by which process the ilium and ischium have also been separated. The other separations seen in the preparation are the result of the accident. One line runs, as before-mentioned, through the hip joint at the junction between the ischium and pubes ; another through the horizontal ramus of the pubes, near the former; and the third through the ascending ramus of the ischium. The preparation was taken from the body of Eliz. H., aged 10, who was run over by a carriage, and survived the injury three months. The bones of the hip-joint are seen to be carious on their surface, corresponding to an abscess found in the joint. *Post Mortem and Case Book.* 1854. p. 42.

122. A Portion of the Left Os Innominatum, extensively fractured and irregularly united. The iliac portion has been broken into several fragments, which are much displaced, and united in that position by the deposit of irregular masses of newly-formed bone. The pubic portion presented one fracture running across its transverse branch, and another at the junction of the rami of the ischium and pubes. These fractures were not united, and a small quantity of pus was found between the fragments. The preparation was taken from the body of Dinah G., aged 17, who threw herself from a fifth story window, and was admitted into the Hospital with fracture of the pelvis, fracture of the left leg and arm, and of the sternum. She lived a little more than six weeks after the accident, and ultimately died of secondary deposits in various parts, accompanied by pleuro-pneumonia. *Post Mortem and Case Book.* 1846. p.147. See also Nos.74, 99, 178, in this Series.

123. Fracture of the left Os Innominatum, starting from a starred fracture of the acetabulum, which was caused by the forcible driving-in of the head of the femur. The preparation is taken from the body of a man, aged 70, who was admitted in consequence of a fall of about eight feet on to the left buttock. He died, twenty-six days after the accident, from the effects of abscess in the hip joint. The floor of the acetabulum has been driven inwards towards the pelvic cavity, causing an extensive gap, through which the finger could be passed into the pelvis, through the hip joint. This gap is, however, crossed by a large spine of bone, connected with one of the fragments of the ilium, which prevented the passage of the head of the femur into the pelvis. Starting from this point, is a very complicated fracture, which traverses the innominate bone in

all directions, dividing the ilium into two large portions, and roughly separating the ilium itself from the rest of the os innominatum, and the ischium from the pubes. Fibrous tissue is laid down between the fragments in many places, but they are all moveable on each other. The upper end of the femur is preserved along with this specimen, and is seen to be uninjured. *Post Mortem and Case Book.* 1860. p. 113. The case is reported in *Path. Soc. Trans.* vol. xi. p. 206.

124. Incomplete Fracture of the Right Tibia. From Thomas S., aged 36 years, who died of pyæmia, the result of abscess in the knee-joint from other injuries. *Post Mortem and Case Book.* 1858. p. 207.

125. Fracture of the Neck of the Femur, external to the capsular ligament. The head and neck are completely separated from the shaft, whilst a second line of fracture extends from the apex of the great trochanter to the upper part of the shaft of the bone, an inch and a half below the lesser trochanter. The head and neck are at the same time driven inwards into the cancellous structure of the great trochanter. *Presented by* Sir BENJAMIN BRODIE.

126. Section of the right Femur, in which the neck of the bone is seen to be fractured external to the attachment of the capsular ligament, thrust outwards, and firmly impacted in the cancellous tissue of the great trochanter. A second fracture is observed at the upper and back part of the great trochanter, separating a fragment of this process from the rest of the bone. The osseous tissue at the seat of fracture is exceedingly soft, and easily cut with the knife. This preparation was taken from the body of an elderly female. The injury was followed by formation of abscess around the fracture, death taking place six weeks after the injury. *Presented by* CÆSAR HAWKINS, Esq.

127. Fracture of the Femur below the great Trochanter. A very oblique line of fracture, commencing just above the trochanter minor, runs down the middle of the shaft, so as to divide it for some distance into an anterior and posterior half. The fragment comprising the trochanter minor is separated from the rest of the bone by another oblique line of fracture, while the principal fracture divides the upper third from the lower two-thirds of the shaft. A considerable deposit of new bone is observed on the surface and around the margin of the head; the articular surface is in some parts highly polished, and presents an ivory-like appearance.

128. Comminuted Fracture of the Shaft of the Femur, at the middle third of the bone.

129. Extensive Comminuted Fracture of the lower portion of the Shaft of the Left Tibia.

130. Transverse Fracture of the upper third of the Shaft of the Fibula.

131. Fracture of the Fibula, close to the malleolus; the shaft is broken into three fragments.

132. Comminuted Fracture of the Fibula, about two inches above its lower extremity, occasioned by the kick of a horse. There was no fracture of the tibia, but the anterior and inner ligaments of the ankle-joint were lacerated. At the time of the post mortem examination, the lower end of the tibia was protruding, the margins of the articulating surfaces being necrosed. The patient, Sophia M., was admitted into the Hospital on June 6th, 1851. She appeared to have suffered from fracture of both tibia and fibula, but no external wound existed. There was considerable eversion of the foot. Inflammation and sloughing of the areolar tissue about the joint set in; incisions were made; but eventually the ankle-joint was exposed, the sloughing continued, and she sank exhausted on June 27th. *Post Mortem and Case Book.* 1851. p. 136.

133. Compound Fracture of the Right Femur. The patient, Prudence C., aged 23, was admitted into the Hospital on December 11th, 1837, with compound fracture of the right femur, close to the knee-joint, produced by a fall from a cart. The lower pointed extremity of the upper fragment protruded through a small opening on the front of the thigh. After making some extension, the end of the bone still projected beneath the skin, and could not be made to pass quite into its place, even after the fragment had been sawn off, and the extensor tendon below the bone had been a good deal divided with a bistoury. The inflammation which followed in the part was very considerable, accompanied with extraordinary restlessness, and she died on Dec. 20th, the ninth day after the accident. On examining the limb, extensive purulent deposition was found extending from the groin to the knee, in every intermuscular space; below the skin, the pus was infiltrated in the areolar tissue, without being collected in any quantity. The purulent deposit was a little thinner near the fracture, and was traced from it into the knee-joint, which, however, was scarcely at all inflamed. There was an oblique fracture of the lower fourth of the shaft of the femur, the direction of which was from above and behind downwards and forwards, the lower fragment, which includes the condyles, being divided into two parts by a perpendicular fracture, joining the oblique one above mentioned. The condyloid portions were held firmly together by the crucial ligaments, so as not to admit easily of motion on each other. Purulent deposit existed around the shoulder, which had been painful on the fifth day after the accident; there was no pus in the shoulder-joint. *Presented by* CÆSAR HAWKINS, Esq.

134. Compound Fracture of the Right Tibia and Fibula. An irregular but somewhat oblique line of fracture traverses the entire width of the shaft of the tibia, immediately below the tuberosity. A second line of fracture, commencing on the upper and outer side of the tibia, passes in a curved direction upwards and backwards, and terminates at the back part of the outer tuberosity. An irregular line of fracture separates the head and upper part of the shaft of the fibula from the rest of the bone. The patient, from whom this preparation was taken (John S., aged 56), was admitted into the Hospital December 16th, 1832, with compound fracture of the tibia and fibula, accompanied with extensive laceration of the soft parts. The limb was amputated, and it was then found that, besides the extensive injuries already mentioned, the fibula had been driven upwards into the joint, which contained much extravasated blood. The following day, furious delirium came on, followed, in five days afterwards, by swelling of the thigh, and the formation of abscesses in the parotid glands. The patient died about three weeks after the operation. At the post mortem examination, it was found that the femoral vein had been tied, but was not at all inflamed. There was much lymph and some pus diffused between all the muscles of the thigh, and in the parotid glands. Lymph was also found on the surfaces of both pleuræ, and incipient abscesses in the lungs. *Presented by* CÆSAR HAWKINS, Esq.

135. Extensive Compound Fracture of the Phalanges of the Toes, with laceration of all the soft parts. The preparation is intended to show the parts removed in Lisfranc's amputation. The patient, a boy, aged 15, made a good recovery, with a very useful foot.

136. Gunshot Wound of the Hip, causing intracapsular Fracture of the Cervix Femoris. The injury was produced by a small charge of shot, discharged close to the man's body from a gun, which he was carrying in his hand. It appeared probable that the shot had entered from behind. Several shots were found lodged both in front and behind the joint, but none in that cavity. The fracture is a tolerably clean cut in front: at the back part, a few portions of bone seem chipped out. The patient, a man, aged 25, died a week after the accident, of tetanus. *Post Mortem and Case Book.* 1858. p. 14.

137. Separation of the Epiphysis of the lower end of the Femur, with displacement of the Shaft inwards. Separation of the Epiphyses of the Tibia and Fibula. The patient, Anthony W., aged 18, was admitted, into the Hospital, on July 29th, 1849, with considerable deformity about the knee-joint, presenting very much the appearances of a partial dislocation inwards of the condyloid portion of the femur, with extensive

laceration of the lateral and crucial ligaments. The patella and its ligaments, occupied their usual position, though the ligaments were more lax than natural. There was also a compound fracture of the leg at its lower third, as well as extensive laceration of the skin in the inguinal region. The limb, from the knee downwards, was quite cold, and there was a good deal of swelling, especially about the knee, and the foot and ankle. The injury happened a short time before his admission into the Hospital. It appeared that when he was leaping from the Chelsea pier on to a steamer, his foot caught in a rope, which becoming twisted round his leg, threw him into the water, where he remained some minutes. Amputation of the thigh was performed immediately. On dissecting the knee-joint, it was found that the deformity had arisen from a complete separation of the condyloid epiphysis of the femur. The shaft of the femur, twisted upon its long axis, had been driven inwards, so that its external portion was found in contact with the internal condyle, and projecting forwards. The periosteum of the lower third of the shaft, extensively stripped from the bone, was still adherent to the upper margin of the separated epiphysis, and formed, at the back part, a thick fold, which effectually prevented the re-adaptation of the pieces of bone. The epiphysal cartilage was firmly adherent to the condyles, the cancellous tissue of the corresponding portion of the femur being laid bare by the tearing off of the cartilage, to which some minute fragments of bone were here and there attached. The posterior ligament of the knee-joint was slightly torn through at its inner part, but the other ligaments were uninjured. The cavity of the joint contained a large quantity of recently effused blood. There was also complete separation of the epiphysis at the lower end of the tibia, but there was no displacement of the bones. In this instance, also, the epiphysal cartilage was firmly adherent to the epiphysis, and the separation had taken place by the tearing off of the cartilage from the shaft of the bone, a large fragment of which was, however, attached to the surface of the cartilage. Both epiphyses of the fibula were also torn off from the shaft of the bone; but here, too, there was little or no displacement. The fracture of the tibia was at the lower third of the bone; that of the fibula at the middle of its shaft. A small quantity of blood was found in the ankle-joint, and the whole cellular tissue of the leg, especially about the knee and foot, was infiltrated with blood. The muscles of the leg, in the neighbourhood of the fractured bones, were extensively lacerated. The internal and middle coats of the popliteal artery, for about one-third of an inch, just above its point of bifurcation, were torn through, and the canal of the artery

was obliterated by coagulated blood for an inch above and below this point. There was no other injury of the popliteal vessels, and the nerve presented a healthy appearance. On the day following the operation irritative fever set in, and the wound in the groin presented a sloughing appearance, which had much increased by the sixth day after the operation. The respiration became hurried, and there was much fever, restlessness, and delirium. He sank rapidly, and died Aug. 12th, thirteen days after the occurrence of the accident. On examining the body after death, both lungs were found to contain numerous deposits of purulent matter. The femoral vein, corresponding to the amputated limb, was inflamed as high as the external iliac; it contained a large and pale clot of semi-purulent blood. *Post Mortem and Case Book.* 1849. p. 161.

138. Separation of the Lower Epiphysis of the Femur, with a wound of the Knee-joint. The lower epiphysis of the femur is seen in the preparation to be quite separated from the shaft, and, when the parts were fresh, was found partly twisted upon itself. An opening is seen exposing the posterior part of the outer condyle. This, during life, communicated with a large wound in the ham. The injury was caused by a fall of about 80 feet. The patient, Thomas R., aged 16, recovered after primary amputation.

139. Comminuted Fracture of the Femur, firmly united, and without much shortening. The section shows a considerable deposit of fibrous tissue inlaid between the fragments, on the side corresponding to the medullary canal; whilst externally, the several interspaces are filled up, partly by bone, partly by dense fibrous tissue. The patient, from whom this preparation was taken, died of erysipelas eleven weeks after the injury, having used the limb for some time. *Presented by* CÆSAR HAWKINS, Esq.

140. A specimen, showing the repair of an oblique Fracture of the Tibia. The fracture runs downwards, towards but not into the ankle-joint, and is united with only slight displacement. Externally, the union is effected by means of fibrous tissue; but internally, the bone has become so completely healed, that hardly any trace of the fracture can be seen. The preparation was taken from the body of Eliz. C., aged 55, the subject of diseased kidneys and ovary, who died in the Hospital four months and a half after the receipt of the injury. *Post Mortem and Case Book.* 1849. p. 179.

141. Impacted Fracture of the Neck of the Thigh Bone. The neck of the bone may be seen to be twisted, and wedged into the cancellous tissue of the great trochanter, which is some-

what split up. The head is on a lower level than the trochanter. A pretty copious deposit of new bone is seen at the lower part, external to the joint. From the body of Louisa W., aged 64, who was admitted into the Hospital in May, 1858, in consequence of a fall while walking in the garden. She died thirty days after the accident, with softening of the cerebellum. *Post Mortem and Case Book.* 1858. p. 167.

142. Fracture of the Neck of the Femur, external to the Capsular Ligament, partially united. The capsular ligament was entire. The head and neck were separated from the upper part of the shaft by a fracture, which followed the course of the intertrochanteric line, in front, and, behind, separated the greater and lesser trochanters into several fragments. The neck is impacted deeply among the several fragments, almost at right angles with the shaft of the bone. Some new bone has been thrown out on the margins of the contiguous edges of the fracture at the anterior part of the neck, but none at the posterior part. This preparation was taken from the body of Rebecca H., aged 70, who was admitted into the Hospital on February 22nd, 1851, having fallen down stairs eight days previously. She died, apparently of exhaustion, on the 11th of March, nearly four weeks after the receipt of the injury. *Post Mortem and Case Book.* 1851. p. 55.

143. Fracture of the Neck of the Femur, external to the Capsular Ligament. The head and neck were completely separated from the upper part of the shaft by a fracture, which, in front, traversed the whole length of the anterior intertrochanteric line, and, behind, separated the greater and lesser trochanters from the upper and back part of the shaft of the bone. In the recent state of the parts, the outer end of the neck was impacted in the cancellous tissue of the great trochanter. A quantity of condensed cellular tissue, partially ossified, was found surrounding the upper end of the bone, but to a much greater amount on the inner than on the outer side. This preparation was taken from the body of Richard B., aged 74, who was admitted into the Hospital on May 8th, 1851, having fallen down in the street the day before his admission. He died, apparently from exhaustion, on the 24th, sixteen days after the receipt of the injury. *Post Mortem and Case Book.* 1851. p. 107.

144. A very oblique Fracture of the upper part of the Femur, commencing in its neck. The fracture runs nearly halfway down the bone, and the upper fragment has sunk and has become somewhat twisted, so that the head of the femur nearly touches the trochanter minor. The latter process, with the intertrochanteric portion of the bone, has probably been fractured and displaced towards the head of

the femur; but, if so, the union is hidden under a mass of new bone, which has been laid down at the back and upper part. In other parts, the uniting medium (of firm bone) is found only between the fragments.

145. Impacted Fracture of the Neck of the Femur, external to the Capsular Ligament, partially united. The fracture has completely separated the head and neck of the bone, at their junction with the trochanters. A line of fracture also passes through the trochanter major, obliquely, from without inwards and downwards, to a little beyond the base of the trochanter minor. The various portions of bone thus fractured have become irregularly consolidated, the head and neck of the bone being driven down between the other fragments. From the body of William D., aged 75, who, whilst in a state of intoxication, slipped off the pavement, and fell upon the outer part of the hip. He lived a month after the accident, and died of exhaustion from bed-sores. *Post Mortem and Case Book.* 1846. p. 2.

146. Posterior Section of a Femur, the Neck of which has been fractured, external to the attachment of the Capsular Ligament. The head and neck have been driven between the trochanters, and firmly united in that position. The patient was a stout man, of middle age. *Presented by* CÆSAR HAWKINS, Esq.

147. Middle Section of the same Femur.

148. Anterior section of the same Femur.

149. Section of a Femur, the Neck of which has been fractured, and driven into the cancellous tissue of the great trochanter. The patient, from whom this preparation was taken, Elizabeth P., aged 70, fell down stairs three days before her admission, alighting on her left hip; when admitted, there were all the symptoms of fracture of the neck of the thigh-bone. There was shortening of the limb, to the extent of about three-quarters of an inch; eversion; pain on moving; swelling, especially between the two trochanters; with some ecchymosis, tenderness, and obscure sense of fluctuation around the joint. The swelling and pain subsided, but the other symptoms remained, till she died from the effects of bronchitis, thirty-eight days after the injury. After death, the above-mentioned appearances were as evident as before; some ecchymosis was found around the trochanters and in the intermuscular areolar tissue, and in the capsule a drop or two of extravasated blood was seen on the synovial membrane. The bone was soft, the cancelli full of fat, and very vascular, as if blood were extravasated in the tissue of the bone. The neck of the femur was broken external to the capsular ligament, and driven into the substance of the great trochanter. *Presented by* CÆSAR HAWKINS, Esq.

150. Opposite section, from the same femur as the preceding.

151. Fracture of the upper third of the Shaft of the Femur. In this preparation, the deposit of new bone is limited to the interspaces between the fractured margins. The bone is firmly united, but with great angular displacement.

152. Section of a fractured Femur, several years after union. The interspace between the fragments is filled up by a mass of porous bone. The medullary canal, corresponding to the upper fragment, continues open, whilst that corresponding to the lower fragment is closed up at the point of union of the fracture. *Presented by* CÆSAR HAWKINS, Esq.

153. Fracture of the Shaft of the Femur, about 2½ inches from its tibial articular surface, firmly united, but with considerable displacement. The direction of the fracture has evidently been oblique from above downwards and forwards. The upper fragment has been displaced forwards and a little outwards, and united in that position; it forms a large pointed projection, about two inches above the condyles. The lower fragment has been drawn upwards and backwards, forming a considerable prominence above and at the outer side of the popliteal space. From the existence of a vertical ridge, extending across the articular surface between the condyles in front, it is probable that they were separated by a vertical fracture, which is now firmly united.

154. Specimen, showing an old longitudinal fracture of the Femur, which ran down from a little above the middle of the bone into the knee-joint, between the condyles. The bone is somewhat distorted, both vertically and angularly. The traces of the line of fracture into the joint are nearly obliterated, still it may be seen that the external condyle has lost a good deal of its smooth articular surface; and, before maceration, a very distinct inequality on the articular cartilage marked the line of union, which ran directly from before backwards. A large quantity of very vascular new bone is deposited around the fracture. The patient died from some other cause. No further particulars are known.

155. Oblique Fracture of the lower third of the Shaft of the right Tibia, the fragments of which have been displaced, and united in bad position. New bone has been deposited, not only between the contiguous edges of the margins and surfaces of the fracture, but also upon the surfaces of the upper end of the shaft, for some distance above the fractured part. The outer side of the wall of the shaft, corresponding to the upper fragment, is much thickened, chiefly at the expense of the medullary canal, in which a considerable deposit of new bone is observed. The medullary canal, corresponding to the upper and lower ends of the shaft of the bone, is interrupted by a deposit of new bone.

156. Oblique Fracture of the lower third of the Right Tibia and Fibula. The fractured extremities of both bones are somewhat displaced, and firmly united by the deposit of new bone between the contiguous edges of the fracture. The compact tissue is thickened, partly from the deposit of new bone on its surface, partly from the deposit of new bone on the side of the medullary canal, corresponding to the fractured part. The medullary canal is consequently diminished in size at the fractured part, and perfectly obliterated above and below *Presented by* CÆSAR HAWKINS, Esq.

157. Section of the Tibia, from the same specimen as the preceding.

158. Oblique Fracture of the lower third of the Right Tibia, the fragments of which are much displaced, and firmly united in that position. The fibula also presents an oblique fracture at its upper third, and another at its lower fourth, both firmly united. The deposition of new bone appears to be limited to the interspaces between the fragments in each case.

159. Oblique Fracture of the lower third of the Shaft of the Right Tibia, removed several years after the injury. The fractured ends of the bone are much displaced, and firmly united in that position, by the deposition (as the section shows) of new bone, filling up the intervals between the contiguous edges of the fracture. The compact tissue, in the neighbourhood of the fracture, is somewhat thickened, from the deposit of new bone in the medullary canal, the canal itself being completely obliterated, at the fractured part, by the deposition of a thick mass of cancellous tissue. The patient, John P., from whom this preparation was taken, was admitted with compound fracture of the same bone, near the ankle-joint. The foot and leg mortified, and amputation was performed while the mortification was still spreading. The patient died of secondary deposits in the liver and lungs. *Presented by* CÆSAR HAWKINS, Esq.

160. Section of the Tibia, Astragalus, and Os Calcis of the Right Leg, surrounded by their soft parts. The tibia is apparently divided into two parts, an upper and a lower one, the extremities of which are rounded off, and united — on the outer part, by the deposition of new bone; towards the centre, by a strong ligamentous tissue. In both fragments, the medullary canal is completely filled up by a deposition of new bone, to some distance from the seat of injury. The whole of the tibia is somewhat enlarged. On the outer surface are three ulcers of the skin; in one, which presents a deep, cup-like surface, a small hole may be seen, which led down to dead bone. The soft parts, muscles, etc., surrounding the tibia, are firmly united together by the effusion of lymph. Firm cellulo-fibrous bands may be seen passing from the astragalus to the articulating

surface of the tibia. This preparation was taken from a patient, who was admitted into the Hospital with a compound comminuted fracture, situated at the union of the lower third to the upper two-thirds of the leg. The patient remained in the house for some months, and then left it, as his limb was pretty firmly united. He was re-admitted at different periods. to have some small portions of necrosed bone removed. Two years and a half after the accident, finding that the ulcers of the skin would not heal, that portions of dead bone were constantly coming away, that the limb had never been of any service to him since the accident, and that his general health was suffering from this constant source of irritation, he determined upon having the limb removed. The operation was consequently performed and he left the house, some time afterwards, quite restored to health.

161. Opposite section of the Tibia, from the same patient as the preceding. This portion has been macerated and dried. In this section the two fragments are united by bone. At the upper part of the lower fragment may be seen a large hole, which led down to dead bone. The whole of the outer surface is very irregular, from the deposition of new bone; and the medullary canal, as in the opposite section, is completely filled up by a deposit of new bone, to some distance from the seat of injury.

162. Portions of bone taken from a patient with Compound Fracture of the Thigh. The fractured ends of the bone are rounded off, perforated, near the point of separation, by numerous foramina, and covered, in some isolated parts, with a deposit of newly-formed bone. Behind, a separate fragment has been detached, which is also partly covered by a newly-formed bony deposit, and has become partially joined on to the fragments above and below. The medullary canal, at the seat of fracture, is partially filled up by newly-formed bone.

163. Compound Fracture of the Tibia. The section shows an oblique fracture, with slight displacement of the fragments. The medullary canal and the interspaces between the fragments are filled up with a soft fibrous tissue. At one point on the surface of the shaft a minute fragment of bone may be observed, in a state of exfoliation. *Presented by* CÆSAR HAWKINS, Esq.

164. Oblique Fracture of the lower third of the Shaft of the Left Tibia, firmly united. New bone has been deposited, not only between the contiguous edges of the fracture, but also on the surfaces of the fragments, above and below the fractured part, particularly on the outer and inner sides of the bone. The section of the bone also shows a diminution of the size of the medullary canal, corresponding to each fragment, caused by

increase in the thickness of the compact tissue, as well as complete obliteration of the canal at the point of fracture, by a deposit of new compact bone.

165. Corresponding Section, from the same as the preceding.

166. Oblique Fracture of the upper part of the Shaft of the Femur immediately below the trochanter minor, most irregularly consolidated. The upper fragment appears to have retained its normal position, but the lower one crosses obliquely, from within outwards, the front of the upper fragment, and is firmly united to it, by a bridge of new bone, passing from the fractured end of the upper fragment, to the surface of the lower fragment below the fracture. The medullary canal in the upper fragment is filled up by bone at the seat of fracture, but in the lower fragment it is pervious throughout. The head of the femur is covered with several irregular projections of bone, one of which, close to the attachment of the ligamentum teres, presents a curious, hook-like appearance, which fitted into a corresponding depression in the cavity of the acetabulum. The cartilages of the hip-joint were almost entirely destroyed; but there was no pus, neither were there any adhesions in the joint. The preparation was taken from the body of Philip M., who was admitted into the Hospital with disease of the bladder and kidneys, of which he died. At the post mortem examination, the left lower extremity was observed to be much shorter than the other, and this led to the examination of the joint, when the fracture was discovered. *Post Mortem and Case Book.* 1844. p. 229.

167. Femur, fractured through the centre of the Shaft. The portions of bone overlap each other to the extent of about three inches, the lower fragment being directed outwards and backwards, and united to the upper fragment, in this position, by a bridge of bone, of a soft porous character, so soft, that it gave way when the limb was examined; but the fragments have been placed in the position they occupied, and fixed there. The medullary canal in each fragment is closed by a deposit of new bone. The articular lamella of the condyles was, for the greater part, destroyed, and the cancellous structure laid bare. This preparation was taken from the body of James P., aged 16, who was admitted into the Hospital with a simple fracture of the thigh, and an extensive injury to the knee, which was followed by inflammation and suppuration of the joint. Abscesses also occurred in the thigh, and one of them was connected with the fracture; he also had erysipelas of the limb. Under these circumstances, it was found impossible to keep the fragments in apposition, and this occasioned the irregular consolidation. *Post Mortem and Case Book.* 1844. p. 238.

168. Oblique Fracture of the upper third of the shaft of the right Femur.

about two inches below the trochanter minor, most irregularly consolidated. The upper fragment of the bone is tilted forwards, the lower one backwards and a little outwards. An irregular mass of new bone has been deposited in the interspaces between the fragments of the bone, and, at the inner and back part, overlaps them to some extent. The fracture took place four years before death. *Presented by* CÆSAR HAWKINS, Esq.

169. Part of the Left Femur, taken from the same patient as the preceding. There is an oblique fracture of the shaft of the bone at the junction of the upper with the middle third, and the fragments are displaced, the upper one being driven outwards, and the lower one upwards and inwards. Between the two a small isolated fragment may be observed, covered by a deposit of new bone. Irregular masses of new bone have been deposited on the contiguous margins of the fractured ends; and the medullary canal, corresponding to both fragments, is closed by a deposit of new bone. The fracture occurred six weeks before the death of the patient, and was allowed to unite, with shortening to the same extent as the other limb. The thigh was sufficiently firm to permit short splints to be used, when erysipelas came on, followed by pleurisy and pericarditis, of which he died, forty-seven days after the accident. *Presented by* CÆSAR HAWKINS, Esq.

170. Section of an Oblique Fracture of the Shaft of the Femur, at the junction of the upper with the middle third of the bone, irregularly consolidated. The fragments have been much displaced, the upper fragment being tilted forwards and outwards, the lower one upwards and inwards, and are united in that position. A large mass of newly-formed bone has been inlaid between the contiguous margins of the fracture, which are well seen in the section. The medullary canal, corresponding to the lower fragment, is filled up partially by a deposit of new bone at the seat of fracture; in the upper fragment, the canal is only partially closed at its lower part. *Presented by* CÆSAR HAWKINS, Esq.

171. Corresponding section to the above preparation.

172. Portion of a Left Femur, showing an irregular Transverse Fracture across the centre of the Shaft of the Bone. The bone in the immediate neighbourhood of the fracture is of a white colour, and, apparently, in an early stage of necrosis; but for some distance above and below this part, the surface of the shaft is covered with a deposit of newly-formed porous bone, which, near the lower fragment, consists of a very large and irregular mass, chiefly confined to the inner surface of the shaft. This preparation was taken from a boy, aged 11, who was admitted into the Hospital June 2nd, 1835, with a simple fracture of the femur, caused by a fall from a

height of eight feet into a gravel-pit. He was attacked, on July 13th, with erysipelas: extensive sloughing of the leg ensued, and abscess formed at the seat of fracture, which was opened on August 1st. An abscess subsequently formed in the knee-joint. The limb was amputated August 27th, but the boy died on September 6th. In the post mortem examination, extensive suppuration was found in the areolar tissue around the colon and rectum; and considerable effusion in the abdominal and thoracic cavities. *Presented by* CÆSAR HAWKINS, Esq.

173. Fracture of the Right Femur, four inches below the Trochanter Minor. The upper fragment is tilted forwards and outwards, the lower fragment inwards and a little upwards. The medullary canal, corresponding to both fragments, is completely obliterated at the seat of fracture. A considerable deposit of newly-formed porous bone surrounds the fragments, particularly at their sides and behind; whilst a cavity exists in the interspace between the fragments, on the walls of which two large portions of bone may be seen in process of exfoliation. This preparation was taken from the body of a man, aged 34, who was admitted into the Hospital July 2nd, 1831, with fracture of the thigh. The long splint was employed. On the 1st of August, the foot was found to be swollen, from the bandage having been too tightly applied. The swelling continued up to Aug. 19th, when he also complained of much pain at the seat of fracture, which appeared tolerably firmly united. Vomiting and symptoms of erysipelas came on, and on the 25th of August, the thigh became exceedingly flexible at the broken part. Immense abscesses formed in the thigh and leg, and extensive sloughing of the leg, thigh, scrotum, and back took place, to all of which parts the erysipelas had spread. It was found impossible, under these circumstances, to keep the broken bone in proper position, and the least attempt to alter the manner in which he lay produced great pain at the fractured part. He died of exhaustion, Oct. 11th. A large abscess in the thigh, which had been opened through the vastus muscle, was found surrounding the fracture, and communicating with the hip-joint. The upper part of the femur was also denuded of periosteum. *Presented by* CÆSAR HAWKINS, Esq.

174. Exfoliation from the Tibia, after Compound Fracture of the Leg, taken from a man, aged 32. The bone united firmly. *Presented by* CÆSAR HAWKINS, Esq.

175. Exfoliation from the Tibia, some time after Compound Fracture of the Leg. The patient, aged 37, was admitted April 2nd, 1838, having received a kick from a horse. The dead bone was removed three months after the accident. He was cured,

and had a very useful limb. *Presented by* CÆSAR HAWKINS, Esq.

176. Portion of a Right Tibia, which presents, at its middle part, a Transverse Fracture. Large portions of the fractured extremities had died, and were in process of separation; and a quantity of new bone has been deposited, immediately above and below the margins of the necrosed portions, for some distance on the surfaces of the tibia. The preparation was taken from a patient who was admitted into the Hospital with compound fracture of the leg, produced by a cart passing over the limb. The fragments of bone, although exposed, were not in the least displaced. Diffuse cellular inflammation and extensive suppuration followed the accident, and the patient's health began to give way. Amputation of the thigh was, therefore, performed; but the patient died two months afterwards, of inflammation of the serous membranes. *Post Mortem and Case Book.* 1845. p. 146.

177. Portion of a Left Tibia, which presents, about its middle, a Comminuted Fracture. Large portions of each of the fractured extremities had died, and were in process of separation; and a considerable quantity of new bone has been deposited on the shaft of the bone — above, below, and around the necrosed portions. The two fragments at the back part of the shaft are each of them covered by a new bony deposit, and the lower one has become intimately united with the rest of the bone.

178. Portion of a Left Tibia, which presents an Oblique Fracture at the junction of the middle with the lower third of the Shaft of the Bone. At the inner and posterior side, a large fragment of bone is wanting; this was necrosed at the time of the examination of the limb. A thin layer of new bone may be observed on the several surfaces of the shaft, above and below the fractured part. When the limb was examined after death, rather more than six weeks after the accident, both bones were firmly and regularly united; but a quantity of foul matter was found surrounding the necrosed portion above-mentioned. After the maceration of the bone, the union gave way. From the same patient as Nos. 74, 99, 122. The particulars are given under No. 122.

179. Portion of the Left Tibia. An oblique fracture divides the bone into two portions. The margins of the fractured ends are rounded off, a large interspace exists between them behind and on the outer side, as if a portion of bone had been separated in that situation. A considerable deposit of newly-formed bone covers the various surfaces of the shaft, above and below the fractured part. *Presented by* CÆSAR HAWKINS, Esq.

180, 181, 182. Three Preparations showing Fracture of the Neck of the Femur, internal to the Capsular Ligament.

183. Intracapsular Fracture of the Neck of the Femur from the body of a woman, aged 83. She was admitted into the Hospital on April 11th, 1831, having been pushed down, striking the hip against the curb-stone. She suffered much from tympanitis, and other symptoms of irritation, at first, but was recovered by the use of gin. She, however, gradually sank, and died on May 6th. *Presented by* CÆSAR HAWKINS, Esq.

184. Transverse Fracture of the Shaft of the Femur, about an inch above the line of junction of the epiphysis, communicating with the knee-joint by another line of fracture, which runs down between the condyles. Small comminuted portions have been lost in maceration. From the same patient as No. 28.

185. Transverse Fracture of the Right Patella, with extensive laceration of the soft parts in the neighbourhood, and effusion of blood in and around the joint. The fracture was produced by muscular action. The patient, Robert J., aged 48, was resting his left foot on the step of an omnibus, and whilst endeavouring to place his right foot on the step above, he felt the bone snap, and afterwards fell to the ground. He was admitted into the Hospital within a short time after the accident. The joint at that time was exceedingly tense and painful; so much so, indeed, that the limb could not be placed in the position usual after fracture of the patella Leeches were applied to the knee, and the patient was bled twice largely. It was subsequently discovered that he had hypertrophy of the heart and albuminous urine. He died about a fortnight after his admission, having apparently sunk from the disease of the heart and kidneys. *Post Mortem and Case Book.* 1843. p. 194.

186. Oblique Fracture of the Right Patella, extending downwards and inwards, from near the base to the inner side of the apex. The articular cartilage is also cracked transversely. The preparation was taken from the body of a man, who was thrown forcibly off a cab and stunned, and died with fracture of the cranium, and extravasation of blood at various parts of the surface of the brain. *Post Mortem and Case Book.* 1848. p. 168.

187. A Patella, showing a Vertical Fracture running from the base to the apex of the bone, so as to divide it into nearly equal halves. The fracture is joined above by a small oblique fissure, which, however, is not visible on the cartilage. On looking at the cartilaginous surface, the principal fracture is seen to extend through the cartilage, into the joint, at the lower part only, and when traced upwards on this aspect, is found to break up into two principal and numerous smaller fissures, which have no correspondence with the fracture of the bone. The patient, a young woman, had thrown herself out of a third floor window in a fit of insanity, and died on the following day. *Post Mortem and Case Book.* 1859. p. 240.

188. Upper Extremity of the Tibia, from the same patient as No. 186. The internal glenoid surface is fractured transversely, the fragments being somewhat displaced ; the external glenoid surface is fractured in the antero-posterior direction ; and an irregular fracture, communicating with the two preceding, nearly separates the portion in front of the spine from the rest of the tibia. The cavity of the joint was filled with fluid blood.

189. The Lower Extremity of the Left Tibia. An oblique fracture traverses the posterior part of the lower end of the bone, terminating just above the articulating surface. Two smaller fractures intersect the inner malleolus, and almost completely separate it from the remaining portion of the bone.

190. Head of the Femur, from a man advanced in life, who had several months before his death, suffered from a fracture of the neck of the femur, from which he had recovered, and regained very good motion of the limb, so that he was enabled to follow his employment, that of a coachman. He died of disease of the heart; and on examining the joint, it was found that the head of the bone had become firmly united to the acetabulum, and that a false joint had been formed between the fractured portions of the neck, which were united to each other by strong bands, of a fibrous appearance, the extremities being covered over by a fibro-cartilaginous tissue, lined by a secreting membrane. The fragment belonging to the head presented a somewhat depressed surface, and that of the neck an extremity rounded off, which played upon the concave surface in which it was received. These appearances were well marked when the examination was made ; but the friends of the deceased would not allow the removal of the whole of the parts.

191. Upper part of the Femur. The neck is broken within the capsular ligament, and its surface is covered by a thick layer of fibrous tissue. The capsular ligament is entire. During the examination of the parts in their recent state, this new articular surface played upon the remains of the head of the bone, which was consolidated with the acetabulum, as seen in the following preparation. *Presented by* CÆSAR HAWKINS, Esq.

192. The head of the Femur, with a portion of the Right Os Innominatum, from the same patient as the preceding. The acetabulum is almost entirely obliterated, excepting in the situation of the notch at the bottom of that cavity, its place being occupied by a mass of firm solid bone, the remains of the head of the femur consolidated with the acetabulum. A smooth projection occupies the lower part of the mass of bone above mentioned, forming a new articular surface, upon which the neck of the bone played. *Presented by* CÆSAR HAWKINS, Esq.

193. Fracture of the Femur into the Knee-joint. The line of fracture, which is but slightly marked, passes between the two condyles, and then obliquely upwards and inwards, breaking off the internal condyle from the other part of the bone. The displacement between the fragments is very slight, and is most marked on the articulating surface, where the internal condyle may be seen thrown upwards, about a quarter of an inch above the level of the rest of the bone. The interspace between the fragments above the articular surface is filled up with a firm fibrous deposit. On the articular surface, a thin layer of firm fibrine, of a light brown colour, is interspersed between the cartilaginous margins of the fracture, the cartilage itself having as yet undergone no change. This preparation was taken from the body of George F., aged 24, who walked to the Hospital after having received a severe injury of the left knee, the extent of which was not ascertained. On the fifth day after his admission, a blush of erysipelas made its appearance about the injured joint, and spread to the limb. He ultimately died of secondary deposits, with extensive red hepatisation of both lungs. The skin of the injured limb sloughed in several places, and the areolar tissue became infiltrated with lymph and serum. At the post mortem examination, a large quantity of fibrine, of a chocolate colour, was found in the cavity of the knee-joint. *Post Mortem and Case Book.* 1845. p. 109.

194. Corresponding section to the above.

195. Fracture of the lower end of the Femur, leading into the cavity of the Knee-joint. The preparation exhibits two lines of fracture, a vertical and an oblique one. The vertical one commences at the inner side of the lower third of the shaft of the bone, and passes downwards through the shaft, separating the two condyles from one another, the inner condyle being displaced a little from its fellow, upwards and inwards. The oblique fracture traverses the outer half of the shaft immediately above the outer condyle, taking a direction from above and behind, downwards and forwards. The upper fragment is displaced a little forwards and downwards. All these fragments are firmly united by the deposition of a mass of new bone, corresponding to the various lines of fracture. At the lower and back part of the femur, the displacement is so slight that no bone is deposited; in the interval, also, corresponding to the fractured edges between the condyles, no new bone can be observed. The patient, a middle-aged man, was treated in the Hospital for this fracture, and went out with a very useful limb. He was re-admitted into the Hospital, some twelve months afterwards, for another disease, of which he died.

196. Transverse Fracture of the Patella. The fragments are closely

and firmly united by dense fibrous tissue, the interspace between the fragments being not more than a third of an inch in its broadest part. Both fragments of the patella are enormously enlarged in all their dimensions, and its tissue much denser than natural. The man was treated for fracture of the patella at the Hospital, many years before his death.

197. Transverse Fracture of the right Patella, caused by direct violence, not united. The patient, Wm. W., aged 30, was first admitted on the 4th of March, 1845, and left the Hospital on the 18th. On the 9th of April he was re-admitted, with erysipelas of the right leg. Diffuse inflammation of the leg came on, followed by suppuration of the knee-joint, of which he died, on May 7th. The preparation shows a transverse fracture of the patella, at the union of the lower fourth to the upper three-fourths of the bone. The fragments are widely separated from each other, no ligamentous union having taken place. *Post Mortem and Case Book.* 1845. p. 114.

198. Portion of the Right Tibia. An oblique fracture traverses the bone, commencing at the back part of the shaft above, immediately below the popliteal line; it passes downwards and forwards, and terminates about the centre of the shaft in front. The upper fragment is traversed by two separate lines of fracture, which run almost vertically upwards into the superior articulating surface of the bone. One of these is situated at the fore part, the other on the outer side of the shaft; they join one another on the articulating surface. The spine of the tibia, and the anterior half of the outer articulating surface, are extensively comminuted; the fragments are united together somewhat unevenly, by the interposition of a layer of newly-formed bone. Both vertical lines of fracture are also firmly united by the interposition of a layer of newly-formed bone between their contiguous edges. The oblique fracture first mentioned is not united. A considerable deposit of new bone is found on the various surfaces of the shaft of the bone.

199. Comminuted Fracture of the Left Tibia into the Knee-joint. The various fragments of bone are partially united by the deposition of a thin layer of newly-formed bone between their contiguous margins. A large piece of bone, corresponding to the spine and the greater part of the outer articulating surface, is apparently wanting. The patient, a drayman, aged 38, had his leg jammed between a lamp post and the wheel of his vehicle, shortly before his admission. There was an extensive wound of the skin at the inner part of the leg, accompanied by effusion of blood into the soft parts; a large portion of the muscles of the calf protruded through the wound; but no fracture of the bones was detected. Suppuration came on in

the neighbourhood of the wound, and in the thigh, for which extensive incisions were made, which relieved him. Profuse hæmorrhage followed, and he died shortly afterwards. The vessel which gave rise to the hæmorrhage could not be detected at the time of the post mortem examination. Secondary deposits appeared to have taken place in the right lung. *Post Mortem and Case Book.* 1842. p. 65.

200. Portions of the Right Tibia and Fibula. An oblique fracture traverses the lower fourth of both bones from behind forwards. The fragments are somewhat displaced, but firmly united. Another fracture has separated the inner malleolus from the rest of the bone; and the articular surface of the remaining part of the tibia has been broken into three irregular fragments, all of which are firmly united together. A large interspace exists between the fragments of the tibia above the articular surface, in which a small portion of necrosed bone may be observed. Much new bone has been deposited on the various surfaces of the shaft of the tibia above the fractured part, as well as near the contiguous edges of the fracture. The cartilage covering the lower ends of both bones is quite natural. This preparation was taken from the body of Hannah F., aged 36, who was admitted into the Hospital June 25th, 1837, with compound fracture of the tibia, close to the ankle-joint. There was a small wound in front of the joint, through which the ends of the bone had passed. The accident was caused by her falling down stairs, while drunk. There was much inflammation of the leg, requiring incisions from time to time; some dead bone was also removed; but the wound became contracted, and the union firm, notwithstanding that some dead bone remained behind, and she insisted on leaving the Hospital on October 10th. The next day she returned, with erysipelas of a low form, of which she died on the 14th. In the post mortem examination, secondary deposits were found in the areolar tissue of the arms, around one kidney, and also in the cavity of the chest. *Presented by* CÆSAR HAWKINS, Esq.

201. Portions of the Right Tibia and Fibula, showing a Compound Comminuted Fracture of both Bones into the Ankle-joint, with irregular consolidation of the fragments, and ankylosis of the external malleolus to the tibia. An oblique fracture has traversed both bones from within, outwards and downwards, a little above their articulating extremities, the fragments being somewhat displaced. The lower fragment of the tibia has also been broken into several smaller fragments, the several lines of fracture all involving the articulating surface for the ankle-joint; the fragments have been much displaced, and are irregularly consolidated in that position. The tibial articular surface is covered in some parts with a deposit of newly-formed

bone, more especially at those points where the lines of fracture intersect the surface. This preparation was taken from the body of Margaret W., aged 40, who was admitted into the Hospital with a compound fracture of the right leg, and a simple fracture of the left. She lived four months after the accident, during which time she had repeated attacks of erysipelas. several sinuses formed in connection with the injury of the ankle, and extensive suppuration took place in the knee-joint, with destruction of the cartilages. *Post Mortem and Case Book.* 1843. p. 232.

202. Un-united Fracture of the Tibia, which had existed for seventeen years. The two extremities of the fractured portions are thickened; the lower fragment is expanded at its upper end into a cup-like cavity, for the reception of the upper fragment, which is rounded off. The surfaces of both these extremities are tipped with a substance of a fibro-cartilaginous nature; they were also covered with a membrane, which secreted a fluid something like synovia. They were maintained in apposition by a dense fibrous capsule, which has been laid open, to show the appearances of the false joint. A false joint existed between the tibia and fibula, in the neighbourhood of the fracture. The fibula itself is curved, and very much thickened. The patient had for some years been a messenger at one of the Clubs; he was in the habit of walking a great deal, and merely supported himself on a stick. He died in one of the Physicians' wards in the Hospital.

203. Un-united Fracture of both Bones of the Leg. The tibia is broken at about four inches, the fibula at about two, above their lower extremities; and both lower fragments are tilted forwards overlapping the opposite fractured extremities. The upper ends of the lower fragments of the tibia and fibula are rounded off, and covered with a dense fibrous structure. The lower ends of the upper fragments are connected with the contiguous fragments, throughout nearly the whole of their circumference, by a dense, fibrous, capsular band holding them firmly together; part of each upper fragment, however, is not covered with any such deposit, but is moveable on a similar uncovered part of the lower fragments. The tibialis anticus and extensor proprius pollicis muscles are pushed outwards by the projecting part of the tibia, and the extensor longus digitorum displaced also by the fibula, which is imbedded more or less in the lower muscular fibres. The peroneus longus and brevis muscles are also thrown forwards and outwards, as they pass behind the external malleolus. The fracture was said to have been of eight years' standing. The history of the case is as follows: The patient, Emily W., aged 10, was admitted into the Hospital, on account of the injury. At

the time of admission, some motion was permitted between the fractured ends of the bones, and the lower fragment overlapped the upper one, forming a small projection on the front of the leg, the skin covering which was slightly ulcerated. The entire limb was wasted, and about three inches shorter than the opposite one. The patient stated, that when two years old the leg was struck with a cricket-ball, which injured but did not fracture the leg. At the time of the accident only a poultice was applied; subsequently, leather splints were used. She was at this time in bad health, the leg became "bowed out"; and, ten months afterwards, broke in the situation above mentioned. Since that time the leg had been twice broken; and, two years before her present admission, she was taken into the Hospital for six weeks, and splints applied in vain. The limb was removed below the knee, January 24th, 1850. Excepting slight secondary hæmorrhage, she went on favourably, and was discharged quite well, February 27th.

204. The lower end of the Femur, showing a small piece broken off the articular cartilage. The patient had sustained a compound fracture of the femur communicating with the knee-joint, and other severe injuries, for which primary amputation was performed. He died of pyæmia. No post-mortem examination was made. The preparation shows the lower fragment of the femur, which has been separated from the shaft by an irregular fracture just above the condyles : a branch of the fracture is seen passing through the internal condyle into the joint. The cartilage on the external condyle is affected with old disease (fibrous degeneration) ; and near this diseased part, but not apparently connected with it, a shred of the articular cartilage may be seen hanging down from the bone, by a pedicle composed of the soft parts (periosteum, &c.) around the bone, which is quite denuded, *See Path. Soc. Trans.* Vol. xi. p. 186.

205. A transverse fracture of the patella, without laceration of the ligamentum patellæ, produced by violence acting from within, in a compound fracture of the lower end of the femur. The fracture has probably been caused by one of the fragments of the femur having been driven against the deep surface of the patella. The cartilage covering the patella may be observed to be diseased. *Post Mortem and Case Book.* 1859. p. 240.

206. A specimen of compound comminuted fracture of the middle part of the shaft of the femur, from gunshot. The patient, a man, aged 35, was loading a small cannon (length 20 in. bore $\frac{3}{4}$ in.) with two ounces of powder, which exploded. The ramrod passed through his thigh, producing the fracture shown in this preparation. Amputation was performed in the upper third of the thigh ; and so completely was the bone shattered, that

the saw was not required to divide it ; but a small splinter was smoothed off with the saw, and a few loose pieces removed. The patient made a good recovery. The preparation shows the middle third of the femur broken into a great number of pieces, the largest of which is not more than two inches in length ; and the screw end of the ramrod, about two inches long, which was lodged among the muscles of the thigh, is placed along with the bone. The case is reported in the *Path. Soc. Trans.*, vol. vii. p. 305.

207. The upper end of each femur, from a woman, aged 74, showing a recent fracture of the neck of the femur, on the right side, and an almost precisely similar fracture on the left side, firmly united. The fracture on the right side is external to the attachment of the capsular ligament at the back part, near the small trochanter, but in front is above the intertrochanteric line, and therefore within the joint: blood was found effused within the cavity of the joint at the post mortem examination (twenty-five days after the accident). Another line of fracture traverses the great trochanter, so as to separate its outer side from the rest of the bone. The neck of the femur was firmly impacted in the substance of the trochanter ; but the fragments separated in maceration. In the united fracture, precisely the same points can be traced. The neck is driven into the trochanter, so that the latter process is widened, and the line of fracture can be traced round the neck, about the level of the intertrochanteric line, so as to be external to the joint behind, but apparently internal to it in front. The union is firm and bony throughout. The patient was treated in the Hospital for both accidents : for the old one from January 13 to March 4, 1857 ; and for the recent injury from February 10 till her death (which was the result of bed-sores), on March 17, 1861. *Post Mortem and Case Book.* 1861. p. 78.

208. The tibia of a child, showing a longitudinal fissure, which traverses its shaft in the upper third. The fissure commences at the upper end of the diaphysis of the bone, just below the cartilaginous epiphysis ; it appears in the middle of the bone in front, but towards its inner side behind, and its lower end is on the internal surface of the bone. There is no history of this preparation.

209. A dried preparation of Dislocation of the Right Femur, on the dorsum ilii. The patient, a woman, aged 23, had thrown herself out of a window, a height of fifty feet, and died in a very short time, from the effects of other injuries. At the dissection, the head of the bone was found just above the great sacro-sciatic foramen; but, in drying, it has approached nearer the acetabulum. The hole which may be seen in the

upper part of the capsule was just large enough for the head of the bone to pass through. The pyriformis muscle was partially lacerated; the others intact. *Post Mortem and Case Book.* 1859. p. 168.

210. The leg of a child, aged 8, which was torn off from the thigh at the knee-joint, in consequence of its having got entangled in the wheel of a cab in motion. The surrounding soft parts were lacerated pretty evenly all round, as if a circular incision had been made. There was simple fracture of the femur, about its middle, with considerable contusion. There was no hæmorrhage. The bladder was also ruptured, from fracture of the pelvis. Amputation was performed, but the child died two days after the accident. The preparation shows the bones of the leg to have been separated completely from the patella and femur by rupture of all the ligaments of the knee. Some of the tendons are left adhering to the bones of the leg. Besides these, there is a long cord, which, when fresh, measured seventeen inches in length. This is one of the constituent portions of the great sciatic nerve, which, in this case, arose from the sacral plexus in two parts. *Post Mortem and Case Book.* 1856. p. 248; and *Path. Soc. Trans.* vol. viii. p. 392.

211. Tibia, fibula, astragalus, and scaphoid bone, from a patient, who, having met with a severe accident, was admitted into one of the metropolitan Hospitals, there being, at the time of the accident, very great effusion into the soft parts, all of which subsequently became united to each other. The skin of the leg, some time afterwards ulcerated in a great part of its extent, and never healed. He was admitted into this Hospital, some months after the accident, and the thigh was amputated, the patient being very desirous of getting rid of a limb, which was quite useless to him, and a source of great annoyance and constant bad health. He died some little time after the operation. At the ankle-joint, the tibia is thrown off from the upper surface of the astragalus, and is dislocated inwards, where it has become united to the inner surface of the astragalus by new bone thrown out between the parts; the lower extremity of the tibia has completely lost its shape. The fibula is fractured about two inches above the joint, and irregularly consolidated. The upper part of the fibula is driven obliquely backwards, its articulation with the tibia having been destroyed; and in this position, the two bones have become united to each other, presenting a somewhat twisted appearance. Large quantities of new bone have been thrown out in various parts of the limb, uniting the contiguous bones to each other, and thus producing ankylosis, which also existed at the knee-joint, in the neighbourhood of which are some large irregular masses of new bone.

212. Dislocation of the Os calcis and Scaphoid backwards from the Astragalus. The external malleolus is partially broken, but the deltoid ligament still maintains the connection between the tibia and the astragalus. The broken portion of the fibula remains, on the other hand, attached to the external lateral ligament connected with the os calcis. The astragalus is tilted up at its fore part, so that its head projects above the other bones of the tarsus; but, the posterior part of the astragalus is pushed down, and the surface which was in contact with the os calcis corresponds now to the posterior articulating surface of the scaphoid bone, in which position it was firmly fixed previous to the dissection of the parts. The patient, from whom this preparation was taken, was a middle-aged man, of corpulent habit, who was admitted into the Hospital with a severe injury of the ankle-joint, produced by his falling upon his foot, in attempting to get out of a gig; but he could give no very accurate account of the manner in which the injury had been produced. At the time of his admission, the dislocation was very evident, and the skin in the neighbourhood of the head of the dislocated bone was slightly injured. Several attempts were made to reduce the dislocation; but they all failed. Diffuse cellular inflammation of the limb supervened, and the skin on the dorsum of the foot sloughed. Secondary amputation was performed, but he ultimately died.

213. Dislocation of the Os Calcis and Scaphoid inwards from the Astragalus. The ankle-joint is not injured, though the two anterior fasciculi of the external lateral ligament are torn through. A small fragment of the astragalus is broken off, at the posterior, internal, and inferior margin of the bone; and the process of the os calcis (sustentaculum tali), with which that part of the astragalus articulates, is also fractured. The interosseous ligament between the astragalus and os calcis is stretched, but not entirely ruptured. The sole of the foot is turned in the preparation so as to look inwards, as it did after the accident; but the displaced bones are perfectly moveable in any direction, and can be at once replaced in their natural position. The patient, a man, aged 23, had thrown himself out of a second-floor window, through a skylight, on to the ground-floor of a neighbouring house, and suffered other severe injuries besides that to the foot. He was then in a state of delirium tremens, of which he died three days afterwards. On admission, the head of the astragalus, on the left side, was found projecting at the outer edge of the foot, the sole of which was turned inwards. The tendo Achillis was very prominent, tense, and slightly curved inwards. Reduction was impossible until this tendon was divided subcutaneously, after which it was readily effected. At the post mortem examination, the

bones were found in their natural position, except that the head of the astragalus was perhaps somewhat more prominent than natural. *Post Mortem and Case Book.* 1858. p. 215. This case, as well as the preceding, will be found recorded in the *Medico-Chirurgical Transactions*, vol. xlii. p. 39.

214. Gunshot Wound of a Rib. The edge of the rib was grazed, and the bone partially broken, its edge being comminuted. The lungs being perforated, the man died of the injury in two days. *Presented by* CÆSAR HAWKINS, Esq.

215. Perforation of the left scapula by a bullet, near to the centre of the posterior margin of the bone, about an inch below the triangular surface, at the root of the spine. From the same case as Nos. 65, 66.

216. Gunshot Wound of the lower end of the Humerus. The patient, from whom the preparation was taken (George R., aged 50), was admitted into the Hospital under the following circumstances: He stated that twenty-two years previously he was in the Peninsular War, and while lying on the ground, he supposed that some one struck him with a stick on the left elbow. His arm inflamed, and several abscesses formed in the neighbourhood of the joint. Ever since he had been subject to occasional attacks of inflammation, with abscesses, and this led him to apply at the Hospital, for the purpose of having the limb removed. This was done on the 10th of September, 1832. The diseased joint presented the following appearances: A musket-ball was found lodged in the cancellous structure of the lower end of the humerus, immediately above the central part of its articular extremity, and had produced the inflammatory attacks above described. The lower end of the humerus, and the upper extremities of the ulna and radius, are considerably enlarged, and a large quantity of new bone has been thrown out on the outer surfaces of these bones in the neighbourhood of the joint. The articular lamella, covering the surfaces of each of the bones, is extensively destroyed. At the back of the humerus is an opening corresponding to the bottom of the olecranon fossa, in which the ball lies uncovered, and where it could be struck during life. The patient left the Hospital cured on the 11th of October, 1832.

217. A small leaden ball impacted in the substance of the Right Tibia. No history as to the cause of its lodgment in that situation could be ascertained. It had not attracted attention during the time the patient from whom it was taken was in the Hospital. It will be seen that a very slight amount of porosity exists in the osseous tissue around the ball.

218. Gunshot Wound of the Frontal Bone. From the body of Nicolas B., who was killed in the attempt to assassinate the Emperor of the French, on January 14th, 1858. *Presented by* H. C. JOHNSON, Esq.

219. Incised Wound of the Shaft of the Humerus. John D., aged 40, was admitted June 23rd, 1837, having had the left arm drawn into the wheels of a saw-mill, by which the hand was completely torn off about two inches above the wrist-joint; whilst deep lacerated wounds were inflicted on the upper arm, attended with much hæmorrhage. The shaft of the humerus was half cut across, by an oblique wound traversing its back part, as is seen in the preparation. The arm was amputated at the shoulder-joint; but the patient, who was a great drunkard, sank about 43 hours after the operation. *Presented by* CÆSAR HAWKINS, Esq.

220. Portion of Bone from a Stump. The extremity is rounded off, and covered by a layer of compact bony tissue; in several parts pointed bony exostoses exist.

221. Portion of the Tibia and Fibula from a Stump. The extremities of the bones are rounded off and smooth, but the cancellous tissue at the ends of both bones is exposed. *Presented by* CÆSAR HAWKINS, Esq.

222. Portion of the Femur, from a Stump. Amputation of the thigh had been performed for disease of the knee-joint, erysipelas followed the operation, and produced retraction, in consequence of which the piece of bone was sawn off as soon as the erysipelas subsided. Exfoliation of the end of the femur followed the removal of this piece. *Presented by* CÆSAR HAWKINS, Esq. The exfoliated portion is preserved in Series II.

223. Skull, with an aperture on either side of the back part of the sagittal suture, supposed to have been made with the trephine some time before death. The edges of both openings are smooth and rounded. *Presented by* CÆSAR HAWKINS, Esq.

224. A portion of the right side of the Frontal and Parietal Bones, on which the operation of trephining had been performed, fifteen years before the death of the patient. The margins of the bone are smooth, presenting a bevelled edge externally; and the interspace is occuped by a firm membrane, in which are deposited several portions of new bone. This membrane is intimately adherent to the dura mater; at one part it has been separated from it.

225. Portion of a Frontal Bone, from a man, who, some years before his death, had had an injury of the head, with depression of a portion of bone. The depressed portion was removed by a surgeon, and the patient recovered. The deficiency is replaced by the dura mater becoming adherent to the margins of the aperture, which are bevelled off to some distance on the outer surface. In one part, the dura mater presents a large spiculum of bone, which appears to have been deposited in its structure. The patient, from whom the preparation was taken, died of a disease unconnected with the head.

226. The Bones of the Knee Joint removed by amputation ten months after the excision of the knee. The patient, John P., aged 19, had suffered from disease of the right knee for about six years, and had been in various London hospitals, and, amongst others, St. George's. Excision of the joint was performed, at the Royal Free Hospital, Gray's Inn Lane, by Mr. GANT. He so far recovered as to be able to bear a little weight on the limb, while standing on crutches; but it had never become stiff, and he was not at any time able to raise it from the bed. He was admitted, into this Hospital on August 1, 1860, in a state of great emaciation and weakness, with constant pain and discharge from numerous sinuses around the situation of the joint. Amputation of the thigh was performed on August 15, and he made a rapid recovery. On examination of the bones, it will be seen that the patella has been taken away, and a very thin section removed from the tibia and femur; the section of the latter bone appearing to slope upwards towards the outer condyle. At the back part of the section of the tibia, there is a deep carious cavity, in which at the time of the examination some very small fragments of dead bone were lying. A large extent of the upper surface of the tibia is rough and exposed. Hardly any union exists between the two bones at the back part, but a strip of ligamentous tissue may be seen, passing from one bone to the other, obliquely upwards and inwards (beneath which a red bougie is passed): this structure appears to be a displaced portion of the ligamentum posticum Winslowii. In front, the femur and tibia are firmly soldered together by a structure which is in great part bony, mixed with fibrous tissue: but here and there cartilaginous nodules are found in it, showing, on microscopical examination, very plainly, the characteristic nuclei and intercellular substance of true cartilage, with ossification progressing in various parts. These nodules are not continuous with the whitish material which is to be seen on the anterior surface of the condyles, and which appears to be the remains of the original articular cartilage; nor has that structure, in the portions examined, the same character as the nodules above referred to, but has lost its cartilaginous appearance from fatty and fibrous degeneration. Hence the cartilaginous material was thought to be part of a uniting medium. The union was found to be soft, so that a slight amount of flexion is still possible. The ends of the bones, particularly the femur, are much expanded, and the superficial laminæ so separated from the subjacent bone as to crackle under the finger. The quadriceps extensor muscle was inserted by a broad expansion into the end of the femur: the other tendons did not seem to have been interfered with. All the soft parts in front of the

joint were greatly thickened and indurated. The case will be found reported in the *Path. Soc. Trans.*, Vol. xii. p. 171.

227. A Skullcap displaying a Fracture confined to the left Parietal Bone, and the sutures uniting it to the frontal and temporal bones. At the upper and anterior corner of the bone are two adjoining trephine holes. From these the principal fracture runs downwards and forwards, and finally coincides with the coronal suture. Passing backwards from the lower extremity of this a separation is to be seen between the parietal and temporal bones. At the back part of this fissure, is another aperture made by trephining, which has penetrated the skull immediately over the posterior bands of the middle meningeal artery. There was a small fracture of the base of the skull passing through the body of the sphenoid bone in the antero-posterior direction. There was much blood effused between the bone and dura mater on the left side, and there was some also in the arachnoid cavity on both sides. There was no laceration of the brain. The preparation was taken from a patient who had received a severe blow on the left side of the head from a piece of wood which fell from a scaffold upon him. On admission there was much ecchymosis about the left eye, and a quantity of blood beneath the scalp over the anterior superior angle of the parietal bone. The right pupil was contracted. He was restless and stupid, but there was no paralysis. There was hæmorrhage from both nostrils. About an hour and a half after admission, the breathing became suddenly stertorous, the respiration laborious, and all the limbs completely paralysed. An incision was made over the inferior edge of the parietal bone, a depressed margin was discovered and the trephine was applied. A considerable quantity of blood escaped. An extensive separation of the dura mater from the bone was noticed in this situation. A free incision was then made at the upper part of the bone, and a fracture with depression discovered, which appeared to be continuous with one which had been detected lower down. Two pieces of bone were removed by trephining in this position, and much blood allowed to escape. The patient was then bled from the arm, and a little temporary improvement followed the measures adopted. Two hours later, however, the stertor returned, and he died in the evening of the day on which the accident had occurred. *Posl Mortem and Case Book.* 1861. p. 191.

228. Comminuted Fracture of the Os calcis. The upper part of the bone was smashed into small pieces which have disappeared in maceration ; including the articular surface for the cuboid and the greater part of those for the astragalus. The sustentaculum tali is left adhering, by portions of ligament, to the Astragalus. From the same patient as No. 205.

229. Fracture of the Leg of a Guinea Pig, on the third day. *Presented by* Sir BENJAMIN BRODIE.

230. Fracture of the Femur of a Rabbit, on the fourth day after the injury. No union has taken place, and the surrounding parts are much thickened. *Presented by* Sir BENJAMIN BRODIE.

231. Fracture of the Leg of a Rabbit, on the fifth day after the injury. *Presented by* Sir BENJAMIN BRODIE.

232. Fracture of the Leg of a Rabbit, on the sixth day. *Presented by* Sir BENJAMIN BRODIE.

233. Femur of a Rabbit, on the seventh day after fracture. The broken ends still slide over one another. They are united partially by callus; but a cavity is seen between their extremities, which was filled up by a fluid of gelatinous consistence. *Presented by* Sir BENJAMIN BRODIE.

234. Fracture of the Femur of a Rabbit, on the eighth day. *Presented by* Sir BENJAMIN BRODIE.

235. Femur of a Rabbit, on the ninth day after fracture. The broken ends are united by callus; but there is a cavity at their extremities, containing a gelatinous fluid. *Presented by* Sir BENJAMIN BRODIE.

236. Femur of a Rabbit which had been fractured, and an attempt made to produce union by the application of splints. The animal was killed on the ninth day. No union had taken place. The ends of the bone were rounded off, and formed an artificial joint, by their motion on one another. *Presented by* Sir BENJAMIN BRODIE.

237. Fracture of the Femur of a Rabbit, on the tenth day from the injury. *Presented by* Sir BENJAMIN BRODIE.

238. Lower portion of the Femur of a Rabbit, eleven days after fracture. The medullary canal is seen filled up with a soft substance, and the fractured extremities are rounded off. *Presented by* Sir BENJAMIN BRODIE.

239. The Tibia of a Guinea Pig, fourteen days after fracture, showing a mass of callus formed around the injury. *Presented by* Sir BENJAMIN BRODIE.

240. The Femur of a Dog, nineteen days after fracture of the bone. It has been injected.

241. Femur of a Rabbit. The two ends of the bone are seen riding over each other. Much deposition of new bone exists in the neighbourhood of the fracture. *Presented by* Sir BENJAMIN BRODIE.

242. Femur of a Fowl, showing an old fracture about the centre of the shaft. The fragments ride over one another to such an extent, that shortening has taken place, to the extent of about half the original length of the femur. The medullary cavity in each fragment is closed by bone, and the fragments are united by a porous mass of bone laid down between them. There is no trace of any callus ensheathing the fragments.

Series II.

DISEASES OF THE BONES.

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MEM.—Other specimens of diseases of bone will be found in the Series on Diseases of the Joints, Diseases of the Spine, Diseases of the Ear and Nose, and Tumours. See the Index to each of those Series and the General Index at the end of the Catalogue.

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1. Skullcap, the bones of which are enormously thickened and hypertrophied with obliteration of the diploë and of the various sutures. The inner surface of the bone is pierced with numerous small foramina, and, in many places, covered with irregular deposits of new bone. From a middle-aged man, who died of a disease unconnected with the head.
2. Hypertrophy of the Vault of the Skull, in a case of old fracture of the base of the skull, which was united. The latter is preserved as Series I., No. 37. *Post Mortem and Case Book.* 1858. p. 70.
3. Hypertrophy of the Vault of the Skull, especially of its posterior part, where the skull is much thickened, and of ivory hardness; the diploë being obliterated. At the anterior part, on the contrary, the thickening seems due almost entirely to increase in quantity of the diploë; and nearly the whole bone is cancellous. The grooves for the middle meningeal arteries are

deep, and, at the back part, there are vascular apertures of large size. The preparation was taken from the body of a woman, aged 63, who died of phthisis, terminating in coma, after only four months' illness. The head-symptoms did not come on till five days before her death; and she was not known to have had any previous cerebral affection. The fatal symptoms began with confusion and loss of speech, followed by partial hemiplegia, insensibility, stertor, and coma. At the post mortem examination, there was found slight effusion of blood in the cavity of the arachnoid, and excess of sub-arachnoidean fluid, with atheromatous degeneration of the arteries. *Post Mortem and Case Book.* 1860. p.129.

4. Section from a small portion of the Vault of a Skull, the bones of which were enormously hypertrophied. The patient, a man, aged 50, had fallen on his head, aud suffered from concussion, but soon recovered. Some time after his recovery, however, he found that he had some difficulty in getting on the hat he was in the habit of wearing. This enlargement went on increasing, and, from this period, he found it necessary, from time to time, to have the size of his hats increased; but he never suffered any other inconvenience. He died at the age of 70. The hypertrophy was all but limited to the vault of the skull, the base presenting very little alteration in appearance. The skull-cap is in the museum of the Royal College of Surgeons. The bones are, in parts, 11 lines in width, and nowhere less than 6 lines. The structure of the whole skull-cap is finely cancellous, the compact tables having disappeared. The outer surface is covered with minute foramina, like pinholes. Large arborescent grooves exist both on the outside of the skull for the deep temporal vessels, and on the inside for the meningeal arteries. The weight of the skull-cap is not increased in proportion to its great size and thickness. The brain and its membranes were quite healthy ; there was no disease of any other part of the osseous system. *See* MR. PRESCOTT HEWETT'S *Lectures on Diseases of the Head. Medical Times and Gazette.* 1855. vol. ii. p. 229.

5. Atrophy of both tables of the Parietal and Frontal Bones. The atrophy is most marked on either side of the sagittal suture, and appears to have made its way from within outwards. The bones are very thin throughout. There are large pits or depressions, on either side of the middle line, probably caused by enlarged Pacchionian glands, and holes exist through the skull in many of these depressions.

6. Section of the Right Femur; from a female, aged 70, in whom the opposite femur had been broken external to the capsular ligament. The osseous tissue is much attenuated, and the cancelli full of fat. The shape of the bone is also somewhat

altered, the neck being less oblique than natural; whilst the head and great trochanter are somewhat approximated. *Presented by* CÆSAR HAWKINS, Esq.

7. Section of the Right Femur. The head and neck are atrophied, and altered in form and direction. The head is on a lower level than the great trochanter, and the neck has a horizontal instead of an oblique direction. *Presented by* CÆSAR HAWKINS, Esq.
8. A portion of the Femur. The outer surface is covered with a deposit of newly-formed porous bone. The section shows that the compact wall of the bone posteriorly has been inflamed, and its laminæ separated about half an inch from one another, so that the wall at this part is composed of two parallel layers of compact tissue, with a coarse cancellous texture between them; the compact wall in front is somewhat atrophied. The cancellous tissue throughout the whole of the shaft is much more indurated than natural. A large aperture is seen at the inner side of the bone, leading upwards into the central part of it, from which, probably, a sequestrum has been removed.
9. Opposite section, from the same bone as the preceding.
10. Lower portion of the Left Femur. Large quantities of new bone of a porous structure have been deposited on the surface of the old bone.
11. A portion of the Tibia, upon the surface of which new bone has been deposited in various parts.
12. The Radius and Ulna of a lioness. The entire surface of the bones, excepting their articulating ends, is covered with a thick layer of newly-formed bone. *Presented by* CÆSAR HAWKINS, Esq.
13. A portion of the Left Tibia, presenting a considerable deposit of new bone on its various surfaces. The deposit is arranged chiefly in a foliaceous manner, affecting mainly the prominent bony ridges and the internal surface of the shaft. This deposit was, apparently, the result of a large sloughy ulcer of the integument, of six or seven months' standing. *Post Mortem and Case Book.* 1851. p. 155.
14. A portion of the Right Tibia, with the skin covering its outer surface. On the external side of the bone is a large circular mass of newly-deposited bone, exactly similar in form to an ulcer on the integument which covered its surface. The ulcer had existed for a considerable time, and was the result of a very extensive scald. The preparation was taken from the body of a patient who was admitted into the Hospital in May, 1847, and was for some months an in-patient; but the sore on the leg never healed. He was admitted a second time in January, 1849, the sore still remaining unhealed. He

died about three months and a half after his second admission, of tubercular disease of the membranes and substance of the brain. *Post Mortem and Case Book.* 1849. p. 94.

15. A portion of the Right Fibula, from the same patient as the preceding. Its outer surface is covered with a considerable deposit of new bone, corresponding with the ulcerated surface of the structures covering it during life.
16. Inflammation of the Femur, with deposit of bone upon the external surface, and great induration of the compact tissue.
17. Corresponding section to the preceding.
18. The Vertex of a Skull. The diploë is filled up; and, on the outer surface at the vertex, a roughened, nodulated condition exists, from deposit of new bone. The sutures are almost entirely obliterated, and there is great porosity of the external and internal surfaces, chiefly affecting the centre of the skull. There was very intimate adhesion between the dura mater and the bone. This preparation was taken from the body of James K., aged 37. He had attacks of temporary delirium, with great headache, and, on one or two occasions, temporary facial paralysis. He died comatose. There was also extensive necrosis of the ribs. See No. 94.
19. Section of the Shaft of a Tibia. There is a considerable deposit of new bone upon the external surface throughout the greater part of its extent; the compact wall is also much thickened, and the cancellous texture almost entirely occupied by a deposit, between its laminæ, of newly-formed bone. The medullary canal is obliterated at the centre of the bone. *Presented by* CÆSAR HAWKINS, Esq.
20. Section of a Tibia. There is considerable deposit of newly-formed bone on the outer surface of the shaft for the greater part of its extent. Corresponding with this, the section shows that the compact wall of the bone is thickened and indurated, and the interspaces between the laminæ of the cancellous tissue filled up by a deposit of newly-formed bone just to the extent of the external deposit. The medullary canal does not exist. The foramen for the nutritious artery is of very large size. *Presented by* CÆSAR HAWKINS, Esq.
21. Portion of a Femur. On the outer surface of the shaft of the bone, at its upper part, there is a considerable deposit of newly-formed bone. The section also shows, that, corresponding to this external deposit, the compact wall is much thickened, and the cancellous tissue indurated. The medullary canal is closed for a short distance at this part. *Presented by* CÆSAR HAWKINS, Esq.
22. The Tibia and Fibula. The lower ends of both bones, and a large portion of the surface of the shaft of the fibula,

are covered, by a considerable deposit of newly-formed bone. The lower end of the fibula is more especially expanded and indurated. This condition of the bones was the consequence of disease in the ankle-joint. *Presented by* CÆSAR HAWKINS, Esq.

23. Section of a Femur, with a very considerable deposit of newly-formed porous bone on its outer surface. The compact wall is also much thickened and the cancellous tissue filled up. The medullary canal is entirely obliterated, excepting to a small extent at the upper part of the bone. The length of the bone is seen to be very considerable.

24. The Vertex of a Skull, with a portion of bone removed from it by trephining. The skull is much thickened, especially at the back part; and this is particularly marked on the portion removed, which is at least twice as thick behind as it is in front. In consequence of this inequality in thickness, the dura mater was wounded in the operation. The portion of bone removed and the skull in its immediate neighbourhood are slightly roughened. There is a little new bone deposited on the outer surface of the skull posteriorly, and the inner surface seems unusually vascular. This preparation was taken from the body of Edward B. aged 40, who was admitted on July 4th, 1859, having been struck upon the part of the head, which was afterwards trephined, by a stone falling from a height of thirty feet. He presented various anomalous symptoms of pressure on the brain during the time which he survived the accident, and the outer surface of the bone was twice exposed by incision; but as no fracture was found, nothing further was done. At last, however, as he was evidently sinking, he was trephined ten months after the injury; since it was allowed to be possible that the symptoms might depend on a depression of the inner table, or on the formation of pus below the bone. The operation made no difference to the progress of the case, and he died three days afterwards. The prominent symptoms were great pain in the head, loss of power in the right arm, and, to a less extent, in the right leg, and protrusion of the right eye, with external squint of the left. A very full report of the case will be found in the post mortem book, referred to below. On dissection, the cerebral symptoms appeared to depend on chronic inflammation of the arachnoid, with sero-purulent fluid and lymph in its cavity. Secondary deposits also existed in the lungs and liver. *Post Mortem and Case Book.* 1860. p. 127.

25. Tibia, showing the effects of chronic inflammation. The bone was increased both in thickness and in length, so that it has become curved, in order to adapt itself to the length of the fibula. On looking at the section the cancellous tissue is seen to be loaded

with heavy, greasy, amorphous bony deposit. The compact tissue is little affected. There is a considerable quantity of periosteal deposit; and on the front surface, about two inches below the spine, a depression, probably the result of an old ulcer. The patient, from whom this bone was taken, died, at the age of 41, of phthisis. He had evidently had syphilis, as the cicatrix of a sore was plainly visible on the penis. The liver, spleen, and kidneys were of the hard brawny consistence sometimes observed in constitutional syphilis. Hence the inflammation of the bone was conjectured to be due to syphilis. *Post Mortem and Case Book.* 1859. p.219.

26. Portions of bone removed from the cranium of a man, who died with suppuration between the dura mater and skullcap. The diploë is infiltrated in parts with purulent matter, and, in other parts it is more than usually vascular. The patient, from whom this preparation was taken, was admitted with a scalp wound. On the tenth day, symptoms of cerebral inflammation supervened, which were followed by palsy and slight coma. The trephine was applied on the fourteenth day, and matter between the dura mater and bone evacuated. He died on the following day. *Post Mortem and Case Book.* 1849. p. 245.

27. Longitudinal section of a Tibia and Astragalus. The tibia is considerably enlarged, particularly at its lower part, from deposition of new bone on its external surface. Numerous orifices also exist on the outer surface, leading into large and very irregular-shaped cavities in the interior, lined by a highly vascular membrane, the vessels of which have been minutely injected. These cavities, in their natural condition, were full of pus. *Presented by* SIR BENJAMIN BRODIE, Bart.

28. Longitudinal section of a Tibia, the cancellous tissue of which is of a dark colour, and infiltrated with pus. The patient, from whom this preparation was taken, was admitted into the Hospital on July 4th, 1838, with an ulcer over the tibia, of seven years' standing, which never healed soundly. The periosteum beneath was thickened, and the bone exposed. Various remedies having been tried without avail for some time, the bone was laid bare, and as much scraped from its surface as appeared soft. This was done on October 25th. There was not at first much inflammation; but on November 6th, she began to have constant vomiting, succeeded by intense jaundice and gangrene of the soft parts of the leg, with separation of the periosteum along almost the entire length of the tibia. She died on November 13th. At the post mortem examination, large secondary abscesses were found in both lungs, and much sero-purulent fluid, mixed with recent lymph, in the right pleural cavity, compressing the right lung against the

spine. There was recent inflammation of the peritoneal covering of the liver, and all the tissues of the body were bile-tinged. The tibia was nearly isolated from the soft parts, and its periosteum separated from it throughout its entire length. The bone was highly inflamed, the cancellous tissue infiltrated with pus, and some spots of ecchymosed blood were observed in different parts of the cancellous tissue. *Presented by* CÆSAR HAWKINS, Esq.

29. Longitudinal section of a portion of the Femur after amputation, showing its cancelli filled with pus. The patient died, on the fifth day after the amputation, with obscure symptoms of pyæmia. No secondary deposits were found, but the femoral vein contained loosely adherent clots. *Post Mortem and Case Book.* 1853. p. 75.

30. The lower end of a Tibia; from a young man, whose leg was amputated on account of the disease exhibited in the preparation. The lower end of the bone is much enlarged. There is a considerable deposition of new bone on the surface, and the cancellous tissue is much indurated. A large cavity, about the size of a walnut, occupies the centre, which, in the recent state, was filled with fœtid pus. The disease had existed eleven or twelve years. It occasioned constant and often excruciating pain, without any appearance of abscess externally. The constitutional symptoms dependant on this local malady were also very severe.

31. The upper part of a Tibia. In the centre of the head is a circumscribed cavity, as large as a walnut, which, in the recent state, contained dead bone and a quantity of putrid pus. This cavity is lined with a firm, thick membrane. The head of the bone is considerably enlarged, the periosteum thickened, and the cancellous tissue much indurated. Below the tubercle is a deep depression, the remains of a cavity made during life with the trephine, partially filled up with fibrous tissue. This preparation was taken from a patient who laboured under enlargement of the head of the tibia, and who complained of severe aching pain in the same situation. The disease had existed for some months; and, from the symptoms, it was supposed that an abscess existed in the upper extremity of the bone. The trephine was applied in the situation above mentioned; but no matter, sufficient to account for the symptoms, could be detected. The patient died some short time after: the abscess was then discovered making its way towards the surface of the bone, in the situation seen in the preparation, at a part where its wall is formed of thickened periosteum only.

32. A portion of the head of the Tibia, removed by means of the trephine. It formed the superficial wall of a circumscribed

abscess in the bone. Its deep surface may be seen grooved by the abscess, and lined by a soft flocculent membrane, which has been partly turned down. The patient recovered after the operation.

33. Part of the lower end of a Tibia. A large and very irregular-shaped cavity is seen in the lower end of the bone, hollowing it out considerably at its back part, and perforating it completely behind by an orifice about the size of a goose-quill. In front, the cavity also reaches nearly to the surface. The whole bone is somewhat enlarged, and its outer surface covered with a deposit of new bone; the articular lamella, where the bone enters into the formation of the ankle-joint, is in great part destroyed, and the cartilage covering it has been absorbed; so that the abscess communicates freely with the joint. This preparation was taken from a gentleman, who had laboured under pain in the neighbourhood of the ankle, followed, some months after, by the formation of abscess.

34. Part of the lower end of the Femur, which is extensively destroyed, presenting merely a thin shell of bone, the cavity of which was, during life, lined with a highly vascular membrane, secreting large quantities of pus. The walls of this cavity are deficient at its anterior, inner, and back parts, to a very considerable extent. At the anterior and upper part of the cavity there is a large hole, passing downwards, in an oblique direction, into the cavity. A considerable mass of new bone has been deposited in the neighbourhood of the disease. The relative length of the two condyles is altered, the outer being shorter than usual. No malignant deposit was found in the soft textures of the thigh. This preparation was taken from a middle-aged man, who was admitted into the Hospital with several large sinuses leading into the cavity at the lower part of the femur, from which a profuse discharge took place. The patient, who came up from the country, was in so weak a state that no history could be obtained from him. In this state he lingered for a few days, and then died.

35. Abscess in the upper extremity of the Tibia. A large cavity, of the size of a walnut, is seen in the upper part of the outer tuberosity; it is of an irregular form, and communicates with the cavity of the knee-joint by an orifice of considerable size. The surface of the tibia, on the outer side of the cavity, is covered with a mass of newly-formed bone. *Presented by* Sir B. C. BRODIE, Bart.

36. Ulceration of the Frontal Bone. A large perforation exists, extending through both tables, the edges of which have become perfectly smooth. The bone is much thickened and indurated,

and its inner surface perforated by numerous vascular apertures. The patient, from whom this preparation was taken, died in the Hospital of some affection of the chest, and stated that a portion of bone had come away, a few years before, from an ulcer which existed on the forehead; but he had never received an injury, or had been trephined in that situation.

37. Ulceration of the Bones of the Skull, from a blow. The external surfaces of the bones are extensively ulcerated, the diploë being affected as well as the outer table. On the inner surface of the bones there is no ulceration; but the bone is in many parts porous, and channelled by numerous grooves for blood-vessels. In some parts, a thin layer of newly-deposited bone may be observed on the inner surface. These portions correspond externally to those spots where the greatest amount of ulceration has taken place.

38. Ulceration of the Frontal and Left Parietal Bones. The disease chiefly affects the external table. The corresponding internal table is much increased in vascularity, its surface presents arborescent grooves marking the course of enlarged vessels which ramified between the dura mater and the bone, and numerous small foramina for others which passed into the substance of the cranium.

39. Skull-cap, the external surface of which is extensively but superficially affected with ulceration. A blue line has been marked upon it. All the parts within this line were, for the last three weeks of the patient's life, deprived of their periosteum. The patient, a middle-aged woman, was admitted into the Hospital with a severe burn of the neck and shoulders. Some time after her admission, she was attacked with erysipelas of the scalp, and effusion of lymph under the tendon of the occipito-frontalis. Incisions were made; but the cellular tissue sloughed, and the pericranium separated from the bone; the scalp itself sloughed a few days before her death. The patient never complained of any symptoms referable to the brain. The dura mater was firmly adherent to the skull-cap, and did not present any traces of inflammation; both layers of the arachnoid were quite healthy; the subserous cellular tissue was slightly infiltrated with clear serum. The brain was healthy. *Post Mortem and Case Book.* 1842. p. 64.

40. Ulceration of the body of the Sphenoid Bone. The depression (sella turcica), in which the pituitary body is lodged, is partly destroyed at its posterior part by ulceration, hollowing out a cavity sufficiently large to contain a small nut. The cavity was filled with thick curdy pus. The pituitary body was larger than natural, and of somewhat soft consistence. The substance of the brain was soft, more particularly all the

central parts of the organ; but there was no trace of increased vascularity. This portion of bone was taken from the body of a man, who was admitted into the Hospital April 25th, 1849. The only history that could be obtained from him was that he had been ill a month, having suffered, during that time, severe pain in the head and down both legs. On the evening of his admission he was delirious, but he soon recovered his senses. He sank, however, rapidly, and died about twenty hours after his admission. *Post Mortem and Case Book.* 1849. p. 89.

41. Section of a Skull-cap. Towards the anterior part the bones are very much thickened over a great extent. The thickening is, in some places as much as half an inch; their tissue is firm and dense, the diploë being obliterated. Towards the posterior part the bones are very thin, and, in many places, present large apertures, where, during life, the pulsations of the brain could be easily felt. The external surface of these bones is, for the greater part, rough and mamillated; their corresponding internal surface more porous than natural. This and the following preparation were taken from the body of Charles L., aged 32, who was admitted into the Hospital with a large pulsating tumour, situated at the upper and posterior part of the right parietal bone. In the centre of this tumour was a fungus, of the size of a walnut; on the upper part of the left parietal bone was a depression, about three inches in circumference, where pulsation was also easily perceived. Six days after the admission of the patient, a ligature was applied round the base of the tumour; and another a few days afterwards. No bleeding followed. These ligatures separated, but the tumour gradually increased in size, notwithstanding the portions of slough which came away. Symptoms of paralysis of the left side made their appearance; these increased, and the patient sank about six weeks after his admission. The fungous growth proved to be a portion of the brain, which had protruded through a large opening in the bone. In the substance of the brain, just above the right lateral ventricle, was a small collection of pus.

42. Another section of the Skullcap, including a portion of the scalp, from the same patient as the preceding. This preparation shows a portion of the opening, through which the fungus protruded during life. The brain is preserved in a subsequent series. The case is related in the *Medico-Chirurgical Transactions*, vol. xxxix. p. 289.

43. A Skull-cap, showing a large opening, probably the result of ulceration, which had existed apparently from early life, and the history of which was unknown. The preparation was taken from the body of a woman, who died at the age of 40,

under circumstances which caused some suspicion of violence. Nothing was discovered, however, to support this idea on post mortem examination. The heart was very fatty, the liver extensively diseased, and there was an effusion of serum, mixed with blood, on the surface of the brain. The brain was highly congested. The latter appearances were judged to be apoplectic, and regarded as a consequence of habits of intoxication. She was known to have always complained of a "softness" on one side of the head, and this was supposed to have been present ever since the receipt of some injury in childhood. The scalp was closely adherent to the skull around the opening, and the latter was closed by a tough membrane continuous with the dura mater. The edges of the opening are rounded off; and there appears to have been, at some remote period, a deposit of new bone in its neighbourhood. The internal table around the opening is irregular, and marked by large apertures and depressions. *Presented by* W. COOPER, Esq., Runcorn, Cheshire.

44. Extensive Ulceration of the left side of the Lower Jaw, with destruction of the Alveolar Process.

45. Part of the left wall of the Chest. On the internal surface several of the ribs are deprived of their periosteum, and in a state of ulceration; the subserous cellular tissue, where it still exists, is very much thickened. Towards the lower part is a large ulcerated opening, through which the cavity of the chest communicated externally, and gave passage to large quantities of matter secreted by the serous membrane. A portion of the cartilages of the lower ribs has quite disappeared. Several other openings exist in different parts. This preparation was taken from the body of a boy who was admitted into the Hospital for empyema, from which he had long been suffering, and who died in a state of complete marasmus.

46. The head and upper part of the Shaft of the Humerus extensively ulcerated. The head is in great part destroyed. A transverse fracture of the shaft of the bone has taken place immediately below the head. Below the part where the shaft of the bone has been broken, a considerable amount of new bone is thrown out in the neighbourhood of the fragments, which are only slightly displaced. The medullary canal is open throughout. *Presented by* CÆSAR HAWKINS, Esq.

47. Extensive Ulceration of the outer surface of the Os Innominatum, including the Cavity of the Acetabulum. Large irregular masses of newly-formed bone are deposited on the surface of the ilium in various parts.

48. A Specimen, showing Ulceration of the Head and Neck of the Femur, occurring as a result (it was said) of injury, in a boy, aged 10, previously healthy. The accident had occurred

five days before admission, and nearly three months before death. The alteration in form of the hip, and the immobility, had caused a mistake in diagnosis, so that the case was sent to the Hospital as one of dislocation. Abscess formed in the hip; and the patient died of hectic fever and exhaustion after secondary deposits. The specimen shows the lower part of the head, the neck, and trochanter major extensively destroyed by ulceration, with deposition of new bone on the shaft around, marking the limit of the inflammation. The superficial laminæ of the neck are necrosed here and there. The acetabulum was also ulcerated. The boy had a strumous aspect, but no strumous disease was known to exist. Only the hip-joint could be examined. *Post Mortem and Case Book.* 1860. p. 41.

49. Parts of the Left Tibia and Fibula. On the posterior surface of the shaft of the former bone there is extensive superficial ulceration. The leg was amputated.

50. Extensive Ulceration with Necrosis of the Left Tibia and Fibula. The head of the tibia is superficially ulcerated immediately below the tuberosities, and more especially on its inner side. The shaft is greatly enlarged, from the deposit of bone upon its outer surface. At its lower part, above the inferior articulating extremity, a large, irregular-shaped cavity exists, from which, probably, a portion of dead bone has been removed. New bone has been deposited on the shaft of the fibula throughout its entire length. The patient, from whom this preparation was taken, died in the Hospital of dropsy. *Presented by* CÆSAR HAWKINS, Esq.

51. Extensive Ulceration of the lower part of the Left Tibia and Fibula. Both bones are much enlarged, and covered with a considerable deposit of newly-formed, porous bone. A very large and irregular cavity exists in the lower part of the shaft of the tibia, and here the whole of the shaft of the tibia has been removed by exfoliation, for the space of more than an inch, with the exception of two small portions of bone, each about half an inch in thickness, which extend, in the form of bridges or pillars, from the upper to the lower end of the tibia. Both ends are firmly soldered to the fibula, which is greatly increased in thickness by deposit of new bone at the part corresponding to the cavity in the tibia. *Presented by* CÆSAR HAWKINS, Esq.

52. Extensive Ulceration of the Tibia, showing stalactitic deposit of new bone at the lower end of the tibia, deep ulcerated pits in many parts of its articular extremities, out of which nodules of loose bone have crumbled, peeling off of the superficial laminæ from necrosis, and irregular worm-eaten surfaces exposed by their separation. The bone has been so weakened by the ulceration, as to have given way about an inch

below the upper epiphysis, and it was found, on post mortem examination, completely divided; but as no symptom of this had been noticed during life, it was thought probable that the fracture was produced after death, in carrying the body down to the dead-house. The patient, a girl, aged 11, died very suddenly, from displacement of the odontoid process. *Post Mortem and Case Book.* 1860. No. 184.

53. Portion of a Frontal Bone, extensively affected with Strumous Ulceration. On the inner surface of the bone, and symmetrically disposed, there are two large and irregularly-circular ulcerated spots, the margins of which are somewhat elevated. The bone around presents an arborescent appearance. Corresponding to the internal ulcerated spot on the right side, there is a small depressed ulcer on the external table of the bone; and the bone around the ulcer is marked by radiating grooves. This preparation was removed from the body of John A. aged 14, who was admitted into the Hospital on November the 14th, 1838, for strumous disease of the hip-joint. In April, 1839, abscess formed; attended with much suffering and hectic fever. In the early part of June, he began to complain of much pain in the right side of the head, which was not relieved by any treatment. Towards the end of the month, he became dull and half stupid, paralysis of the left portio dura took place, and he died on the 7th of August, 1839. Besides the disease in the frontal bone, several large deposits of white scrofulous matter were found between the bone and dura mater, in the situation above mentioned; a similar deposit was also found between the bone and pericranium, corresponding to the right side of the frontal bone. At the base of the skull also, corresponding to the cranial surfaces of the temporal bones, a similar deposit was observed between the bone and dura mater. There was a good deal of fluid in both ventricles of the brain, and under the arachnoid. The anterior and middle lobes of the right hemisphere were much inflamed, and the texture of the cerebral substance, from the cineritious matter above down to the basis, much softened. Towards the level of the corpus callosum the cerebral matter was yellow and half diffluent, and this appearance increased towards the base, where the softening was greatest. About the centre of the right hemisphere, an oblong portion of semi-cartilaginous matter was found; it was quite firm and solid, of an irregular shape, and contained many vessels: this substance was about an inch and a half long, and a third of an inch in diameter. The capsular ligament of the hip-joint was much elongated; and the head of the femur, flattened by absorption, lay on the ilium, just above the acetabulum, soft ankylosis between the two bones having

taken place. In the acetabulum was a small piece of dead bone, and there was some matter on the pelvic side of the acetabulum, as well as in the joint. *Presented by* CÆSAR HAWKINS, Esq.

54. Skeleton of a Monkey, the bones of which are extensively affected with chronic inflammation and caries, in consequence of confinement; the appearance of the bones having much resemblance to the effects of syphilis on the human subject. *Presented by* CÆSAR HAWKINS, Esq.

55. Caries of the Bones of the Skull. Both surfaces of the bones are extensively affected by the disease. This preparation was taken from the body of Jane M., who had been suffering for some time from severe pain in the head. The pericranium over one of the parietal bones being perceptibly thickened, an incision was made in this situation down to the bone; this relieved the pain in the head, from which, however, she was never quite free. Some time after the operation, she again complained of severe pain, extending over the whole of the head; but as there was no perceptible tumefaction or tenderness, no operation was performed. On examination after death, extensive suppuration was found between the bone and dura mater, and this membrane was much thickened in the situation of the matter. Numerous vomicæ and tubercles were found in the lungs. There was incipient dropsy of one of the ovaries.

56. Extensive Strumous Ulceration of the Bones of the Skull, chiefly limited to the right side of the head. The entire parietal bone, the right half of the occipital, the squamous and mastoid portions of the temporal, and a considerable part of the frontal, along with a part of the greater wing of the sphenoid entering into the right zygomatic fossa, were affected on both surfaces. Very delicate and thin layers of new bone of a whitish colour, have been deposited on the internal surface of the frontal and occipital bones, but only to a slight extent. The interior of the mastoid cells and the cavity of the tympanum were filled with purulent fluid, and their lining membrane thickened. The small bones in the internal ear were entire, but the membrana tympani was perforated. Corresponding to these affected parts of the cranial bones, both the pericranium and dura mater were found altered and detached from the bone, a large quantity of thin, flaky, purulent fluid intervening. The pericranium and dura mater were both thickened; but the smooth, serous surface of the latter was unaffected. The superior longitudinal and right lateral sinuses, as far as the petrosal, were obliterated by the presence of fibrinous coagula. The brain was unaffected. This preparation was taken from the body of George C., aged 24, who was admitted into the Hospital with disease of the lungs, March 6th, 1850, and

died on May 18th. A few days before admission, he found in the scalp a swelling which gradually increased; it was punctured, and some flaky purulent matter evacuated. Collections of a similar fluid took place, which burrowed under the scalp, requiring several incisions; a large surface of the subjacent bone was eventually exposed. The patient died exhausted. *Post Mortem and Case Book.* 1850. p. 85.

57. Skull-cap, the external surface of which is in many places covered by an extensive deposit of new bone, presenting a mamillated appearance. This is especially the case over the frontal bone and the lateral parts of the parietal bones: in other parts the surface of the bones is in a state of caries, and pierced by numerous minute foramina. The internal surface of the bones is also pierced by an enormous number of small foramina, situated close to each other, and giving this part the appearance of a fine network. This preparation was taken from the body of a man, aged 26, who was admitted, on the 25th of October, 1842, into the Lock Hospital. He had phimosis, and much hardness and thickening of the prepuce, with a small sore, a part of which only was visible. There were also some faint spots of psoriasis upon the back and legs, the eruption having apparently only just made its appearance. The throat was not affected; but he complained of considerable pain across the forehead, which had existed about a fortnight. He had taken mercury, which had affected his gums. He stated, that two months previous to his admission into the Lock Hospital, and a few days subsequent to connection, he perceived some sores at the extremity of the prepuce; and in a week, the foreskin could be no longer retracted. On the 30th of October, it was observed that the scalp had become œdematous, accompanied by much tenderness on pressure; the pain in the head was much increased, and more general. His symptoms were not relieved, and he was sent to this Hospital on the 30th of November, at which time the pericranium at the vertex and sides of the skull was in a state of great inflammation, with great pain upon pressure, and so much swollen, that the head presented an appearance of hydrocephalus. The patient complained of excruciating pain in the head, which, commencing periodically at four, P.M., was continued through the night, and ceased in the morning. On the 18th of January, 1844, he was seized with paralysis of the portio dura, and deafness of the left ear. These symptoms subsided after some little time, and the pain and swelling also were very much relieved; but he was seized with erysipelas and laryngitis, of which he died on the 5th of April. *Post Mortem and Case Book.* 1844. p. 69.

58. Skull-cap the external surface of which is in many places, in a state of caries, especially over the frontal bone. The whole

skull is very dense. The whole of the external surface of the frontal and of both parietal bones is pierced by numerous small foramina. On the frontal and left parietal bones, in many places, the surface presents a number of small, irregular-shaped, worm-eaten depressions, in the interspaces between which a layer of new bone is deposited, which presents a somewhat mamillated appearance. From a patient affected with syphilis. *Presented by* CÆSAR HAWKINS, Esq.

59. Ulceration of the Parietal Bones. The right bone, towards its anterior inferior angle, is extensively diseased throughout its whole thickness, and the canal, which lodges the meningeal artery, in consequence destroyed. Above this, and at about the centre of the parietal bone, is a small, irregular, circular-shaped, ulcerated surface, presenting a worm-eaten appearance, and affecting chiefly the external table. The left parietal bone presents two small, irregular-shaped patches of ulceration; the disease is here limited to the external table. The inner surface of the skull, at points corresponding to the external ulceration, is perforated by numerous foramina. This disease is most probably the consequence of soft nodes.

60. A Skull, the bones of which are extensively affected by ulceration, probably syphilitic. On the frontal bone, the disease has been principally confined to the external table; but in one or two places both tables have been destroyed. A large portion of the right parietal is diseased throughout its whole thickness, but the exfoliating portion is not quite separate from the surrounding bone. On the left parietal, the disease, although extensive, is confined to the external table. The hard palate is for the greater part destroyed, and a free communication is thus established between the mouth and nostrils. The body of the sphenoid presents, in its inner surface, a deep excavation, large enough to lodge the end of the index finger. This cavity is perfectly smooth. Both malar bones are also ulcerated.

61. Extensive Ulceration of the Bones of the Skull, probably the result of syphilis. Both tables are affected, and in several places, the whole thickness of the bone has been destroyed. Two crowns of trephine have been applied on the right side of the frontal bone.

62. Skull, the frontal and parietal bones of which are affected with ulceration, probably syphilitic. On the right side of the frontal bone, the external table only is affected. On the left side, the external table and diploë are both destroyed, and the frontal sinuses on this side have been laid open. At the back part of the parietal bones, both tables are in many places completely destroyed. Two crowns of trephine have been applied on the right parietal bone, over the course of a large branch of the middle meningeal artery.

63. The Bones of the Cranium, showing the effects of ulceration, presumed to be syphilitic. No history exists. The hard palate is partially destroyed by ulceration, and a free communication established between the mouth and nose. The bones forming the anterior opening of the nares have been similarly affected; their margins, instead of being sharp, are smooth and rounded off, especially towards the upper part.

64. The lower end of a Humerus, extensively affected with syphilitic ulceration. The back part of the outer condyle, and adjoining portion of the shaft, are extensively ulcerated, the ulceration extending on to the articular surface. A considerable amount of new bone has been deposited on the entire circumference of the lower third of the shaft. The cartilage covering the articular surface has almost entirely disappeared. This preparation was taken from a woman who was admitted into the Hospital, June 15th, 1842. On her admission, there was extensive necrosis of the frontal bone, which had commenced six years previously; the pulsations of the brain were distinct in several places. An inch and a half of the back of the shaft of the humerus was also exposed, and apparently dead; there was dead bone of the nose, which came away soon after her admission. Several rupial scabs existed on the body, and numerous cicatrices. The elbow-joint was not at first affected; but a month after her admission, it became inflamed, and suppurated. The limb was amputated, and the stump soon healed. *Presented by* CÆSAR HAWKINS, Esq.

65. The Radius, Ulna, and Bones of the Hand, from a patient affected with syphilis. Part of the circumference of the head of the radius presents a slightly worm-eaten appearance; and below this, a quantity of new bone, of a porous texture, has been deposited. A similar deposit exists also on the posterior surface and lower end of the bone. The various surfaces of the shaft of the ulna are covered with a deposit of new bone; the surface of the bone generally is perforated with foramina; the back part of the olecranon process is extensively ulcerated, and a portion of the bone appears as if it were in process of separation. The heads of two of the metacarpal bones are ulcerated, and there is a deposit of porous bone on the dorsal surface of their shafts. Some of the phalanges also present similar appearances. *Presented by* CÆSAR HAWKINS, Esq.

66. Femur, extensively diseased from the effects of syphilis. The lower three-fourths of the shaft of the bone are perforated on the surface with innumerable small foramina, and covered with a deposit of new bone, in the form of thin nodulated and flattened laminæ, of an exceedingly porous texture. The

outer surface of the lower end of the bone is superficially ulcerated, but not to any great extent. From the same patient as the preceding preparation. *Presented by* CÆSAR HAWKINS, Esq.

67. The Vault of the Skull, in which the trephine had been applied on account of symptoms caused by syphilitic disease. The patient, a man, aged 42, remarkably muscular and well developed, but of dull mental powers, was admitted into the Lock Hospital, on October 2nd, 1858. He had suffered from primary syphilis six years before, and had employed mercurial inunction, and thought himself cured. About a month after this, however, he "caught cold," and his left eye inflamed and suppurated. Twelve months later, extensive ulcerations appeared on various parts of the body; and these continued, more or less, up to the date of his admission into the Hospital. Portions of bone had been coming away from his skull for upwards of five years. One of the symptoms of which he had most complained was severe pain in the back of his head, and for this leeches had been applied at a very early period of his complaint. In the month of November, he became paralytic on the whole of the left side, including the face. It was determined to trephine, on the right side, over the region of the middle meningeal artery; acting on the authority of cases in which that artery had been laid open in syphilitic ulceration, and so produced palsy. This was done; but the artery was found unaffected. In the following month the man died. On examining the body, a considerable portion of the skull was found deficient at the upper part. The dura mater here extended across the opening, and no other marks of disease were visible in this situation. The right parietal, and right side of the frontal bones, were extensively affected with caries; and in one part, the internal table of the parietal was necrosed for a space as large as a shilling. The external table was here also black and worm-eaten, but not loose. Opposite these carious portions of bone the dura mater was covered, both internally and externally, with a soft brown adhesive material. Corresponding to these portions, the brain was softened, and of a greenish slate-colour; the softening and discoloration extended deep into the hemisphere. Around the softened and discoloured portion, the substance of the brain presented a very remarkable blood-shot appearance. This, from its position, would seem to have been the first stage in the process of ulceration which the discoloured portions of the brain had undergone. The upper portion of the occipital bone was also carious; and opposite the part affected, the substance of the posterior lobe of the left hemisphere was of the same greenish slate-colour. Here the discoloured part was of the size of a walnut; its central portions were of the

consistence of cream, and appeared to be contained in a cavity completed posteriorly by the dura mater. The fluid which escaped from this cavity, when the dura mater was removed, was of a redder colour than the other discoloured portions of the brain. That the blood in this case had undergone a material alteration was proved by the tough, white, and glistening coagula contained in the sinuses of the brain.

The above account is extracted, with some alteration, from the *Medical Times*, January 29, 1859. The remains of the membranes have been left on the bones, to show their comparatively healthy condition. Drawings of the diseased brain are in the museum. *Presented by* HENRY LEE, Esq.

68. Syphilitic Caries of the Skull, showing, in front, the disease in an active condition in several places; behind, the depressed cicatrices of similar ulceration; and, internally, deposit of new bone from the dura mater, which was found coated by fibrinous deposit. The history was not known; but the disease was inferred to be syphilitic, from the presence of a cicatrix on the glans penis. The patient died, apparently of pyæmia, after the opening of an abscess connected with the largest patch of ulceration. *Post Mortem and Case Book.* 1859. p.114.

69. Section of a Skull, showing cicatrisation of large ulcers. The external table of the frontal and parietal bones has to a great extent been destroyed, and the margins of bone surrounding the diseased parts have been bevelled off, and their irregularity much lessened. The internal table is only very slightly affected; but the diploë has been partially destroyed, repair having taken place by solidification of the bone in this situation. The disease must have been of very long standing.

70. The Leg of an Ass, to which the actual cautery had been applied, and the animal killed at the end of six weeks. The separation of the dead bone is distinctly seen taking place, by the formation of a groove around it, formed by the absorption of the living bone.

71. Corresponding section of the same bone.

72. Portion of a Femur, which, towards its lower part, is surrounded by a large irregular mass of new bone of a porous character. Immediately beyond the new bone, a layer of compact tissue is necrosed, and partially separated by the formation of a groove around it, formed by the absorption of the living bone.

73. A portion of the Frontal Bone of an Ass, to which the actual cautery had been applied. A portion of bone has exfoliated from the surface, which is left rough and irregular, surrounded by a thin lamina of newly-formed bone.

74. Section of the Tibia of a Child, aged 6. A large piece of dead bone has been removed from the upper part of the tibia. The piece

removed seems to have involved the whole thickness of the bone. There still remained, however, a portion of dead bone towards the upper part; and the newly-formed bone had no osseous connexion with the lower part of the shaft, so that the leg was useless. A severe attack of phagedæna also had destroyed the soft parts to a great extent, and a portion of the new bone became exposed and apparently dead. Under these circumstances, the thigh was amputated on March 24, 1853. The patient (Joseph W.) recovered sufficiently to leave the house three months afterwards. The limb has been injected. The lower part of the bone is very soft, so that some depressions appear in the section, which are merely the result of accident. A portion of soft tissue intervenes between this and the newly-formed bone. At the upper end of the latter is a piece of dead bone, quite loose, and also involving the whole thickness of the tibia. The periosteum covering the newly-formed bone is deficient in front at the upper part; in other parts, it is much thickened and closely united to the soft parts.

75. Necrosis affecting the outer layers of the Shaft of a Humerus, the consequence of acute periostitis. The bone, in the greater part of its extent, is smooth and of a dark colour. Towards the anterior and middle part there is a portion of bone, of a lighter colour and scabrous appearance; this winds around the posterior surface, and extends to the inferior part of the outer condyloid line. The bone in its recent state was found stripped of its periosteum throughout its whole extent, excepting in those parts where it presents the scabrous appearance above mentioned. There was a large cavity, extending round the whole of the humerus and among the muscles, and containing grumous matter with coagula. The head of the bone was separated from the shaft at its epiphysis. There was ulceration of the cartilage of the head of the humerus, and also, though in a slighter degree, of that of the glenoid cavity. The articulating surface for the head of the radius was also slightly ulcerated. This preparation was removed from the body of a boy, aged 14, who was admitted into the Hospital on October 28th, 1830, complaining of exquisite tenderness, accompanied by swelling, of the left arm, the symptoms having commenced four days previous to his admission. Numerous abscesses formed, which were laid open by free incisions; the patient, however, died exhausted three weeks after his admission. *Old Museum Case Book.* p. 7.

76. The Head and Shaft of a Tibia, presenting partial and superficial Necrosis of the upper third of the shaft; the lower two-thirds are covered with a layer of newly-formed bone, of a nodulated and laminated character, the result of acute periostitis. The upper third of the bone, in its recent state, was bathed in pus,

and separated from its periosteum; but the membrane was still adherent to the lower two-thirds of the bone. The head of the tibia was separated from the shaft at its epiphysis, the articular surface of the external tuberosity presenting an extensive ulceration. The synovial membrane was inflamed and thickened, and a small quantity of pus was found in the cavity of the joint. This preparation was taken from a boy, aged 15, who was admitted into the Marylebone Infirmary, January 5th, 1831, with considerable swelling of the whole of the left leg, more particularly over the fore part, and much fulness about the knee-joint. These symptoms made their appearance quite suddenly, about a month previous to his admission. An incision was made in the front of the limb, and a large quantity of pus evacuated; and on the following day, a considerable part of the surface of the tibia was found exposed. In a few days, fluctuation in the knee-joint being more distinct, a lancet was introduced, and pus with turbid synovia escaped. The boy's health being much impaired, the limb was removed on January 22nd. After the operation he recovered quickly, and left the Infirmary on February 27th. *Old Museum Case Book.* p. 10. *Presented by* J. CLARKE, Esq.

77. A portion of the outer layer of the wall of a Tibia, which exfoliated after the application of the trephine for the removal of necrosed bone.

78. Exfoliation of the superficial layer of the wall of a Tibia. This was the result of a contusion, followed by an ulcer and exposed bone. *Presented by* CÆSAR HAWKINS, Esq.

79. Exfoliation of the outer part of the Tibia after sloughing phagedæna. The patient, Eli E., aged 28, was admitted into the Hospital, December 29th, 1854, with necrosis of both tibiæ, and phagedæna of the openings connected with the diseased bone. On the cessation of the phagedæna, the bone, on the right side, was left exposed to the extent of the darker part seen in the preparation. The necrosed portion soon after became loose, and was extracted without difficulty. The wound slowly healed. The disease in the opposite leg ran a similar course, except that the exfoliation was not quite so large. The patient was discharged cured in the following July.

80. Necrosis of the whole Shaft of the Tibia. The necrosed bone is contained in a thick but irregular case of newly-formed bone; with numerous cloacal apertures at various parts leading down to the dead bone. At the upper and front part of the bone, there is a very large aperture made by the trephine, for the removal of part of the necrosed bone. The epiphysis at the upper extremity of the tibia is quite healthy; but the lower extremity is involved in the disease. This preparation was

taken from the body of a patient, aged 18, who was admitted into the Hospital, on the 29th of August, 1838. The disease had existed for four years, and was referred to an accident which he met with at that period. Some small portions of dead bone were removed, and he was afterwards sent into the country, as his health was failing. Towards the middle of 1839, he was re-admitted, and two or three portions of dead bone were removed from the upper part of the tibia. Shortly after the operation he was seized with peritonitis, of which he died.

81. Necrosis of the whole Shaft of the Tibia. A longitudinal section has been made through the whole length of the shaft of the bone. The parts are injected. The necrosed portion, presents a well-marked white colour; it is surrounded by a thick irregular case of newly-formed bone, in which are several cloacal apertures of varying size. At the upper extremity of the bone, and immediately beneath the epiphysis, is a large cavity, containing a small portion of necrosed bone. The articular end appears to be quite healthy. At the lower extremity of the bone, the epiphysis is involved in the disease, and the ankle-joint is quite destroyed.

82. A portion of the lower end of a Femur, which has been divided longitudinally, showing necrosis of the whole thickness of a portion of the shaft of the bone. The necrosed portion occupies the back part of the shaft, and involves not only the wall of the bone, but also the cancellous tissue. A large and irregular-shaped mass of newly-formed bone is deposited on the shaft at the back above the necrosed portion; much new bone is also deposited on the front surface of the shaft. This specimen was removed from Frederick W., aged 13, who was admitted into the Hospital, December 19th, 1832, with a large abscess of the left thigh, arising from necrosis, the result of a blow a month previously. He progressed favourably until April, at which time new bone was forming. He was now attacked by erysipelas of the limb, accompanied by absorption of the cartilages and abscess in the knee-joint; the limb was amputated on May 27th. See Series III. 17, for the preparation of the knee joint, and history. *Presented by* CÆSAR HAWKINS, Esq.

83. A portion, three and a half inches in length, of the upper part of the Shaft of the Humerus, removed from the arm of a child, who was a patient in the Hospital in the early part of the year 1858. The sequestrum was quite loose at the date of admission, and the lost bone had been so far repaired, that the movements of the arm were unaffected.

84. Exfoliation from the Parietal Bone, in consequence of a scalp wound denuding the surface. The patient did well.

85. Exfoliation from the inferior surface of the basilar process of

the Occipital Bone. This preparation was removed from a patient who had been for a long time suffering from syphilis, for which he had been repeatedly mercurialised. On the 19th of June, 1810, he was admitted into the Hospital. At that time he was reduced to the most helpless state of debility and emaciation. In his throat there was a very deep and foul sloughing ulcer, which was attended with more than ordinary pain. He complained of a most excruciating pain in the back of his head and neck whenever he attempted to throw the head backwards for the purpose of gargling, or of allowing the throat to be inspected. He was not able to move the head backwards without first firmly grasping the nape of the neck with both hands, and pressing it forwards. The patient took bark, etc., and was doing very well, when some blotches appeared in different parts of the body. He was once more put under the influence of mercury, but again became very much debilitated. The remedy was left off, and bark and port wine being ordered, he soon rallied; his throat became clean, and the ulcer filled up. He left the Hospital on the 20th of August. Some weeks afterwards, having a fresh affection of the throat, he again applied at the Hospital, when a loose piece of bone from the atlas was easily removed with a pair of forceps. The wound healed very rapidly after this. In another month ulceration of the throat supervened, accompanied by great inflammation of the soft palate, and uneasiness in the posterior nares. the exfoliation from the basilar process of the occipital bone was now removed. No untoward symptom occurred subsequently to this last exfoliation. The patient recovered his former health and strength. The loose bone from the atlas is preserved in a subsequent series. *Presented by* ROBERT KEATE, Esq. See *Medical Gazette*, 1835, vol. xvi. p. 13.

86. Exfoliation of a small portion of bone from the Skull, following compound fracture from the kick of a horse. From F. H., aged 9, who was admitted into the Hospital August 4th, 1845. A portion of the fractured bone exfoliated, ending in necrosis, and inflammation attacked part of the frontal bone near the fractured portion. It is the latter portion which is preserved.

87. Exfoliation of a large portion of the Frontal Bone, from a patient affected with syphilis. In some parts the whole thickness of the skull is involved. From Rebecca R., aged 42, who was admitted into the Hospital June 15th, 1842, with extensive necrosis of the frontal bone, and of the humerus leading into the elbow-joint. The arm was amputated September 1st, 1842. She was again admitted in October, 1844, when the diseased parts of the frontal bone above described were removed. The patient left the Hospital cured.

88. Three portions of necrosed bone from the cranium. The largest

portion (the one suspended in the bottle) comprises almost the whole extent of one of the parietal bones, and, in several places, its whole thickness also. The two smaller pieces (at the bottom of the bottle) are from the same patient. She was 44 years of age, and first contracted syphilis at the the age of 24. To the best of her belief, the mercurial treatment was adopted. She took a great number of pills; the mouth was made very sore, and the teeth loosened. The cranium became diseased about six years after the first infection; the bones of the arms and legs had nodes upon them, and large ulcers appeared on the thighs and arms. An appearance like a boil soon after occurred on the forehead, accompanied with very great pain, and ultimately a small portion of the frontal bone came away. She dragged on a miserable existence for many years; and in November, 1858, the parietal bone was removed. This was ten years after the cranium first became affected. In 1861, she was in tolerable health, though weak and feeble. The head was covered with scabs, from beneath which there was occasionally some discharge. *Presented by* JAMES EATON, Esq.

89. Exfoliation from the alveolar process of the superior Maxillary Bone, taken from a young scrofulous boy. The patient did well, little or no deformity existing, and the vacant space was (apparently) filled up with new bone. *Presented by* ROBERT KEATE, Esq.

90. A portion of the alveolar process of the Upper Jaw of a young girl, which has exfoliated. On her admission into the Hospital, she stated that she had suffered from a "tolerably severe rheumatic fever," as her medical attendant expressed it, for which she took a few doses of colchicum. When she became relieved of this complaint, she was affected by what appeared to be ptyalism, which led to enquiries as to what medicine she had taken. No account was given of any mercury having been administered; but it was ascertained that some months previously, she had received a severe blow upon the part. When she left the Hospital, there were some symptoms of the lower jaw having become implicated.

91. Portions of Necrosed Bone, removed from the Lower Jaw. The greater part of the right side of the jaw, and a small portion of the left side, are implicated in the disease, which the patient attributed to too much violence being made use of in the extraction of a tooth. After the removal of the diseased bone, the patient completely recovered and left the Hospital.

92. Necrosis of the Angle, back part of the Ramus and Condyle of the right half of the Lower Jaw, from a young scrofulous boy. The patient, at the age of eight-and-twenty, was in good health; there was no deformity of the face, perfect motion of

the jaw was permitted, and mastication was effected as perfectly as if the bone had been natural. The jaw was carefully examined by Mr. KEATE when the patient was twenty-six years of age, and he then ascertained that the ramus, angle, and an entire new condyle had been apparently reproduced. *Presented by* ROBERT KEATE, Esq.

93. The remains of the Lower Jaw-bone, from a case in which the whole of that bone on the right side had perished, except the condyle and a small portion near the symphysis. The patient, a man, aged 61, died in consequence of hæmorrhage from the superior thyroid and occipital arteries, which became involved in the ulceration going on about the diseased bone. The ulceration was thought to be of a malignant nature. *Post Mortem and Case Book.* 1853. p.118.

94. Specimen, showing extensive Necrosis of the sixth, seventh, eighth, and ninth Ribs at their sternal extremities. The costal cartilages, connecting them with the sternum, have also become ossified and necrosed. This preparation was taken from a man, aged 37, who was in the Hospital during the greater part of the year 1851. On his admission, the disease was of about two years' standing. Portions of bone had exfoliated and various troublesome sinuses formed. In conjunction with this disease, there was also disease of the cranium, general tubercular deposit in the lungs, and extensive disease of the kidneys. The patient died delirious and partially comatose, December 13th, 1851. For preparation of the diseased cranium, see No. 18. *Post Mortem and Case Book.* 1851. p. 248.

95. Necrosis of the whole thickness of the Clavicle. The entire clavicle, with the exception of its acromial end, was necrosed and contained in a shell of new bone. The necrosed portion was not quite loose. The patient, George H., aged 12, was admitted on account of fever and pneumonia, and died two months after his admission. The disease in the clavicle appeared to have commenced after the attack of fever. The bones of the knee-joint, which also became affected after his admission, are preserved in the next Series. *Post Mortem and Case Book.* 1856. p.42.

96. Necrosis of a portion of the Shaft of the Humerus, close to the head of the bone; from a young subject. New bone has been deposited in the neighbourhood of the disease.

97. A sequestrum, involving the whole of the right side of the lower jaw, from the articular surface to the symphysis. The patient was a middle-aged woman, and was admitted in a dying condition, apparently in consequence of the extreme fœtor of the breath. She was hardly able to speak, and could give no account of the origin of the disease. The dead bone was quite loose, and was easily pulled out with a pair of strong

forceps, but she did not rally. There was no post mortem examination.

98. The bones of the lower extremity from a young man, aged 18, who was a patient at this Hospital on several occasions and whose thigh was finally amputated on March 24, 1859. The preparation shows extensive caries of the tibia, and a large cavity at the upper end of the bone, which had been opened with the trephine for the evacuation of matter and extraction of sequestra. This cavity is extensively open in front. It is lined by a pulpy membrane, continuous with the periosteum of the tibia, which is here much thickened; and opens above into the cavity of the joint, the synovial membrane of which is thickened and its cartilages ulcerated. The joint also contained pus. The front of the bone is carious for some distance below this cavity, and below the carious part its tissue is hardened, with much periosteal deposit of bone. The front of the bone, considerably below this spot, shows several detached spots of ulceration, where the walls of the bone are expanded and its surface worm-eaten; and some spots (especially at the lower limit of the disease, one inch and a half from the ankle) in which the bone was merely inflamed, its surface being of a violet red colour when fresh, the vessels passing into it obviously enlarged, and the periosteum easily separable from the bone, bringing away with it small spicula of bone, when detached from its surface. The cavity in the head of the tibia was made by trephining, in April, 1858, for the removal of some small sequestra which had formed after abscess in that situation, attributed to a fall half a year previously. At that time he was complaining of acute pain, which was much relieved by this operation; and he went into the country, but returned in the month of September. Several small abscesses had now formed below the wound of the operation, and had burst, leaving sinuses which led down to the bone. No symptoms of implication of the knee-joint were observed till the month of November, when a fluid resembling synovia was noticed to exude from the original wound; but the opening into the joint was not direct, and no acute symptoms were present. In the following April, however, he began to complain of acute pain in the knee, with great tenderness; and, as no ankylosis seemed to have taken place and his health was suffering, the thigh was amputated. He was discharged cured.

99. Exfoliation of almost the whole of the petrous portion of the temporal bone. The semicircular canals are very distinctly seen upon the specimen. The patient, a child, aged 7, recovered completely, but with loss of hearing and paralysis of the muscles of expression on that side.

100. This preparation shows a fracture through the lower part of a femur which is the seat of necrosis. A large sequestrum, involving nearly the whole width of the shaft, is imbedded in an irregular growth of new bone, at the junction of the lower and middle third of the thigh. There is in this situation a round hole which indicates that a part of the new bone, over the sequestrum, has been recently removed with the trephine; through this the fracture has passed. The fractured ends are not in apposition; the upper portion is lying upon the lower; the interval is filled by white fibrous tissue, in which many ossifying specks are visible under the microscope. The artery has been preserved; it is seen near the broken ends to their inner side. The knee joint is retained in the preparation; it is perfectly healthy. The preparation was taken from a boy 15 years of age: who first became a patient of the Hospital in July, 1857, in consequence of having fallen off a plank and hurt his thigh. This was followed by chronic periostitis; matter formed, and was allowed to escape by an incision which afterwards remained open. He was then sent to the sea-side. He came into the Hospital again in the following January, and a small piece of bone was removed. On five subsequent occasions he became an in-patient, and had pieces of bone taken out. He was admitted for the last time in September, 1861; there were then numerous sinuses in the lower third of the left thigh, which led to dead bone, some of which was felt to be loose. There were also many cicatrices of former incisions. On October 3rd a long incision was made along the inner side of the thigh, and a small piece of bone was removed. The femur was then trephined, and some dead bone uncovered and removed. The wound healed well and was nearly closed on November 24th, when, as he was running across the ward, his foot caught in a seat and he was thrown to the ground, fracturing his thigh at the diseased part. The limb was put up in a straight splint, but no union appeared to take place. There was much discharge of thin offensive pus, the boy gradually became weaker, and it was necessary to amputate the limb. This was done on January 16th by the circular method. There was considerable hæmorrhage during the operation, but the patient got on well afterwards, and left the hospital in good health on the 11th of February.

101. This preparation shows the effect of trephining in syphilitic disease of the skull. The upper portions of the parietal bones have been preserved. In the right, within a quarter of an inch of the median line, is a hole recently made by the trephine. Suspended under this is the portion of dura mater which lay beneath; it has a plug of lymph, which corresponds to the hole, upon its outer surface. Upon the left parietal bone,

about an inch further from the median line than the trephine-hole in the right, is a circumscribed patch of false membrane, which in the recent state was elevated by a little clear fluid; beneath this the bone is excavated and spongy. On the outer surface, corresponding, is a raised circular patch, which has all the appearance of a node. The man from whom this was taken had had a chancre nine years before his death. He had since had ulceration of the throat, and during the last few months of his life had suffered from nodes on the skull. A month before his admission into the Hospital, which took place October 23, 1861, he began to experience peculiar sensations about the left forearm. He had pain in the limb, which was increased by supination or by pressure upon the median or ulnar nerves. He lost some of his power of grasping. On examination of the cranium, an unhealthy ulceration, the result of a node which had discharged, was seen on the right parietal bone, which at the exposed part was carious. This was removed by the trephine on the 24th. Some slight twitchings followed the operation. On the next day he was suddenly seized with great difficulty of respiration, sense of oppression in the epigastric region, and nausea. There were also violent twitchings of all the limbs, pain in the head, and wandering. The face was flushed, the pulse weak and rapid. He had periodical doses of calomel and opium, but the pain in the head and vomiting continued, and the face became drawn to the right side, the tongue being protruded to the left. The pain was very severe in the right supra-orbital region. He retained his intelligence, but sunk and died on the 28th. When the head was opened, the whole cavity of the arachnoid on the right side, with the exception of the spot immediately beneath the trephine, was occupied by flakes of soft recent lymph. The substance of the brain was excessively vascular. *Post Mortem and Case Book.* 1861. p.253.

102. A Section of the Tibia, showing Mollities Ossium, resulting from the deposit of cancerous matter throughout its substance. The bone is so much softened that it bends like a thong, and this softening extends through its whole length, except in the immediate neighbourhood of the articular ends. In all parts the cancelli are filled with a soft creamy matter, in which the cells usually found in malignant disease can be recognised in large numbers; while in many places the elements of the bone have quite disappeared, and large masses of soft cancer have been deposited in their place. There is no history.

103. An extensive Tumour connected with the base of the skull and the bones of the face. The tumour springs from the base of the skull in the situation of the ethmoid and sphenoid bones;

and here the base of the skull was extensively absorbed, so that the new growth lay immediately in contact with the dura mater, which has been removed in order to shew it; but no bone has been taken away except a few loose fragments of the upper jaw. The roof of the left orbit is entirely eaten away, and the eye-ball has been thrust outwards and backwards towards the situation of the zygoma, where it lies on the outer surface of the tumour. The tumour fills up the antrum and nose on that side, displacing the septum towards the right, and is closely adherent to the mucous membrane of the hard palate, the bone being to a great extent absorbed. In front, the tumour lay in close apposition to the skin of the cheek, which was in great part adherent to it. Behind, it passes into the posterior nares, but not beyond, and does not encroach on the pharynx. The tumour consists throughout of a very soft, deeply lobulated and somewhat areolar structure, containing no cells or juice resembling those of soft cancer. The walls of the areolæ were composed in a great measure of fibrous tissue, and a few round bodies like nuclei were seen in the meshes of this tissue. The patient, a female, died at the age of 68. Ten years previously, she had been attacked with epistaxis so profuse as to require plugging of the nares. Nine years before her death, she consulted a surgeon who removed a polypus from the left nares; and five years after that, the same gentleman performed a second operation of the same nature. Again, three years before her death, he laid open the left nares, and removed a portion of the growth. The tumour then began to grow rapidly, pressing out the eyeball. She suffered no pain till the last year of her life, never had any fits, and continued sensible up to the time of her death. *Presented by* Dr. Cecil W. Hastings.

104. The Lower Extremity of the Humerus. A portion of the original shaft of the bone is dead, and in process of separation from the healthy bone. The necrosed portion is surrounded by a quantity of new bone, deposited in the form of irregular nodulated masses. The disease extends as low down as the articular extremity, the texture of which may be observed as highly porous, whilst the articulating surface is uneven and deprived of its cartilage. Several abscesses surrounded the joint, and sinuses existed which led down to the newly deposited bone. No history.

105. Section of the Lower End of the Humerus, from a young boy. The shaft of the bone as far down as the epiphysal end is of a perfectly white colour, and apparently necrosed. A considerable amount of newly-formed bone is deposited on the surfaces of the shaft, more particularly behind. The epiphysal end of the bone, at the point where it is continuous with the necrosed

shaft, is very porous in texture, and worm-eaten in appearance. The limb was removed on account of extensive disease of the elbow joint, which had existed for some time, and had reduced the patient's strength very much. The cartilages of the elbow joint were completely destroyed, and the cancellous structure of the bones laid bare. The boy recovered.

106. A piece of Necrosed Bone, removed from the arm of a patient in the Hospital. A sinus existed in the arm, and the necrosed portion was readily removed by enlarging the opening with a scalpel, and drawing the bone out with a pair of strong forceps. *Presented by* SIR BENJAMIN BRODIE, Bart.

107. A Portion of Necrosed Bone, removed from the radius of a young girl thirteen years of age. The two ends of the bone were covered by the skin, but the central portion was separate. forming a bridge, under which the cicatrix was perfect. The whole was loose, on her admission into the Hospital. *Presented by* CÆSAR HAWKINS, Esq.

108. A portion of Necrosed Bone removed from the Shaft of the Ulna. The patient, a young girl, did well.

109. The Greater Portion of the Shaft of the ulna, which became necrosed about a month after an injury to the fore-arm. The patient from whom this preparation was taken was admitted Sept. 26th, 1851, having received a severe blow a little below the elbow during a drunken brawl. At first the injury was suspected to be fracture. Diffuse inflammation of the areolar tissue of the arm set in with threatenings of delirium tremens. The bone was removed soon after, and the patient completely recovered.

110. Necrosis of the Bones of the Carpus, the result of a very severe blow. The accident occurred in a very old man.

111. A Portion of Necrosed Bone, removed from the back part of the ilium, near its articulation with the sacrum. On one part of its surface, the bone presents a smooth and polished appearance. This preparation was removed from Margaret E., age 19, who was admitted into the Hospital, April 5th, 1837, with abscess, and a sinus leading down to dead bone at the back of the Os Innominatum, near its juncture with the sacrum. On May 23rd a small opening on the surface of the bone was enlarged by the trephine, and the piece of bone seen in the preparation was extracted, besides some smaller pieces afterwards. Her health improved much, and the opening contracted. She left the Hospital in July, but returned in a few days, with inflammation and threatening abscess on the inside of the ilium. Of this she was getting better, but was seized with rigors and perspiration on August 15th, and died on September 24th. The aperture in the ilium, which was close to its joint with the sacrum, was filled up with soft

substance like fibro-cartilage. There was an abscess in the pelvis communicating with the diseased bone ; its opening was situated much lower down than the external wound, and lay close to the sciatic notch : from this point some matter extended along the surface of the os innominatum to the groin, the surface of the bone in contact with the pus being necrosed. There were numerous secondary abscesses in both lungs, in the spleen, and in both kidneys. *Presented by* CÆSAR HAWKINS, Esq.

112. Part of the Left Ilium, which presents two cavities containing large pieces of necrosed bone. These cavities are situated in the neighbourhood of the sacro-iliac joint. No history.

113. The Lower End of a Femur. The shaft of the bone is considerably enlarged, from the deposit of new bone on the external surface, between the lamellæ, and in the medullary canal. The chief deposit has taken place at the back part of the shaft, where a large and irregular orifice exists, leading into a canal in the centre of the bone. The lower part of this canal was occupied by a portion of necrosed bone. This preparation was taken from Jeremiah C., aged 21, who was admitted into the Hospital Nov. 21st, 1832, with Necrosis of the femur, following inflammation three years and a half previously. A great mass of new bone extended from the knee-joint half way up the thigh. This was deficient on the inside, where a sinus led down to dead bone in the popliteal space, the centre of which was insulated, but the two ends were immoveable. On December 13th, an incision was made in the direction of the inner condyloid line, and the dead bone cut through by a small trephine, and the two ends drawn out, the whole being four inches long, and one and a half broad. No vessel required a ligature. On December 19th, hæmorrhage suddenly took place, to the extent of three pints in less than three minutes. The superficial femoral artery was tied, and the patient went on well till March 2nd, when the wound was nearly healed. He was now attacked with hospital gangrene, accompanied on the 18th with some hæmorrhage, which recurred several times, and exhausted the patient to such a degree, that it was considered proper to amputate the limb above the diseased bone. The patient soon left the Hospital cured. The source of the hæmorrhage, on both occasions, must have been some small vessels opened by ulceration, as the popliteal artery seemed to be quite sound. *Presented by* CÆSAR HAWKINS, Esq.

114. Part of the Shaft and the Lower End of a Femur. The bone, throughout its whole extent, is considerably enlarged from the deposit of new bone, not only on the external surface, but also between the laminæ of the wall of the bone, and on the wall

of the medullary canal. Several crowns of the trephine appear to have been applied at the junction of the middle with the lower third of the shaft of the bone, exposing a cavity in the centre of the bone of considerable size. The two portions of bone which are loose, were removed during life. There is no further history.

115. The Lower End of the Femur. The shaft of the bone is considerably enlarged, from deposit of new bone. The chief deposit has taken place on the back part of the shaft, where it surrounds a cavity of very considerable size. Several crowns of the trephine appear to have been applied, so as fully to expose the whole extent of the cavity, in the lower part of which a piece of necrosed bone may be seen. The femoral artery may be observed running down along the inner side of the shaft of the bone, and an orifice in its wall, through which a bougie is passed, may be seen communicating with the cavity in which the necrosed bone is contained. It appears that a portion of dead bone was removed after the application of the trephine, but in attempting to remove that portion which still remains, the femoral artery was wounded, apparently by the trephine, hæmorrhage ensued, which at first was thought to proceed from one of the branches of the femoral, the wound was therefore plugged up with lint, and ice applied, but, after some little time, as the hæmorrhage recurred to a considerable extent, amputation of the limb was performed. The patient died of the consequences of the hæmorrhage.

116. The Lower End of the Femur, from a patient who died of pyæmia, a few days after the extraction of a piece of loose bone. This preparation is put up to show the proximity of the part operated on to the popliteal vessels. The bone extracted was a small shell from the surface of the femur. The surface from which it had been extracted, was found, at the post mortem examination, covered with granulations, and thus has become hardly recognisable in the preparation; but pieces of glass have been put in to mark it. It was separated from the artery only by a thin layer of condensed cellular tissue. *Post Mortem and Case Book.* 1858. p. 281.

117. The Head and Upper Part of the Shaft of a Femur. The greater part of the trochanter major is entirely destroyed. In that which still remains, a number of irregularly shaped cavities may be seen, containing portions of necrosed bone. The greater part of the circumference of the trochanter is covered with small nodulated projections of newly formed bone. No history.

118. A portion of Necrosed Bone removed from the Shaft of the Tibia. The whole thickness of the tibia was destroyed from the ankle to the knee by acute inflammation. The patient, a boy aged

13, was admitted a month afterwards, and when the bone was subsequently removed, the tibia was left separated into two parts so as to be perfectly flexible, very little new bone having been formed at that time. The bone became perfectly re-formed afterwards. *Presented by* CÆSAR HAWKINS, Esq.

119. Necrosis of the upper third of the Shaft of the Tibia. The necrosed portion includes the whole thickness of the bone which is surrounded by a new bony case, formed of nodulated masses of newly-formed porous bone. The upper extremity of the shaft, at its junction with the epiphysis, presents a worm-eaten appearance. The epiphysis itself also appears to have been involved in the disease. This preparation was taken from a patient whose leg was amputated in 1824.

120. Necrosis of the Shaft of the Tibia. Large and irregular-shaped masses of bone of exceedingly porous texture are seen enclosing the necrosed portions. The new bone is also perforated in several places with large cloacal apertures.

121. A large necrosed portion of Bone, removed from the Shaft of the Tibia, including at one part almost the entire circumference of the bone. It was taken from the leg of a patient, Oscar B., who was admitted into the Hospital, 1833, for necrosis of the tibia. Several sinuses existed in the limb, and the dead bone could be distinctly felt. The patient was about 16 years of age, and had laboured under the disease for two or three years. An operation was performed which consisted of trephining the new bone which surrounded the dead portion, exhibited in the preparation. In consequence of the length of the sequestrum it was necessary to divide it, which was also done with the trephine. The portions were removed after some little difficulty by means of a very strong pair of forceps. He remained in the hospital some months after the operation, and the wound nearly healed; but as his health was suffering much from confinement in the wards, he was sent into the country, where the cure was completed. *Presented by* SIR BENJAMIN BRODIE, Bart.

122. Section of the head of the Tibia. Towards the articular surface is a cavity containing a portion of necrosed bone. The cartilage in the neighbourhood is partially absorbed.

123. Inflammation and Necrosis of the Tibia. There is a considerable deposit of newly-formed porous bone on the upper two-thirds of the outer surface of the shaft: the bone, which has been divided longitudinally, shews great condensation of the cancellous tissue, and the medullary canal is obliterated. Numerous large apertures exist leading into cavities, of considerable size, which probably contained bone. At the upper and back part of the shaft a large piece of necrosed bone may be seen partly encased in a mass of newly-formed

bone. The length of the bone is seen to be much greater than natural. No history.

124. The Right Fibula. The shaft of this bone is very much thickened and its surface very irregular from the deposition of large quantities of new bone upon it. The upper extremity presents a large excavation in which a portion of dead bone was lodged. No history.

125. Left Os Calcis, the surface of which has been rendered very irregular by the deposition of new bone in various parts. Towards the anterior part of the inner side of this bone there is a cavity containing a large piece of necrosed bone, not completely separated from the neighbouring parts. The articular lamella of the joint for the astragalus is for the greater part destroyed, and the cancellous structure laid bare. Complete bony ankylosis existed between the os calcis and cuboid. There is no history of this case.

126. Perpendicular section of the right Os Calcis and Astragalus, with the adjacent soft parts on the outer side of the ankle. In the centre of the os calcis may be seen a large piece of necrosed bone infiltrated with pus of a yellow colour: the surrounding bone, the vessels of which have been injected, presents evident traces of inflammation. It may be observed, that scarcely any effort at separation has taken place between the dead and living bone. The skin on the outer side presents a fistulous orifice, which leads to the outer surface of the os calcis, where a small portion of dead bone exists. Around the sinus, there is a large and deep ulcerated surface, the vascularity of which is shown by the injection. This tissue, composing the vascular part, is not covered by epithelium; it consists mainly of circular or irregularly circular nuclei, a few of which are enclosed in a delicate cell-wall; a few spindle-shaped fibres may also be observed. This preparation was taken from Sarah P., aged 28, who was admitted into the Hospital December 2nd, 1840, having suffered from pain and swelling about the ankle for seven years. An incision was made seven months before her admission on the outer side of the ankle, from which only blood escaped; this was followed by much swelling, with a deep irregular ulcer, and excessive pain on motion, and the opening never healed. Amputation was proposed in January, but declined. The ulceration spread and assumed a warty appearance with much hardness, and in February a mass of glands of some size formed in the lower part of the groin. In April a soft tumour appeared on the inner condyle, evidently formed by periosteal growth. In May, the mass of glands sloughed out and the surface healed; but in June another mass presented itself. This mass attained the size of a large apple: it also ultimately sloughed out. In the same month also a tumour formed in the forehead, ap-

parently by expansion of the outer table, with a central aperture in which soft substance could be felt in the diploë. There was no fluctuation. The appearance of this tumour was accompanied with much pain, and yellowness of countenance. With this combination of disease, amputation, which she would now have wished, was not agreed to. In September, sarsaparilla and iodide of potassium was administered, with the effect of lessening the tumour on the forehead and thigh. On November 25th the leg was amputated below the knee. In July, 1842, she was fat and well, with no trace of tumour in the femur or forehead. *Presented by* CÆSAR HAWKINS, Esq.

127. A Section of the Os Calcis, from the same patient as the preceding The necrosed bone is distinctly seen.

128. Exfoliation from the end of the Femur after amputation. The exfoliated portion includes the entire thickness of the bone in its whole circumference; the stump from which it was removed finally healed, of a very good figure. *Presented by* CÆSAR HAWKINS, Esq.

129. A Portion of a Dead Bone removed from the Femur some time after amputation; the stump after its removal healed rapidly.

130. A large tubular piece of Dead Bone removed from the Femur two years after amputation; the stump did not entirely heal until after the removal of the sequestrum.

131. The stump of an arm, which had been amputated many years before, in which a sinus had existed, ever since the performance of the operation. A portion of dead bone, consisting apparently of the inner layers of the wall of the humerus is seen in the extremity of the stump, surrounded by a large and irregular mass of bone. The preparation also shews the bulbous form which the ends of the nerves assume after having been divided. The patient died of phthisis.

132. A large Tubular Sequestrum removed from the stump of the Femur after amputation of the thigh. The thigh was amputated in September, 1859, on account of gangrene after diffuse inflammation; the stump did not heal, and small pieces of bone continued to exfoliate from it; a year after the operation, an opening was made upon the diseased bone, which was found rough and denuded as high as the trochanter major, but too firm for removal. In February, 1861, the piece of bone was extracted through a crucial incision on the end of the stump, after which the stump healed rapidly.

133. The Skeleton of an Adult who had been affected with Rickets during early life. From the dissecting room at Great Windmill Street. The body was that of a middle-aged man. He was distorted to such a degree that he appears to have used crutches for a great length of time, and to have

employed his feet only to support the weight of his body, while the ends of the crutches were brought forward in walking. The spine has a double lateral curvature, in which the usual differences of thickness are observable from the pressure on the sides of the bodies of the vertebræ. In each region also bony laminæ may be observed extending between the adjacent vertebræ in many parts. The pelvis is twisted, the right side being lower than the left, and its cavity is considerably encroached upon by the projection forwards of the upper part of the sacrum. All the long bones are distorted and curved in different directions, and the growth of the different parts of each bone is very irregular. The feet and hands were also curved, so that he could only have walked on the outside of his feet, and must have had a very imperfect use of his hands, from the twisting of his fingers and the ankylosis which has taken place between several of the phalanges in a disadvantageous position. His left knee had been dislocated, probably while he suffered from rickets, in such a manner that the tibia rested on the fore part of the femur. In order to accommodate the bones to their new position, the back part of the tibia has been absorbed, so that a flat surface has been formed rather behind than on the superior surface of the head of the bone. The condyles of the femur have been altered in size, and the lower end of the bone has been absorbed to receive the head of the tibia on its fore part instead of on the condyles, presenting, to a certain extent, a hollow socket in this situation, which has been deepened still further by the growth of a large mass of bone from the surface of the shaft of the femur, above the part with which the tibia was principally in contact. The surfaces of the bones were covered with newly-formed but imperfect cartilage; and a perfect synovial membrane, with ligaments of considerable strength, surrounded the extremities of the bones. Another deviation from the natural appearance of the parts is observed in the patella, which appears not to have grown since the period of the disease or injury which had produced the dislocation, and is not more than a quarter of the size of the patella of the other limb, where the motions of the joint remained perfect. The hip-joints have also undergone a remarkable change in their formation, being converted into the form of a hinge joint. The necks of both thigh bones have been partially absorbed, so that the trochanters and heads of the bones are close to and level with each other; the heads of both bones are also flattened and widened, so as to form a small segment of a very large circle. The acetabula are, at the same time, wider than usual, to correspond with the increased size of the surface of the thigh bones, and

the cavities more shallow than is generally met with. *Presented by* CÆSAR HAWKINS, Esq.

134 A portion of the Scapula. The bone has been enlarged, probably from rickets. *Presented by* CÆSAR HAWKINS, Esq.

135. The Pelvis of a patient who had been affected with Rickets in early life. The form is somewhat altered, more especially on the right side, where the cavity is encroached upon from a flattening of the front and lateral wall. *Presented by* CÆSAR HAWKINS, Esq.

136. The Femur of a patient who had been affected with Rickets in early life. The shaft of the bone is considerably curved, both in the antero-posterior and lateral directions; at the back part, in the situation of the linea aspera, there is a thick and very prominent layer of bone opposite to the point where the greatest amount of curvature exists. At the upper extremity the neck of the bone has been altered in its direction, and has become horizontal, so that the head of the bone and great trochanter are on a level with one another. *Presented by* CÆSAR HAWKINS, Esq.

137. Section of a Femur, from a patient who had been affected with Rickets in early life. A thick layer of compact bone occupies the back part of the shaft, in the situation where the greatest amount of curvature exists.

138. Opposite Section of the same bone.

139. Tibia of a patient who had been affected with Rickets in early life. The shaft of the bone is considerably curved, both in the antero-posterior and lateral directions. *Presented by* CÆSAR HAWKINS, Esq.

140. The Tibia and Fibula, from a Patient affected with Rickets in early life. Both bones are considerably curved in the antero-posterior direction ; they are flattened from side to side, and the back parts of the shafts are thickened by a prominent ridge of bone. There is also caries of the upper extremities of both bones, the articulating surfaces of the tibia being extensively destroyed. *Presented by* CÆSAR HAWKINS, Esq.

141. Section of a Fibula, taken from a patient who had been affected with Rickets in early life. The bone is observed to be curved considerably in the antero-posterior direction. A thick layer of newly-formed compact bone occupies the back part of the shaft in the situation where the greatest amount of curvature exists. *Presented by* CÆSAR HAWKINS, Esq.

142. The Skeleton of a Child affected with Rickets. The spinal column presents an extensive lateral curvature in the lumbar region, the convexity of which is directed towards the right side; this portion of the spine is at the same time rotated in the same direction that the convexity presents itself; so that the transverse processes of the left side of this portion

of the spine are on a plane much anterior to their natural position. The cranium is of large size, the bones being considerably expanded. The form of the thorax is much altered, the ribs being compressed laterally, and the sternum thrown forwards and upwards. Great deformity exists in the pelvic cavity; the inlet is considerably diminished in size, and the external configuration of the bones is much altered. The promontory of the sacrum is thrust considerably forwards, and the acetabula so much pressed inwards by the heads of the femora supporting the superincumbent weight of the body, that the pelvic cavity is greatly reduced in size. The iliac bones are bent upon themselves, and these as well as the ischia and pubes are much thickened. The bones of the upper extremities, more particularly the scapulæ and humeri, are considerably enlarged, and are bent in such a direction that they have become convex outwards. The bones of the forearm are also much curved, in a longitudinal direction, most probably from the constant action of the flexor muscles. The bones of the lower extremity are also all of them considerably enlarged and variously curved. *Presented by* CÆSAR HAWKINS, Esq.

143. The lower end of a Femur, affected with Mollities Ossium. The compact tissue of the bone is reduced to a mere shell, which is quite soft and pliable. The cancellous tissue is almost entirely destroyed, especially in the shaft of the bone, and the cavity is filled with a substance resembling adipocere. This substance consists of a very large proportion of oil-globules and fat-cells containing acicular crystals of stearine in their interior. At the upper part, the bone is rounded off, and looks as if the femur had been fractured previous to the death of the patient. No history.

144. Section of a Sternum affected with Mollities Ossium. The bone is evidently that of a young subject. In consistence the entire bone is soft and pliable, yielding to pressure in any direction, and precisely similar to bone which has been steeped in acid for a long time. It cuts easily with a scalpel, so that a section can be made of any part of it. Its cancelli, in many parts are of very considerable size, but the intervening tissue, in many places, presents the structure of ordinary healthy bone, wanting, however, its density and hardness. No history.

145. A Mass of Crude Tubercle, deposited in the Lower Epiphysis of the Femur, which had softened, giving rise to an abscess which destroyed the joint. The lower end of the femur may be seen to be irregular in outline, from loss of substance corresponding to the attachment of the crucial ligaments. The bones of the leg had been drawn into the popliteal space. The patient, a male child, aged two and a half years, had also

strumous deposit in the kidney and lungs. *Post Mortem and Case Book.* 1851. p. 138.

146. A Perpendicular Section of the Left Femur, showing a considerable deposit of tubercular matter in the medullary canal, with thickening and condensation of the bony tissue. The preparation was taken from the body of David S., who was admitted on the 18th of April, 1839. At the time of his admission, he presented a large tumour, situated at the union of the lower with the middle third of the left thigh. This tumour was immovable and of an unyielding nature; it appeared to grow from the bone, which gradually increased in size; the bone measured, in this situation, about two inches more than in the opposite thigh. The patient reported that fifteen months before he suffered much shooting pain in the part, which deprived him of sleep. Three months after this, the swelling first took place, and it had been increasing ever since; for the last seven months his health had given way from the continual pain that he suffered. When the swelling of the thigh first made its appearance, considerable swelling and induration of the testes took place, and this recurred at different times. The patient also complained of debility and loss of appetite. After a minute examination of the tumour in the thigh, it was thought to be of a malignant character, but the patient not being in a fit state for the removal of the limb, he was ordered to take sarsaparilla, and leeches were applied to the tumour, and mercurial ointment to the right testis, which was enlarged and hard. His gums were, in a few days, affected by the mercury, and his countenance became very anxious and slightly jaundiced; he complained also of great pain in the right hypochondriac region. At this time the liver was very much enlarged and hard, and pressure upon that part gave great pain. Blisters were now applied to the abdomen, and he was ordered to leave off the mercury and to take hydriodate of potash. In May, the testicle had recovered its natural appearance. In June, the tumour of the thigh presented a very apparent diminution in size. In July, his general health began to improve rapidly, the liver was diminished in size, and the tumour in the thigh was less by an inch; he was shortly afterwards made an out-patient. In the following year, he was re-admitted for ascites; and while in the physician's ward, he had a severe attack of erysipelas, of which he died. The liver presented the appearances that it usually does in those persons who have been addicted to hard drinking. Under the peritoneum covering the right lobe of the liver, there was a deposit of tubercular matter. Similar deposits existed in the kidneys, spleen, and lungs. The cellular tissue, under the peritoneum, was

studded with numerous deposits of a similar nature. The cellular tissue between the muscles at the lower part of the thigh, and that in contact with the periosteum, were much thickened. The periosteum itself was also thickened. On the outside of the anterior surface of the bone, was a deposit of tubercular matter, which was contained in a kind of cyst formed by the surrounding cellular tissue. The tubercular matter in the cyst was perfectly isolated.

147. Section of a Tibia affected with Scrofulous Disease. The cancelli are filled throughout with a diffused deposit of tubercle. The cartilages of the ankle joint had completely disappeared, and the surfaces of the bones were covered with a soft pulpy substance, apparently vascular, which was adherent to the osseous tissue, the articular lamella of which had also disappeared. From a young lad whose leg was removed for disease of the foot.

148. Sections of the Condyle of a Femur: the cancellous tissue may be observed infiltrated in some parts with scrofulous deposit. This preparation was taken from William P. aged 15, who was admitted into the Hospital on October 6th, 1841, with disease of the knee-joint of two years' standing. There were several sinuses leading into the joint, the limb was permanently flexed, and partial displacement of the tibia backwards had taken place. The limb was removed on October 21st. The joint contained pus, and the cartilages were partly destroyed. The condyles of the femur were widely separated and the patella wedged in between them: some scrofulous matter was deposited on the surface of the condyles, and the synovial membrane was much thickened. *Presented by* CÆSAR HAWKINS, Esq.

149. A thin Section of the Shaft of the Femur, from the same patient as the preceding. The cancelli are in some parts infiltrated with scrofulous deposit. *Presented by* CÆSAR HAWKINS, Esq.

150. Encysted Tumour of the Lower Jaw, removed by operation on the 25th of March, 1830. The patient, Ann T., aged 45, was admitted March 8, 1830, with great enlargement of the right side of the lower jaw bone, extending from the second incisor tooth to the condyle, and forming a large globular tumour, occupying nearly the whole side of the face. The tumour extended downwards over the upper part of the neck, and inwards, displacing the tongue, and thus interfering considerably with speech and mastication, but the principal part of the enlargement was upwards and outwards, towards the malar bone. In some parts it was of a bony hardness, in others it communicated the sensation of pressing on an elastic-gum bottle. The integument was not discoloured, and there was no enlargement of the neighbouring glands. The disease had been first noticed about

eighteen years before her admission, when it was a small, hard, incompressible lump, just over the angle of the jaw ; it gave no pain, and its increase for a long time was extremely slow. Six months before it was not larger than a hen's egg. About that time it began to enlarge very rapidly, and had continued to do so up to the date of admission. The cyst, as may be seen in the preparation, extends from the symphysis to the right condyle of the jaw ; its parietes are partly osseous, and partly membranous ; it is divided into several cells, which contained about four ounces of a transparent, gelatinous fluid. The patient lived fourteen days after the operation. She appeared to sink under the effects of erysipelas and diarrhœa. On examining the body, the lungs presented spots resembling secondary deposits: the other viscera were healthy. *Old Museum Case Book.* p. 1.

151. The phalanx of a finger, a portion of which is expanded into a cyst, probably by the development of a cartilaginous or other tumour in its interior. The disease, before removal, was supposed to be enchondroma. The patient was a person in good health.

152. Fibrous Tumour connected with the Terminal Phalanx of the Great Toe. The tumour is about the size of a chesnut, and presents a rough, nodulated surface. At its upper part is a small orifice, through which small portions of calcareous matter are stated to have passed out. The tumour, which was not very vascular, appeared to arise from between the layers of the periosteum on the dorsal surface of the bone, and was enclosed in a sheath, formed partly by the expansion of the periosteum itself, the bone beneath being considerably indented from absorption caused by the pressure of the tumour. In structure, the tumour was in many respects analogous to the fibrous tumours of the uterus, consisting of dense fibrous tissue, variously intersected and divided into lobes by curved and undulating bands of fibres. Masses of calcareous matter may be observed to be disseminated through various parts of the growth. The patient from whom the tumour was removed was a female, aged 40. She stated that she first observed the tumour 17 years before, when it was about the size of a split pea. Its growth was very gradual, and accompanied by shooting pains, which were influenced by change of weather. It increased in size considerably during the few months before her admission, and had given rise to much inconvenience and suffering. The phalanx was amputated, and she left the Hospital well.

153. The Upper Part of a Femur. Immediately behind the lesser trochanter, are two large coral-like masses of bone projecting transversely inwards from the surface of the shaft. At

their base there is a considerable amount of newly-formed bone, deposited on the posterior surface of the shaft, both above and below the lesser trochanter. This most probably formed the base of a fibrous tumour. *Presented by* CÆSAR HAWKINS, Esq.

154. Portion of the Right Parietal Bone. On its external surface, at a point corresponding to the parietal eminence, is seen a tumour, of an oval form, which has been divided longitudinally, the section presenting numerous cyst-like cavities, with firm fibrous structure intervening between them. On examining the inner surface of the bone, the tumour is seen to have made its way through the bone by an aperture of considerable size, the growth being here continuous with a fibrous tumour firmly connected to the outer surface of the dura mater. The aperture in the bone is of a circular form, of about the diameter of half-a-crown, and its circumference studded with numerous spicula of bone, arranged in a foliated manner. The grooves for the neighbouring vessels are seen to be of large size. The tumour of the dura mater is preserved in a subsequent Series.

155. A fibrous tumour removed from the alveolar process of the upper jaw. It is about the size of a large hazel nut, of a white colour, firm in texture, and presents a striated fibrous appearance on the surface of the section. It cut firm, like fibrous tissue, and in its centre is a nucleus of bone, which in no part approaches the surface of the tumour. Its structure consists of fine fibrillæ, arranged parallel with one another, a few granules being interposed between the fibres. The tumour was connected by a pedicle to the gum between the left upper canine and bicuspid teeth. Its surface was ulcerated, and the gum on each side appeared diseased. The patient was a woman aged 40. The tumour commenced two and a half years before her admission, and was (when about half its present size) removed about nine months after its first appearance. It soon grew again. The teeth were now extracted, and the tumour and gum removed: a portion of the alveolar process was also shaved off with a chisel, and once or twice afterwards touched with nitric acid. She was discharged cured.

156. A Firm Fibrous Tumour, connected with the alveolar process of the lower jaw, with much bone radiating into it from its base, approaching in some parts very near the surface, and having imbedded in it in front the fang of a decayed tooth. This tumour was removed from Ann P., aged 15, who was admitted into the Hospital on December the 12th, 1838, with a spongy and ulcerated tumour on the right side of the lower jaw, extending from the canine to the last molar tooth, about three quarters of an inch broad, and presenting the indentations of

the upper teeth upon it. It appeared as if all the molar teeth were buried in the tumour, but according to her account, those teeth had never appeared. The tumour could be felt on the sides of the jaw, as if reaching to near the basis of the bone; it was of a purple colour, softer and darker than the rest of the gums, smooth and elastic where covered by mucous membrane, with the upper surface slightly ulcerated. It had commenced seven months previous to her admission, and was not accompanied by pain. The tumour was removed, including a portion of the whole extent of the jaw to which it was connected. The wound healed nearly by the first intention, and the patient left the Hospital Feb. 13th.

157. A Firm Fibrous Tumour, removed from the lower jaw. The tumour extended from the first incisor to the second molar on the left side. It appeared to take its origin by a narrow pedicle from the alveolar process, corresponding to the sockets of two of the molar teeth. In its pedicle or root may be seen the fangs of two decayed teeth, one of which occupies its centre: the broader portion of the tumour overlapped the other teeth. The tumour gave but very little pain, and the patient's general health was very good. The section presents the ordinary appearances of a fibrous tumour, consisting of wavy glistening bands of fibrous tissue interlacing with each other. The tumour first made its appearance about fifteen months previous to its removal. It was excised together with the portion of bone to which it was attached. The patient did well.

158. A Fibrous Tumour, which has been removed together with a portion of the alveolar process. The tumour, about the size of a hazel nut, projects in a rounded form above the upper border of the alveolus, and also passes down into the alveolar process, separating the incisor teeth from one another: it is composed of exceedingly delicate fibrillæ, with here and there a few granules interposed between them. The teeth in the immediate neighbourhood are perfectly sound, and evidently belong to a young subject.

159. Fibrous Tumour of the Upper Jaw, removed with the whole of the right superior maxillary and portions of the bones in the neighbourhood, from Caroline G., aged 18, Nov. 24th, 1836. The tumour had existed about two years; it was first situated immediately above the socket of the right canine tooth, from whence it spread so as to envelop two or three of the molar teeth. It caused no pain, but, previous to the appearance of the disease, the patient suffered from pain in the tooth, and from face-ache. During the operation no hæmorrhage of any consequence took place. When examined, the diseased mass appeared to fill the cavity of the antrum, and presented a firm

whitish fibrous structure, intersected by spicula of bone, and consisting of wavy fibres of white fibrous tissue, with a few circular nuclei interspersed among them. The maxillary bone after a time was replaced by a very dense substance, which afforded great resistance to the finger when introduced into the mouth and there was no deformity beyond that occasioned by the incision. The patient left the Hospital in excellent health.

160. Fibrous Tumour growing from the Antrum, and making its way by the absorption of the walls of that cavity in different directions. It projects upwards into the orbit, destroying the floor of that cavity, and protruding from its inner margin forwards on to the cheek. It has also destroyed the anterior wall of the antrum, and displaces the malar bone forward and outward; inwards it projects into the nose beneath the middle turbinated bone, and downwards it makes its appearance on the under surface of the alveolar process in the form of a rounded mass, destroying the floor of the antrum in the neighbourhood of the front molar tooth. Behind, the tumour appears in the zygomatic fossa by the absorption of the outer part of the tuberosity of the superior maxillary bone. The tumour is composed of circular nuclei of various size, and spindle-shaped fibres. The patient from whom the specimen was taken, William H., died of arachnitis, and softening of the corresponding part of the brain. *Post Mortem and Case Book.* 1841. p. 133.

161. Specimen of Myeloid Tumour connected with the upper end of the Humerus. The tumour is of a rounded oblong form, of a moderately uniform surface externally, of a greyish white colour, and about the size of a small cocoa nut. It consists of two distinct parts, solid matter and cysts. The whole circumference of the upper end of the bone is involved in the disease, from the articular surface of the head, which still remains, to the middle third of the shaft, which is abruptly broken immediately below the tumour. The entire circumference of the tumour is invested with a thick fibrous capsule, which is continuous with the periosteum. The shaft of the bone, where it is broken, immediately below the tumour, contains in its medullary canal, for about an inch in length, a quantity of growth similar to that forming the substance of the tumour, with which it is continuous; and immediately below the point where the fracture has occurred, a quantity of new bone has been deposited on the external surface of the shaft, separated from the old bone by a deposit of morbid growth The solid matter consists of: 1st, nuclei of various form and size; 2nd, nucleated cells, or nuclei with granules arranged around them in a circular form; 3rd, elongated spindle-shaped fibres; 4th,

large cells, of an oval or flask-like form, containing a variable number of nuclei. The cysts are not numerous, but all of large size. The following history is given of this case by Sir BENJAMIN BRODIE:—"In June, 1836, I was consulted respecting a young lady 18 years of age, who laboured under considerable enlargement of one shoulder. The head of the humerus was expanded into a broad and somewhat elastic tumour; there was some, but not considerable pain in the joint. In a consultation between Sir ASTLEY COOPER and myself, it was agreed that the limb should be removed at the shoulder joint, which operation I performed. The wound healed readily, and I know that there had been no return of the disease two years afterwards."

162. Myeloid Tumour connected with the lower end of the Femur. The tumour, is nine inches in length and twenty-six in circumference at its broadest part. Externally, its surface is very uneven, and covered by a strong fibrous investment: a thick shell of bone, the remains of the condyles of the femur, is spread over the surface of the tumour. Below, the articular surface of the femur has been entirely absorbed, and the growth has made its way into the cavity of the knee-joint, which it distends throughout, pushing the patella and its ligament forward, absorbing the cartilaginous surface of the bone, and infiltrating the cancellous tissue. At the upper surface of the tibia, the growth is adherent to the cartilage in some parts, in others, the cartilage has been absorbed, and the growth has made its way into the cancellous tissue of the bone. The section of the tumour presents in some parts an opaque white colour, in other parts a yellowish white tinge, with numerous cysts, of a size varying from a millet seed to a small apple, the smaller cysts being the most numerous. At the upper part of the tumour, just where the shaft of the bone joins the mass, a thick outgrowth of bone has been developed, which is intimately adherent to the shaft, and projects above the upper part of the tumour. The opaque white part of the tumour is very firm, and of a leathery consistence, being composed of wavy fibres, with imbedded nuclei of an elongated oval form. The softer and more buff-coloured portion of the growth consists of nuclei, nucleated spindle-shaped fibres, and large oval cells, containing many nuclei. The following history of this case is extracted from Sir BENJAMIN BRODIE'S treatise on Diseases of the Joints, ed. 1850. p. 276: "The patient, aged 45, who was the subject of this disease, was carrying a heavy burden, when his right foot became entangled in a hole in the ground and he fell. He immediately experienced a severe pain in the knee; it was after this accident that the disease first commenced. The tumour continued to increase,

with a severe shooting pain, until it was twenty-six inches in circumference. Six years from the time of the first appearance of the disease, I amputated the thigh in the Hospital. I have since heard of the patient, who was alive and well, having had no recurrence of the disease several years afterwards."

163. Myeloid Tumour of the lower end of the Femur. The lower end of the femur terminates abruptly about five inches above the knee joint; in place of the condyles and lower part of the shaft there is a large tumour formed of solid matter and cysts. The cartilage covering the condyles of the femur is expanded over the lower part of the tumour, being everywhere thinner than natural, but nowhere in a state of ulceration. In some parts, it has contracted adhesions to the cartilage covering the head of the tibia. In other parts, the tumour is covered by some thin remains of the periosteum, and a layer of thickened cellular membrane. Towards the fractured part of the bone, the solid part of the growth consists of fibrous tissue with nuclei of an elongated oval, or rod-like form, interspersed among them. Many fat globules are interspersed between the fibres. Other parts consist of spindle-shaped nuclear fibres and a few large oval cells, with, in most cases, an indistinct cell-wall; their interior being undefined in consequence of their contents being solidified. The cysts vary in size, from a pea to a walnut; they are lined in most cases by a delicate vascular membrane. The following history is given of the case by Sir BENJAMIN BRODIE, in his work on the Diseases of the Joints, p. 274. ed. 1850. "Mr. O., aged 25, in January, 1828, first experienced a sensation of weakness in the right knee, with a slight pain after walking even a short distance; these symptoms continued, and in the course of two or three months, he observed a small tumour over the external condyle. He remained in this state, the tumour not increasing in size, through the spring and the greater part of the summer. In the middle of the following August he one day went through a great deal of fatigue in grouse-shooting, after which the tumour began to increase in size. On the 1st of September, in walking over a field, his foot slipped into a hollow in the ground; this caused great pain in the knee, and he was under the necessity of riding home. After this accident, the tumour progressively increased. On the 25th of January, 1829, he came to London. At this time there was very considerable enlargement of the whole of the upper part of the knee joint, so that it was four inches in circumference more than the opposite limb; the tumour was soft and elastic, occupying the situation of both condyles of the femur, but being more especially prominent in that of the outer condyle. The

head of the tibia and the patella did not seem to be implicated in the disease, and the joint retained its natural degree of mobility. For some time after I was consulted, the tumour remained nearly stationary, then it began to increase, and, as no remedy seemed to have any dominion over the disease, it was determined that the limb should be amputated. The operation was accordingly performed on the 6th of July, 1829. I heard of this patient being alive and well, some years after the operation."

164. Myeloid Tumour connected with the upper part of the Shaft of the Tibia. The shaft of this bone terminates abruptly about four inches below the knee joint, and in place of the head and upper part of the bone, is a large tumour of a somewhat rounded form, contained in a cyst formed of periosteum and a layer of condensed cellular membrane; the bone in which the tumour was developed being absorbed in every part. The cartilage which covers the head of the tibia is in every part very much thinned, but in no part has it been entirely destroyed. The tumour consists of a mass of solid structure with a flocculent surface, the chief part of which lies free in the cavity in which it is contained. It is firmer in some parts than in others; and in the firmer parts is composed of numerous spindle-shaped fibres, closely aggregated together; it is very vascular, and presents patches of a buff-yellow colour disseminated through it, and in these parts the microscope shows the existence of advanced fatty degeneration. There are no cysts in the interior of the tumour. The morbid growth extends for about half an inch into the medullary canal. The following notes of the history of this case are taken from the Case Book of Sir Benjamin Brodie:—"Miss H. consulted me in the spring of 1825 on account of an enlargement of the head of the tibia, attended with little pain, and producing slight impediment to the motions of the knee. The tumour gradually increased, still producing but little pain, the knee retaining its mobility up to the day of amputation, which was in September, 1827. Several glands in the neck of this patient were enlarged, and she suffered from cough. She died ten days after the operation, and, on examining the body, there were no marks of internal disease, except a small cyst of the ovarium, containing about an ounce of dark-coloured fluid."

165. Opposite Section of the Tumour described in the preceding Preparation.

166. Myeloid Tumour, removed from the Lower Jaw, together with a portion of the whole depth of the bone. The tumour is of a rounded form, about the size of a walnut, and extends into the base of the alveolar process. The structure consists of large

flattened cells of varied form, with numerous dentate processes arising from them in some cases; nuclear spindle-shaped fibres with bands of ordinary fibrous tissue intersecting the growth. No history.

167. Myeloid Tumour removed from the Lower Jaw with a portion of the whole depth of the bone. The tumour affects the body of the bone to a considerable depth, and it is connected both to the internal and external surfaces of the jaw. The bone in the immediate neighbourhood appears quite sound. The growth is composed of cells of varying shape, but of large size, from some of which numerous caudate processes are given off; these cells contain indistinct small oval nuclei, and much dark granular matter, which somewhat obscures their other contents. No history.

168. Section of a Tumour removed, with a portion of the whole depth of the Lower Jaw. The tumour, about the size of a nut, is deeply imbedded in the substance of the bone. In its natural state it presented much the appearance of malignant disease, being soft and vascular. The soft structure is composed in part of dotted nuclei, and a few spindle-shaped fibres, but chiefly of a great number of large, oval, or irregular-shaped cells, the cell-wall indistinct in some cases, and full of dark granules, which obscured the other contents of the cells. The patient was a girl, aged about 8. The disease had existed some time. The deformity some time after the operation was only very slight. She was well two years and a half afterwards.

169. Small Myeloid Tumour, removed together with a portion of the alveolar process. The patient Frances M., aged 5, was admitted into the Hospital Dec. 6th, 1839, with a tumour about the size of a marble, situated on the outer part of the upper alveolus, a little on the left of the median line. It was of a very dark colour, very firm at the base, where it was like the normal texture of the gum, and had appeared about three weeks before her admission, having grown rapidly, so as to loosen the teeth, but without pain. The tumour was removed, together with a small triangular portion of the alveolus at its base, where a large vessel passed into the tumour, which required pressure for two hours. The part healed with a small exfoliation. *Presented by* CÆSAR HAWKINS, Esq.

170. Portion of the Antrum, filled with a myeloid growth. The patient, a man aged 21, was admitted into the Hospital on December 15th, 1847, with a tumour, situated in the right superior maxillary bone. The tumour was large enough to produce some prominence of the cheek, but did not distort the features to any great extent. On opening the mouth, a swelling was perceived, occupying the palate on the right side, from the first incisor tooth to the first molar,

and inwards to the median line, the palatine process of the superior maxilla and the alveolar ridge being involved: its appearance in the mouth was red and spongy. On separating the cheek from the gums, the swelling could be seen covered by the mucous membrane, and forming a projection as large as a good sized walnut from the anterior wall of the antrum. Its outer surface felt hard and resisting where it projected above the alveoli. The teeth, from the central incisor to the second molar, were loose, and imbedded in the disease. The right nostril was quite natural, and the eye in its proper position. There were no enlarged glands in the neck, and the health appeared perfectly good. Nine weeks previous to his admission he had perceived a swelling around the canine tooth, which gradually increased in size. About five weeks before his admission the swelling appeared so elastic that it was punctured, but blood only escaped, and at a subsequent period it was punctured a second time, with the same result. The tumour was removed Dec. 23rd. The palatine process of the superior maxillary bone on the right side, was divided by the bone forceps, then the nasal process of the superior maxilla, and then the maxilla itself below the level of the orbit, and just in front of the pterygo-maxillary fossa. The whole of the tumour was thus removed, with the anterior and inferior wall of the antrum. The orbital plate was firm and healthy, as also was the portion of bone forming the posterior wall. A section has been made through the anterior portion of the tumour and the superior maxilla. The tumour presented the general appearances of malignant disease, but microscopic examination shewed it to consist of nuclei, spindle-shaped fibres, and large circular or oval-shaped cells, some of which had numerous caudate projections from part of their circumference, and the contents of which were darkly granular. The patient recovered rapidly after the operation, and was known to be in good health several years afterwards.

171. Myeloid Tumour of the Head of the Tibia. The patient, a lady, aged 22, underwent amputation of the thigh about eighteen months after the first appearance of the disease. The history of the case, and description of the tumour, will be found in the Transactions of the Pathological Society, vol. vii., p. 355, from which the following is extracted: "The articular surface remained, consisting of a thin lamella of cartilage and bone, so that no part of the disease made its way into the cavity of the knee-joint. Its consistence was moderately firm, and to the touch presented an elastic feeling, with very obscure sense of fluctuation. The growth was invested externally by the expanded periosteum, in some parts by a thin layer of bone. The tumour consisted entirely of solid matter:

there were no cysts. The circumference was of a slightly brownish mottled tint; the adjacent portion of a lighter yellowish-white tint. The central part, which had undergone advanced fatty degeneration, was of an amber-yellow colour. Its structure (examined by the microscope) in many places presented the usual appearances observed in myeloid tumours." *Presented by* CHARLES HAWKINS, Esq.

172. Cartilaginous Tumour, connected with the second phalanx of the Little Finger. The finger was removed on the 5th April, 1849, from a labouring man, 28 years of age. Connected with the second phalanx is a hard and somewhat globular tumour about the size of a large walnut; its surface is nodulated, and its section presents a distinct cartilaginous structure, intersected throughout with a few thin bands of fibrous tissue; it is not vascular, and contained neither bony spicula, nor calcareous matter in its interior. It has apparently arisen from the interior of the phalanx, which it has expanded and partially absorbed, leaving only a thin plate of bone corresponding to the dorsal surface of the phalanx; it was completely encased by the periosteum, which was expanded around the tumour, and which has been dissected off in the preparation in order to shew that the tumour is continuous with the surface of the bone from the interior of which it arose. The man dated its origin from an injury received five or six years previous to its removal; some swelling followed the injury, which remained; there was no pain in the tumour, nor did he suffer any inconvenience except from its size.

173. Cartilaginous Tumour connected with the cancellous tissue of the first phalanx of the Index Finger of a child. The finger was removed on the 21st of April, 1841. Connected with the first phalanx is a cartilaginous tumour which appears to have begun in the cancellous tissue of the bone, expanding the wall of the bone which at one part is extensively absorbed, leaving, however, a thin plate at the under and fore part of the tumour. When cut into in its recent state the tumour presented a soft and glistening appearance: it was of a yellowish colour, and of an areolar nature, the areolæ being filled with a soft transparent substance. The tumour was first perceived about six years previous to its removal, and was then of the size of a small pea. Within the preceding four or five months the patient had suffered pain in the part. The child left the hospital quite well.

174. Cartilaginous Tumours of the Finger. These tumours are connected with the first and second phalanges of the index finger. The finger was removed several years ago from a man, aged 36, who stated, that he first observed the swellings fifteen years prior to his admission into the Hospital, but that during the pre-

vious year they increased in size more rapidly, and bled profusely when injured. The tumour connected with the first phalanx is about the size of a large walnut, and is seen to be growing from the interior of the shaft of the bone which is partially expanded around it at both extremities, the upper part and sides being enclosed in the periosteal membrane which is continuous with that covering the expanded bone. The other tumour, which is connected with the second phalanx, also appears to be growing from the interior of the shaft of the bone, and is about the size of a horse-chesnut. The bone is partially expanded around it also, the principal portion of the tumour being contained in a dense fibrous capsule, formed chiefly by the periosteum. Both tumours are firm and elastic, like cartilage, and of similar density. On microscopic examination both of them were seen to be composed of large circular or oval-shaped cells, very similar to those of articular cartilage, but of larger size. The contained nuclei are small, and composed of an aggregation of minute granules; in some cases, the cells contain two nuclei. These cells are imbedded in a finely granular intercellular matrix. There was congenital deformity of the arm, the ulna terminating two inches from the wrist, the radius being much twisted, and the condyles of the humerus and adjacent articular end of the ulna very large. *Presented by* CÆSAR HAWKINS, Esq.

175. Phalanges of a Finger. The shafts of the first phalanges are converted into large cavities, which in some places present an areolar appearance; the areolæ were filled with a soft white transparent substance, probably cartilage.

176. Cartilaginous Tumour removed from the Femur. The upper end of the femur is also preserved, in order to shew the structure of the part to which the tumour was connected. The tumour is of large size, being not less than twelve inches in circumference; its surface is of a milk-white colour, and deeply lobed and convoluted, so as in fact to bear some resemblance with the convoluted surface of the brain. Its base, or the part by which it was connected with the femur, consists of very firm cancellated bony tissue; this part is much narrower than the surface of the tumour, being only seven inches in circumference. The section of the tumour shews that its chief constituent part consists of firm bluish-white opalescent cartilage, disseminated throughout it. In many parts, however, a well-formed bony tissue is developed; in other parts, opaque yellow patches are seen, either existing separately, or surrounding the perfectly developed osseous portions; lastly, large and irregular-shaped cystic cavities exist in some parts. The firm opalescent parts of the tumour consist of cartilage cells, the outlines of which are very distinct; they are very numerous, and closely

packed together, side by side; their size is uniform; their form, however, varies considerably, according to the amount of pressure which they have undergone; they each contain a single circular-shaped granular nucleus. The yellow opaque patches consist of cartilaginous tissue which is in process of fatty disintegration, all the cartilage cells being filled with small dark refractive granules, which obscure the nuclei almost completely. The cysts formed in the cartilage would appear to be caused by the disintegration and absorption of the cartilage at certain parts. The circumferential wall of these portions consists of a granulo-fibrillated blastema containing many circular-shaped nuclei; beyond this, the normal structure of the cartilage becomes more apparent, some of the cartilage cells containing much granular matter; in other parts, the cells are very delicate, their wall indistinct, the intercellular substance at the same time assuming a distinctly fibrillated structure. The tumour was connected with the back part of the shaft of the femur, about an inch beneath the lesser trochanter; the compact tissue of the bone in the neighbourhood of the growth preserves its normal thickness, and there is no encroachment on the medullary canal. The patient from whom the tumour was removed was a labourer 40 years of age; he was admitted into the Hospital on the 3rd of January, 1839, with a tumour about the size of the head of a fœtus, situated at the upper and inner part of the left thigh, very hard and apparently attached to the bone by a broad basis; its surface was very unequal. It had first made its appearance about fifteen months previously and was then very hard. It gradually increased in size, being occasionally exceedingly painful. He stated, that he had always enjoyed good health, and could not refer the origin of the disease to any accident. On the 7th of February, the tumour was removed by means of a hammer and chisel. The removal was effected with some difficulty. The patient died a few days after the operation, of diffuse cellular inflammation of the thigh and leg.

177. Cartilaginous Tumour from the Femur. The tumour is of a rounded form and lobulated, about the size of a small orange. Its base consists of an irregular mass of firm bone, developed in nodulated masses, and covered by a layer of periosteum continued on the external surface of the growth throughout the whole circumference. The outer surface of the tumour consists of a mass of cartilage of moderately firm consistence, and of different degrees of thickness at different parts. In some places the bone itself approaches very near the surface of the cartilage; in others again, the cartilage forms at least one third, or one half of the entire thickness of the tumour. The cartilaginous portion of the tumour varies in its structure in

different parts; in some places it consists merely of a granular hyaline basis, with a faint fibrillated structure intermingled, but containing no cartilage corpuscles; in other parts, aggregated masses of small granules arranged in a circular form may be seen imbedded in the granular basis. In some parts the cartilage-cells are large, distinct, and well formed, varying in form and size, closely aggregated together, and containing one or more circular-shaped granular nuclei; in others the cartilage-cells are pale and very delicate, the walls hardly distinct, but each cell containing a circular-shaped granular nucleus. This tumour was removed during life: there were several smaller exostoses in different parts of the body, but they were not removed as they gave rise to no inconvenience.

178. A Tumour, partly Cartilaginous, partly Osseous, removed from the Femur. The root of the tumour consists of a narrow pedicle formed of firm solid bone, which then becomes expanded into an irregular lobulated and nodular tumour, formed apparently of cartilage and bone in different stages of development. The portion nearest to the pedicle, and which constitutes about one half of the tumour, consists of firm cancellated bony tissue; the remaining portion partly of more compact bone, having on its surface a thin incrustation of fibro-cartilaginous tissue, and partly of opaque white cartilage, composed of large cells of an oval or circular form, closely approximated. Many of these cells appear to be destitute of nuclei; in others, the nuclei are of an irregular circular form, and the cells are filled with dark refractive granules. The patient, Anne C., aged 27, reported that the tumour had existed about six years, but that it had caused her no inconvenience until within nine months of her admission; it was situated just above the internal condyle of the femur; the vastus internus passed over it, and there was a complete bursa with a secreting membrane formed around it. After the operation the patient had extensive suppuration of the thigh, but she ultimately got well, and left the hospital cured.

179. An Osseous Tumour, removed from the thigh-bone during life. The tumour is about the size of a common egg plum, its form is somewhat pear-shaped: the broad distal end presents an uneven nodulated surface, the attached end being smooth, narrow, and pedunculated. The section of the tumour shews it to consist of an exceedingly thin compact lamina of bone externally, whilst internally it is formed of a coarse cancellated texture, in the areolæ of which a large quantity of medulla is contained. No further history.

180. A small Bony Tumour removed from the Femur. The tumour is somewhat pyriform in shape, its distal end being rounded, and presenting a slightly nodulated surface, tipped with a thin

layer of cartilage. Its attached end is narrow and pedunculated. The section of the tumour shews it to be composed of an outer thin layer of compact tissue, internally of a coarse cancellated texture, the areolæ of which contain a quantity of medulla. One section of the tumour has been boiled in ether, in order to separate the fatty matters, and to render the cancellated texture more distinct. There is no further history of this preparation.

181. An Osseous Tumour attached to the palmar surface of the base of the first phalanx of the middle finger of the right hand. The tumour, which is about the size of a walnut, is connected to the phalanx by a narrow pedicle. Its base is completely ossified, but the distal surface is covered with a thin layer of cartilage. The section shews it to be composed of an exceedingly close cancellated texture. The finger was removed at the metacarpo-phalangeal articulation, in March, 1849. The patient from whom it was removed was a tailor, aged 58. He at first perceived it two years previously, when it was about the size of a pea, firmly fixed to the parts beneath, and not painful to the touch. He attributed its origin to his using hot irons frequently in pressing cloth.

182. A Humerus. On the anterior and external surface of the shaft of the bone, in front of the ridge of insertion for the deltoid muscle, is an osseous tumour. It is about an inch long, having a broad base of attachment to the outer surface of the bone. Its distal end is somewhat enlarged, and presents an uneven, nodulated surface. On the inner surface of the shaft, several smaller outgrowths of bone may be seen connected with the outer surface of the shaft. *Presented by* CÆSAR HAWKINS, Esq.

183. Longitudinal Section of a Humerus. About the centre of the shaft of the bone, may be seen a large and irregular bony tumour, in the interstices of which much cartilage was mixed in the recent state. This tumour is about four inches in length and two in breadth, and its structure cancellous throughout. The section shows the extreme porosity of the bone, with complete obliteration of the medullary canal, corresponding to the diseased part. The patient had never suffered from pain during the growth, nor had it impeded the use of the arm during several years that it had existed before his death. *Presented by* CÆSAR HAWKINS, Esq.

184. An Exostosis, partly cartilaginous, removed from the humerus, beneath the deltoid muscle. The patient was a girl aged 12, and did well after the operation.

185. Osseous Tumour of the Lower Jaw. The patient Francis E., aged 48, a Spaniard, was admitted into the Hospital on the 1st of May, 1848. There was considerable deformity of the right side of

the face, arising from the presence of a large, hard, nodulated tumour, occupying the whole of the right side of the lower jaw, so that this portion of the inferior maxillary bone appeared surrounded by the growth: it was very irregular on its surface, and uniformly osseous in consistence, the upper part projecting behind the zygoma, and the internal part into the mouth, so as materially to diminish its cavity; and it also encroached much on the fauces: in front it extended nearly to the symphysis of the jaw. There was a large cicatrix in the skin over the outer portion of the tumour, the cicatrix and the surrounding skin being firmly adherent to the tumour below. The patient stated that some five years previous to his admission, he had a tooth extracted from the lower jaw, on the right side; that a growth soon afterwards made its appearance from that portion of the jaw, and gradually increased in size, but was never attended with pain. About two years before his admission, and about three years after the first appearance of the tumour, he was operated on in France, so far, that the part of the tumour which projected externally was removed, but the remainder was not interfered with. Since that operation the growth had continued to increase. The tumour was removed on the 4th of May. An incision, commencing a little above the temporo-maxillary articulation, on the right side, was carried in a curved direction, a little beyond the median line, to about an inch below the lower lip. A second incision was also made, so as to include the whole of the cicatrix of the former operation between the two wounds. The soft parts were then dissected off the tumour, both above and below, and the bone was divided a little to the right of the symphysis, so as not to interfere with the attachment of the genio-hyo-glossus muscle on that side. The facial artery required a ligature. After the division of the jaw, the tumour was forcibly drawn as much as possible outwards and downwards, but it was very difficult to move it much, in consequence of the irregularities on the inner surface of the tumour projecting into the deep muscles; it was found necessary to cut off with the bone-nippers one projecting portion which ran up under the zygomatic process, and into the temporal muscle, and this very much facilitated the rest of the operation. The jaw was now more easily everted, turning on its articulation; and this being divided with the deeper muscles, the operation was soon completed. The patient left the Hospital about two months afterwards, quite recovered. The tumour weighs, after maceration, rather more than seven ounces and a half, and is larger than a man's fist, its largest circumference being between nine and ten inches; its surface is very irregular, nodulated and fissured deeply, at those parts where muscles were

attached to the bone. The surface of the bone appears healthy at the bottom of these fissures. The disease does not extend quite to the symphysis, but has almost surrounded the condyle of the jaw; the last molar tooth has been forced partially out just above the angle of the jaw at the posterior edge of the ramus. The tumour consists throughout of bone which is of a spongy character. In a letter received from the patient, April 13, 1849, he says, "I now feel no inconvenience in mastication, nor the slightest pain, but feel my cheek daily increasing in strength." *Path. Soc. Trans.* 1848-9. p. 95,

186. A Skull, on the left side of which is seen a circumscribed osseous tumour. It is situated on the outer surface of the parietal and squamous portions of the temporal bone at their point of junction, the suture connecting these two bones being continued directly through it. After maceration, the exostosis separated into two parts at this suture, with the separation of a small part of the squamous portion of the temporal bone. The tumour is rounded, with a flattened or slightly mamillated surface, of a cream white colour, smooth and polished, and as hard as ivory. The outer surface of the parietal bone above the tumour, presents several small rounded growths of bone connected with the external table. No history. *Presented by* CÆSAR HAWKINS, Esq.

187. An Osseous Tumour, hemispherical in form, and the surface of which is dense, polished, and as hard as ivory, removed from the Cranium. The removal of it occupied an hour, and more than one saw was spoiled during the operation.

188. An Osseous Tumour, the surface of which is exceedingly irregular and nodulated, and the surface of which is dense and hard, like ivory. It was situated at the edge of the orbit, and exfoliated after repeated applications of caustic. The patient had been under the care of Sir ASTLEY COOPER previous to his admission into the Hospital, who, several years previously, had in vain tried to saw the tumour off horizontally. The marks of the saw may still be seen.

189. An Osseous Tumour, the surface of which is exceedingly irregular, and the texture of which is hard and dense, like ivory, It was situated on the edge of the orbit, and grew towards that cavity. An endeavour was made to remove it with the trephine, but in vain, on account of the hardness of the tumour. The patient attended the Hospital for several years, and caustics, especially potassa fusa, and nitric acid, were applied from time to time, when the growth ultimately exfoliated, The mark of the trephine may be as distinctly seen as when the patient left the operating room.

190. Section of a Skull. On the left parietal bone, close to the fronto-parietal suture is a small osseous tumour. Its surface is smooth

and polished, and its substance dense and hard, like ivory. The bones are much thickened by hypertrophy of their diploë. The tumour involves only the external table and outer part of the diploë.

191. The Lower Jaw, evidently of a very old person. At the angle of the bone on the left side, a large rounded, and somewhat nodulated exostosis, of the density of ivory, is seen attached. No history.

192. Lower portion of the Humerus. Two inches above the internal condyle, a small pointed outgrowth of bone may be seen, the base of which is continuous with the body of the bone. No history.

193. Lower portion of a Right Femur. About an inch and a half above the internal condyle is a small out-growth of bone ; the base of which is broad and continuous with the body of the bone. No history.

194. A Portion of the Shaft of the Femur. On its anterior surface is seen a growth of bone about three inches long and an inch wide, convex on its anterior surface, attached by a broad base to the outer surface of the shaft. The sections of this growth show that it is composed of cancellous tissue; a compact layer of bone covering the growth at its base and throughout the greater part of its circumference. *Presented by* CÆSAR HAWKINS, Esq.

195. A small Outgrowth of Bone from the side of the lower part of the Shaft of the Femur. It is apparently limited to the compact wall of the bone. *Presented by* CÆSAR HAWKINS, Esq.

196. A Portion of the Skull. The right side of the frontal, and a part of the parietal, bone present on their external surface an extensive deposit of new bone, which has a radiated appearance resembling very much the osseous skeleton of a madrepore. The corresponding internal surface of these bones presents a somewhat similar appearance, but here the deposition of new bone is very small. This deposit of new bone probably formed the base of some tumour, the nature of which is not known. No history.

197. A Skull-cap, the external and internal surfaces of which are extensively covered with large patches of new bone, of a porous character and irregular shape. In most places, the patches on the inside correspond exactly with those on the outside, the centre of each patch being thickest and becoming gradually bevelled off towards the circumference. The deposition of bone appears to have taken place on the external and internal tables, which in some parts appear to have been absorbed; for, at the posterior part of the right parietal bone, on its outer surface, there was a large patch of bone which has been scraped off, and there the external table will be seen to have been partially

absorbed, being pierced by numerous foramina, which, in the fresh state, gave passage to large vessels. When recent, all these depositions of new bone were of a remarkably dark colour and very vascular, bleeding most freely when scraped. At first sight, they presented the appearance of being connected with carcinomatous deposit, but no traces of any other structure than that of bone could be detected in any part. Examined by a powerful glass, the appearances were such as have been described above, but the vessels were observed to be very large and very numerous. A deposition of bone, precisely similar in its nature, existed also at the base of the skull, and upon several other parts of the osseous system. It was observed on the sternum, on the clavicles, on several of the ribs, on many vertebræ, especially in the lumbar region, on the left os innominatum, on the left ramus of the pubes, and on the trochanter, upon all of which bones it was more extensive than on the skull, and formed large irregular masses. The periosteum was not thickened in the neighbourhood of the diseased parts. No malignant deposit was found in any of the viscera, or in any other part of the body. This preparation was taken from the body of a man aged 70, who was admitted into the Hospital with paralysis of the inferior extremities. He had always enjoyed good health until within a few months of the appearance of this complaint, which he could not in any way account for. He had always led a regular life, but it was ascertained that he had suffered severely from rheumatism. There was a large slough on the back, from the irritation of which he appeared to die in a few days after his admission into the Hospital. The disease of the bones was discovered after death.

198. A Portion of the Os Innominatum, covered with large masses of bone of a porous character, and having in some parts a fine foliated and in others a reticular arrangement. The new bone is deposited on both surfaces. The section of the bone shows that the cortical part of the original osseous tissue is less distinct than natural, and there is but a faint line of demarcation, which, however, may still be traced. This preparation was taken from the same patient as the preceding.

199. The Clavicle, from the same patient as the two preceding preparations. A section has been made of the bone, to show the deposition of the new osseous tissue on its outer surface, the line of which may still be accurately traced, especially towards its acromial end.

200. Portions of Lumbar Vertebræ, from the same patient, showing the extensive deposition of bone which had taken place on these parts. The new bone has been deposited as well on the outer as on the inner surface of the laminæ.

201. Part of a Frontal Bone. Its internal surface is seen to be very irregular, and studded with small bony excrescences. It was taken from a patient who died in the Hospital in 1827, having for many years laboured under epilepsy.

202. Section of a Skull. On its internal surface may be seen in many parts, but more particularly on the surface of the frontal bone, an exceedingly extensive outgrowth of bone. The disease is limited to the internal surface of the bones. The frontal bone is much thickened, and presents an irregular mamillated surface; both parietals, towards their lower margins, are similarly affected. The sutures are for the greater part obliterated. This preparation was taken from Elizabeth M'L., aged 84, who died of apoplexy, the effusion of blood, which was very extensive, being at the upper and back part of the right hemisphere. Her friends reported that, up to the time of the apoplectic attack, she had always enjoyed good health, was endowed with good intellectual faculties, and had never made any complaint about her head. The dura mater was firmly adherent to the bones, especially to the frontal, from which it was separated with great difficulty.

203. A Bony Growth from both surfaces of the Scapula, more extensive on the ventral surface, but projecting also into the infraspinous fossa, and at the base of the coracoid process. No history. From the dissecting-room.

204. Section of the Lower End of the Femur, showing the marks of the removal of an exostosis, with a very broad base, situated as it appeared at the time of the operation, at a considerable distance from the joint; great force was necessary to detach the growth. The patient died of pyæmia. At the post-mortem examination, the knee-joint was found full of pus, and appeared as if it had been opened in the operation. From the body of Charles W., aged 25. *Post Mortem and Case Book.* 1856. p. 158.

205. Upper End of the Femur. A considerable outgrowth of bone is seen in the situation of the lesser trochanter. The base of the new growth is very broad, and it terminates in a pointed and uneven extremity, which is curved slightly upwards and inwards, and in the recent state was imbedded in the conjoined tendon of the psoas and iliacus muscles. From an old person. *Presented by* CÆSAR HAWKINS, Esq.

206. A portion of the Ilium, with the Acetabulum, the upper part of the Femur, and the hip joint with its Capsule. The capsule has been laid open, and a section has been made for the purpose of shewing a fracture of the neck of the thigh bone, which has taken place under peculiar circumstances. The cancellous structure of the neck of the femur has disappeared, and a soft substance has been deposited in its place; the

disease also extends into the head of the femur, and the shaft of the bone. Probably the fracture took place during some slight exertion. The patient, Ann S., was admitted into the Hospital on account of disease of the lungs attended with hæmoptysis, in December, 1826, and died in January, 1827. On dissection some parts of the tissue of the lungs were found infiltrated with a structure resembling scirrhus. There was a similar disease affecting some of the bronchial glands, the kidney of one side, the opposite supra-renal capsule and also the substance of the uterus. The woman had complained of pain in the hip, but the existence of fracture was never suspected during her life. *Presented by* SIR BENJAMIN BRODIE, Bart.

207. Section of the head of the Femur from the same patient as the preceding.

208. Section of the head of the Femur infiltrated with carcinomatous deposit. No history.

209. This preparation consists of the lower part of the Sternum and the Xiphoid Appendix, with the corresponding portions of the Cartilages of the Ribs. It was taken from the body of a boy, Charles G., aged 4, who was affected with malignant disease of the spine and several other parts of the body. For the history see Series V. 47. The greater part of the xiphoid appendix, and the corresponding portion of the sternum, are surrounded by a new growth, which is of a rounded shape, of the size of a walnut, and of a yellowish white colour. The cartilaginous tissue is unchanged, and apparently quite healthy. When cut into, the tumour was firm, and presented a semi-cartilaginous appearance. Its structure consists of pale fibres arranged parallel with one another, and presenting an undulating outline quite dissolved by acetic acid, which brings into view many irregular-shaped nuclei ; between the fibres numerous refractive oil-globules are seen.

210. The Vertex of the Skull, shewing numerous small cavities left after maceration, by the removal of malignant deposits in the diploë, affecting also principally the internal table of the skull. This is from the same patient as the next preparation.

211. The Femur from the same patient as the preceding, showing spontaneous fracture, the result of deposits similar to those which were removed by maceration from the last preparation. The fracture had taken place more than three months previous to death ; and the preparation shows the efforts at union which have been made. The two fragments are united on their posterior aspect by a transverse bridge, or ferule, of bone ; besides which, a considerable amount of fibrous union exists, so that very little motion is permitted between the fragments. *Post Mortem and Case Book.* 1860. p. 48. *Path. Soc. Trans.*, vol. xi. p. 220.

212. The Ribs (four on the right side) from the same patient as the

two former preparations. In the one which has been divided longitudinally, the whole thickness of the bone has been converted into a tough flexible cord, in which some small osseous particles are found imbedded; in other parts the malignant matter is seen to be deposited in a circumscribed form. In all parts the parietal pleura, and in most the periosteum, could be raised from the diseased bones.

13. A Large Medullary Carcinomatous Tumour connected with the lower end of the Femur. The greater part of the tumour is situated on the outside of the bone, but the cancellous tissue is also infiltrated with the same deposit. This deposit has destroyed the lower end of the bone, and has made its way into the cavity of the knee joint, which it almost completely fills. The microscopic structure of the tumour presents the usual characteristic elements of medullary cancer. The patient Charles C., aged 34, from whom the preparation was taken, died six months after amputation of the thigh had been performed. No post mortem examination was made, as he died in the country, and no accurate account could be obtained of his state previous to death.

14. A Medullary Carcinomatous Tumour connected with the Tibia. The preparation consists of the posterior half of the shaft and lower end of the right tibia. At the lower third of the bone is seen the section of a tumour originally the size of a large pear, its surface being covered by the expanded periosteum; the same morbid deposit exists between the lamellæ of the compact wall of bone, and also in the cancellous tissue. Higher up, a second and smaller tumour may be seen, about the size of a hazel nut, originating apparently between the bone and the periosteum. The same deposit infiltrates the medullary canal and cancellous tissue almost within an inch of the lower end of the bone. Numerous thin spicula of bone intersect the large tumour, running at right angles with the surface of the shaft. The preparation was taken from the body of Ann E., aged 50, who was admitted into the Hospital on December 1840. She had suffered from severe pains in the course of the left sciatic and anterior crural nerves, and about the loins, for six weeks, blood and afterwards pus being observed in the water. She subsequently suffered from purulent expectoration and cough, for which she was transferred to the care of the physician on January 23rd, and died March 27th. At the post mortem examination there was great emaciation, the legs were œdematous, and large sloughs had formed on the sacrum. There was inflammation of the left pleural cavity and left lung; the kidneys were granular and mottled. Besides the disease shown in the preparation, the fibula of the same side was also affected in a similar manner. The ilium of the left side was

so soft as to admit of being cut with a knife, and its anterior surface covered by and infiltrated with a medullary growth. The thigh, vertebræ, and cranial bones were healthy. *Presented by* CÆSAR HAWKINS, Esq.

215. Medullary Cancer of the Sternum. The growth is seen to be of large size, uneven, and lobulated. When fresh, its cut surface presented a pink tinge and numerous fibrous bands were observed crossing its structure. It has apparently been developed in, and has completely destroyed, the whole of the second portion of the sternum. This preparation was removed from the body of a young lady about 18 years of age. The whole of the left hand of this patient was converted into a solid mass of medullary cancer. The greater part of the carpal, as well as the metacarpal bones, were absorbed or rendered so soft as to be easily divided with a scalpel. The skin from the hand to the shoulder was tuberculated and considerably increased in density and thickness. There was a large diseased absorbent gland on the inner side of the biceps muscle in close contact with the median nerve, and a mass of the same nature in the axilla. The cavity of the chest contained fluid on both sides; only a small quantity on the right, where the pleura and lung were for the greater part healthy, though the lower edges of the lobes of the lung were fringed with a deposit of medullary matter beneath the pleura and between that membrane and the structure of the lung itself: but the left cavity was filled with fluid. The two lobes of the left lung were infiltrated throughout with medullary cancer. The pleura was studded with tubercles of a similar kind, and there was a large tumour projecting from beneath the pleura on the left side of the chest, about the articulation of the sixth and seventh ribs with the spine. The liver, intestines, and contents of the pelvis were healthy.

216. Medullary Cancer of one of the Ribs. The inner surface of the rib has been extensively destroyed and the tumour has projected considerably on the pleural surface, covered by the periosteum and serous membrane. This tumour presented the usual structural elements of medullary cancer. No history.

217. Medullary Cancer deposited in a tubercular form in the centre of the Shaft of the Thigh Bone. The patient died of malignant disease of the œsophagus but the state of the femur was not discovered until after death. The femur is fractured, and the malignant deposit is seen infiltrating the cancellous structure of the shaft both above and below the point of fracture.

218. A portion of the Humerus in which Fracture has taken place in consequence of Carcinomatous Deposit in the Osseous Tissue. In this case, the carcinomatous deposit was of the medullary form, being diffused extensively through the cancellous tissue

of the shaft of the bone. The patient, Esther W., had scirrhus of the breast, which was removed, but the disease subsequently reappeared in the axillary glands and in the bones. *Post Mortem and Case Book.* 1845. p.270.

19. Medullary Cancer, affecting the Metacarpal Bone of the Thumb. The whole of the shaft is destroyed, but not the articular ends of the bone. The patient was a prizefighter, and in giving a severe blow, felt as if he had sprained his thumb. This was followed by swelling, and about eleven months after by the appearance of the disease exhibited in the preparation. The hand was amputated.

20. A Section through the upper half of the Left Tibia, from side to side. At the upper and inner side of the leg, is a very large fungous growth. This can be traced directly inwards, and may be seen to occupy a large cavity of the size of an orange, in the upper part of the shaft of the tibia, immediately beneath the articular surface, leaving but a thin shell of bone on the outer side of the shaft. This tumour in its structure was composed of a large number of myeloid cells, mixed with other elementary forms, similar to those found in medullary cancer. No history.

21. Medullary Cancer of the Femur. The patient, Elizabeth T., aged 16, was admitted June 27th, 1838, with a very large swelling of the lower half of the thigh, commencing close to the knee joint, and becoming smaller upwards. It measuring eighteen inches in circumference at the widest part. The tumour was solid and elastic, the skin of a dark bluish tint, presenting many enlarged veins. The swelling commenced six months before her admission, as a small lump near the inner condyle, her health not being much affected, except by the pain, which was very acute. The upper margin of the tumour was very distinct, and the bone above seemed to be of its natural size and free from pain. The pain increased a good deal in the few days that passed before amputation took place, which was performed high up on the 5th of July. In the operation, some muscular fibres were observed to look white and soft, and therefore some of the cruræus muscle was cut out higher than the first incision, but on examining the lower end of the divided muscles, this appearance was quite lost, and appeared to have depended upon serous infiltration. The stump was not healthy in appearance; and a large flabby fungus grew from the bone: on this account one inch and a half more of the bone was sawn off on the 15th, some parts of the healing surface looked afterwards of a suspicious character. She became much weaker with violent griping and pain in the abdomen, and died on the 21st, exhausted by vomiting and diarrhœa. On the post mortem examination, there seemed to

be no appearance in the abdomen to account for these symptoms, but in both lungs there were many white firm tubercles enclosed in imperfect cysts of cellular tissue. Some of the muscles of the stump were infiltrated with white semipurulent fluid, something like the parts presented during the amputation, but not looking positively diseased in structure; the vastus externus had a good deal of pus within it and there was some extravasated blood below the skin. The femoral vein was healthy, but many of the smaller branches near the trochanter contained pus, and there was much pus in the cancelli of the femur. The tumour was a firm solid mass of medullary cancer, entirely surrounding the femur from close upon the cartilaginous covering of the condyles nearly to the cut part of the bone, which seemed quite healthy. A section of the tumour and adjacent parts, shewed that the joint was perfectly healthy. The tumour was very firm and compact towards the outer part, of a white colour, with numerous fibrous bands and many black spots where the vessels had been divided. Within, it was softer and more brain-like, though dark-coloured, and in the centre was a considerable-sized cavity containing bloody serum, with broken-down shreds of the tumour, of a bloody colour, projecting into it; in this cavity about three inches of the femur were exposed and rough without periosteum, and a mass of solid bone, about half an inch in height, rose from the outer surface of the bone into the substance of the tumour. The upper end of the tumour, under the extensor muscles, was softer than the rest, and contained a few cysts of the size of a walnut, full of serous fluid. The outer surface of the tumour could in some parts be separated from the muscles, tendons, and ligaments, which were all much distended over it; but, in many parts, these structures adhered inseparably to the tumour, their texture was altered to the same white structure, and the soft parts contained also some white tubercles, separate from the great mass of the tumour. Behind and below the condyles the tumour was less intimately attached to the soft parts around it, except the heads of the gastrocnemius, which had some white tubercles in their structure. On a further section, it was evident that the tumour was everywhere connected with the outer part only of the bone, the shell of which was, along the whole line, perfectly natural, excepting where it had the growth of solid bone arising from it, as before-mentioned. The cancelli of the condyles presented no sign of disease, but for a distance of two or three inches above the condyles, the section shews some medullary substance diffused in the cancelli, without direct communication with the external tumour. *Presented by* CÆSAR HAWKINS, Esq.

222. Medullary Cancer of the Frontal Bone, projecting into the orbit on one side, and into the base of the skull on the other. The supra-orbital and supra-trochlear nerves are seen to run into the tumour, and were found to be unnaturally rigid in the part external to the disease. There was ptosis of that eyelid, and strabismus on the same side. The disease was found also in many parts of the body. The patient was a female, aged 28. *Post Mortem and Case Book.* 1857. p. 204.

223. Medullary Cancer of the Femur. The disease is seen to be connected principally with the periosteum. The bone is greatly hypertrophied towards its upper part, and the medullary canal is obliterated, but no malignant deposit was found in it. The patient, George H., aged 29, was originally admitted in October, 1849, on account of a tumour connected with the left femur, and extending up nearly to Poupart's ligament. It was proposed to amputate the thigh at the hip joint, but this was objected to, and the thigh was therefore amputated just below the trochanter, as is seen in the preparation. He went on well till the following July, when he again presented himself, with a return of the disease in the stump. He was finally admitted again in February, 1851, the disease having then proceeded too far to allow of operation. The tumour was then of enormous size, and was the source of repeated oozing of thin bloody fluid. He sank very gradually under the exhaustion caused by this discharge, and died in September, 1851. *Post Mortem and Case Book.* 1851. p. 181.

224. Section of the Right Humerus, affected with Soft Cancer. A large globular tumour is seen about the centre of the bone, containing a cyst of some size. The humerus is infiltrated with morbid deposit for some distance, and is much thinned just below the attachment of the tumour, so as to have given way in the process of sawing. The tumour showed, in some places, well-marked cancer-cells, while in others it had undergone a process of fatty degeneration. The patient, William B., aged 31, was admitted on February 16, 1859. The arm was amputated at the shoulder joint on February 23, and he left the house a few weeks afterwards. The history of the case was that he fractured the arm, by aiming a blow which missed its object, in the previous April. No tumour had been noticed there before the accident; but, after the consolidation of the fracture (which took place in six weeks), he perceived the gradual growth of the tumour. When admitted, he was much emaciated and worn, but recovered his health rapidly after the removal of the disease. *Path. Soc. Trans.* vol. x. p. 249.

225. A section of a Malignant Tumour, springing from the periosteum of the humerus, and infiltrating the muscles and parts in

the neighbourhood. The bone appears unaffected. The arm was removed at the shoulder joint. *Presented by* Sir BENJAMIN BRODIE, Bart.

226. The Humerus from a case in which the arm was amputated at the shoulder joint, on account of the malignant disease of the bone exhibited in the preparation. On dissection, it was found that the outer shell of the upper portion of the shaft of the bone had expanded and formed a tumour, the contents of which had the appearance of coffee-grounds or grumous blood. A considerable quantity of this matter escaped on making an incision into the tumour: large masses still retain their position, but have lost their colour. The same kind of substance exists in the cancelli towards the upper extremity of the bone, but the lower portion of the shaft has escaped the disease. The microscopic structure of this substance presented the usual elements of medullary cancer. The patient died soon after the performance of the operation, the clavicle containing, in its cancellous tissue, the same deposit which had partly destroyed the humerus.

227. The Clavicle, taken from the same patient as the preceding. Softening of the bone has taken place towards the sternal extremity, and a small quantity of malignant deposit infiltrates the cancellous tissue of the bone. The bone is also observed to be broken. The fracture was detected before the death of the patient.

228. Part of the Skull-cap, shewing large masses of Hæmatoid Cancer, in connection with the inner surface, and intimately attached to the dura mater. The same growth passes through the occipito-parietal suture on the right side. Both externally and internally the surface of the bone is seen to be slightly porous and carious. Externally, in the recent state, this condition corresponded with a soft flaccid tumour, containing purulent fluid and broken-down carcinomatous structure. The dura mater is preserved in a subsequent Series. There is also a preparation of the spine, which was affected with malignant disease, in Series V.: and a preparation of the primary affection, malignant polypus of the nose, in the Series relating to diseases of that organ. *Post Mortem and Case Book.* 1852. p. 13.

229. Hæmatoid Cancer of the Fibula. This preparation was taken from a young lady. For several years after the removal of the limb, she remained free from any return of the disease. The parts are injected, in order to shew the extreme vascularity of the tumour.

230. Hæmatoid Cancer of the Ilium. The bone is seen in the preparation to be broken up, and the different fragments separated from one another by masses of a soft pulpy consistence. con-

taining blood, which could be squeezed out as from a sponge. The disease seems to be confined entirely to the ilium, leaving the thigh bone free from disease, although the capsule of the hip joint is almost involved at the upper part. This preparation was taken from the body of James H., a blacksmith, aged 23. About eleven months before his admission into the Hospital, he sprained his left leg, and felt something snap in the groin, from which he suffered much pain and lameness, but no swelling was perceived until three months had elapsed. At this period, an induration, of small size, but exquisite sensibility, was perceived in the groin. The increase of this tumour was very rapid, and it extended outwards for a considerable distance beyond the glutæi muscles, and occupied all the front of the thigh. Several openings existed in the tumour, through which blood frequently escaped in large quantities.

231. Malignant Pulsatile Tumour of the Ilium. The patient, Charles W., aged 51, was originally admitted into the Hospital in Oct., 1855, with a small tumour in the neighbourhood of the sacro-sciatic foramen, pulsating very distinctly. The disease was referred to an accident eight months before admission. The case was distinguished from aneurism of the gluteal artery by some difference in the character of the pulsation from that usually found in aneurism, by the fact that pressure in the sacrosciatic notch did not control the pulsation, and by the absence of bruit. Palliative treatment was adopted, and after a stay of some months in the Hospital, he left to resume his work, as a gardener. He returned again in Nov., 1856, the tumour having increased very much on the nates, and now presenting also in the iliac fossa, where fulness and pulsation could be perceived on deep pressure. The lobulated form of the tumour, and its difference in consistence in different parts, could now be plainly felt. The pulsation was strongest in the softest parts of the tumour. He was emaciated and anxious, and suffered from paralysis of the sphincters of the bladder and rectum. Blood was passed occasionally in the water. During his stay in the house, the lower extremities, especially the left, became very œdematous, and he sank gradually, dying April 15, 1857, about two years after the first invasion of the disease. A very large mass of malignant disease is connected with both surfaces of the left os ilii, and the tumour has been laid open by an incision in one place (on the dorsum), in order to show its cavernous structure. The admission of blood from the arteries of the tumour into these large spaces accounted for the distinctness of the pulsation. The ilium and sacrum were extensively corroded, the sacro-iliac joint destroyed, and spicula of bone were found scattered about the substance of the tumour. The two parts of the tumour, on the opposite sides of the ilium, are continu-

ous, both through the substance of the bone, and around the sacro-sciatic notch. Large masses of the disease are also seen in both internal iliac veins, the coats of which (as well as of other veins in the neighbourhood) were infiltrated in many places. Malignant deposit of similar appearances was also found in the left kidney. The microscopic appearances and other details will be found in the *Post Mortem and Case Book* 1857. p. 87.

232. Hæmatoid Cancer of the Femur. The patient, a young man, aged 20, was first seen in March, 1859. He was thin, weak, and nervous, and had been subject to repeated dislocations of the patella. Five weeks before the above date, he had had a fall, in which he struck the knee, but felt no ill effects for a fortnight, when some pain and swelling took place. When seen, the swelling appeared to be synovial, with a sensation of thickening below the membrane. On April 12, the pain and swelling had much increased; but the latter had changed its character. There was now no synovia in the joint, but there was evident enlargement of the lower part of the femur, soft in some places, hard in others, and with some tenderness. On the 23rd, the swelling had considerable increased. Amputation was performed on the 26th. The system continued in a very irritable condition after the operation, and on May 3, inflammation began in the right elbow joint, followed by abscess, which was opened, both in front of and behind the joint. Inflammation also occurred in the shoulder-joint, but subsided without suppuration. The unhealthy state of the stump, which preceded these secondary deposits, continued for some time, and the stump did not heal till after the separation of a portion of dead bone, towards the end of the year. In March, 1861, it was ascertained that the patient was in far better health than for several years before the operation. The tumour when fresh was dark and hæmatoid, with fluid blood in the centre, and some ecchymosis in the cellular tissue around it. The end of the femur is not expanded; but its surface is absorbed in various parts where the tumour exists. One portion of the tumour in the ham, is denser than the rest, and had some bone formed in it. The inner condyle had lost its cartilage, and a mass of the tumour, about 1¼ inch in diameter, may be seen projecting into the knee-joint, and had some coagula of blood hanging from it. The shaft of the bone and the muscles are quite healthy. The microscopical appearances are those usual in encephaloid cancer. *Presented by* CÆSAR HAWKINS, Esq.

233. Caries of the Ilium. A large part of the ventral surface of the bone is carious, and has been removed by ulceration to such an extent, that for a space as large as a shilling nothing

but the external wall of the bone is left. The acetabulum is also extensively ulcerated ; and is very nearly, but not quite, perforated. There is a rough surface, above the acetabulum, on which the remains of the head of the femur were lying, so closely united to the ilium as to require much force to separate them. The ramus of the pubes is also roughened, and was exposed, by the sloughing of the parts over it. The preparation is from the body of a man, aged 40, who had suffered from symptoms connected with the right hip for about three years, and who died with an enormous abscess, occupying the whole extent of the thigh, from Poupart's ligament to the knee. There was also a psoas abscess, from caries of the fourth lumbar vertebra : but this had not made its way into the thigh. *Post Mortem and Case Book.* 1860. p. 164.

234. Sections of the Head and Shaft of the Humerus, affected with melanosis, which has been principally deposited in the cancellous structure, only some few points being in the compact wall of the shaft. The preparation was taken from a woman who had been operated upon for the removal of a melanotic tumour, the disease subsequently returning in various parts of the body. The whole skin resembled that of a person who had for a long time taken nitrate of silver; and melanotic matter was found both in the rete mucosum and in the dermis. The thoracic and abdominal organs were affected with a similar disease; in the ovaries and spleen, it was in the shape of tubercles; in other organs, it was diffused throughout various parts of their structure. Large quantities of serum and lymph, which were found in the pleuræ and peritoneum, were of a dark brown colour. *Presented by* CAMPBELL DE MORGAN, Esq.

235. Vertical section of the Lower End of the Femur, which is surrounded through a length of five inches by an Osteoid Tumour. The tumour is somewhat conical, being broad below immediately above the condyle, and gradually diminishing in size as it proceeds upwards on the surface of the shaft. The tumour forms a layer of about an inch thick around the shaft, of a uniformly smooth surface in front and laterally, whilst, behind, it is hollowed out into a large and irregular-shaped cavity. The structure of the tumour is nearly similar in every part, the laminæ of the bone having a delicate fasciculated arrangement, or being variously interlaced and heaped together. They are exceedingly brittle and capable of being easily rubbed to powder. The section of the bone shews the boundary between the outer surface of the shaft, and the tumour distinct in all other parts, although the tumour is closely connected to the bone ; but at the back part of the shaft the laminæ of the compact wall of the bone have been separated, and the tumour

evidently arises between those laminæ at this part. The remainder of the compact wall of the bone presents a natural appearance. The medullary canal is healthy throughout. No history.

236. Osteoid Tumour of the Femur. The tumour is of an oblong rounded form about five inches in length. Commencing immediately above the articular surface of the inner condyle, it invests the greater part of the entire circumference of the lower fourth of the shaft; its surface is even and slightly lobulated. It is of a greyish-white colour, and moderately firm in texture. The tumour arises from the surface of the bone, the periosteum being expanded over it; part of its base is very firm from the development and growth of bone in its substance, which in some parts almost reaches the surface of the tumour. Portions of the tumour consist of club-shaped, oat-shaped, or spindle-shaped, nuclei, of large size, imbedded in a granular basis of homogeneous texture. Other portions consist of wavy fibres of fibrous tissue, with elongated spindle-shaped nuclei distinctly brought into view on the application of acetic acid. In others again the wavy condition of the fibres is very distinct, but no nuclei can be traced in them. The compact wall of the femur, and the cancellous tissue, are very much condensed. The outer surface of the femur above the growth, and also in that part where it is not covered by the disease, is encased by a thick layer of newly-formed bone. This preparation was taken from the body of a boy, who was a patient in this Hospital many years ago. The limb was amputated. The patient died subsequently of inflammation of the veins before the stump healed.

237. Osteoid Cancer of the Tibia. The patient from whom this preparation was taken William W., aged 14, was admitted into the Hospital in September, 1831, on account of a tumour of the right knee, extending from about two inches below the tubercle of the tibia upwards over the inner condyle of the femur as high as the lower fourth of that bone and backwards, so as to occupy the ham. The boundaries of the tumour were distinctly defined. It seem to have had its origin in the head of the tibia; and the tendons of the inner hamstring were seen stretched over its surface at the upper part, and apparently terminating in it below. The knee-joint measured eighteen inches in circumference, the skin was tense and shining, and large tortuous veins were seen ramifying over its surface. Some portions of the tumour were hard, while others were yielding and elastic. The joint admitted of some degree of motion, but was kept in the half-bent position. The tibia appeared to be the only bone implicated in the disease. In every other respect, the patient was in good health. He stated, that in April he first ex-

perienced a slight degree of pain in the head of the tibia, especially in walking. About six weeks afterwards, he observed a slight enlargement of the bone which gradually increased. On the 29th of September the limb was amputated. On examining the limb, the tumour was found to be wholly confined to the head and uppermost part of the shaft of the tibia, from the surface of which the morbid growth took its origin. The tumour appeared to have been originally developed as a fibro-granular structure, which had small masses of cartilage deposited in it at various parts, but almost the whole of the root of the tumour was formed of solid bone. The upper and inner parts of the tumour were composed partly of cysts containing a bloody fluid, and partly of a soft medullary substance. In other parts there was a mass of bony and cartilaginous substance disposed in fibres, which seemed to proceed from what had been the surface of the bone, and presented a radiated appearance. The other bones, the cartilages and the soft parts composing the joint, were in a natural state. The patient died some months subsequently of "fungus hæmatodes" of the lungs.

238. Epithelial Cancer of the Skin, extending inwards to the substance of the Tibia. The skin is seen to present a large and uneven ulcerated space which is continued downwards into a cavity hollowed out in the shaft of the bone. The cavity is of large size, irregular in form, and lined by a thick layer of firm substance, which is continuous with the surface of the ulcer on the skin. The surface of the shaft of the bone in the situation of the diseased skin, is much thickened by the deposition of new bone. The walls also and the cancellous tissue of the shaft of the bone above and below the diseased part are much condensed, the medullary canal being obliterated. The ulcer on the surface, the firm lining of the cavity in the shaft of the bone, and the soft matter infiltrated in the cancelli above that part, consist entirely of scaly epithelium, the individual scales being closely packed together by a finely granular substance. The patient from whom the preparation was taken, Richard W., aged 54, had, two years previous to the removal of the limb, received a sharp blow on the tibia, from which he afterwards suffered constant pain in the part. Six months after he had received the blow, a tumour, about the size of a marble, made its appearance in the spot; the skin was not discoloured, and the tumour was moveable, but ulceration of the skin subsequently took place, and a tumour sprouted out which increased very rapidly. The tumour was removed three times by the knife, and a fourth time caustic was applied to it, after which it came away with a thin scale of bone: the parts then nearly healed, but the disease

recurred and caused the patient so much pain, that he could not rest at night. As the disease seemed to have spread to the bone, the limb was amputated, and the patient was discharged some little time after the operation.

239. Section of the Shaft of the Tibia. The cancellous texture of the bone is infiltrated with a firm deposit which consisted entirely of laminated epithelium, the individual scales being closely compacted together by a fine granular deposit. This disease was an extension inwards of a large ulcer on the surface of the skin. The section was made just below the upper two-fifths of the bone, and shews at its posterior part a thin layer of compact tissue not yet changed in structure. The osseous structure of the upper two-fifths of the bone was almost entirely absorbed, and its place supplied by a deposit precisely similar to that presented in the section, with a few spicula of bone contained in it. About three inches below the upper edge of the ulcer, so much of the bone was destroyed, as to leave only half an inch in thickness, at which part the limb was flexible and perfectly soft ; the lower two-fifths of the bone were apparently healthy ; the knee joint was not affected, though the whole head of the tibia seemed to be diseased. This preparation was taken from the body of William W., aged 30, who was admitted into this Hospital on February 24th, 1841, with ulceration of the skin of the leg and knee. The ulcer was very painful, very vascular, and with much warty growth, occupying eight inches by five of the leg and knee, there being a deep cavity in the centre leading into the tibia where the limb was flexible. Twenty years previously his leg had been caught in some machinery, and some pieces of bone afterwards came away. The part remained perfectly well until ten months before his admission, when the skin ulcerated over the patella. He used the limb, however, until six months before he was admitted into the Hospital. The thigh was amputated on the 10th of April, 1841, and the patient recovered.

240. Section of a Thigh-bone affected with Cancerous disease, removed by amputation at the Hip Joint. The patient, Alexander N., aged 17, was admitted into the Hospital, on June 27th, 1855, on account of a tumour near the knee. The swelling had commenced about Christmas of the previous year, in the form of a small lump like a pigeon's egg at the inner part of the joint. It was then hard, but as it grew it became softer in consistence. For about a month before his admission the swelling had been growing with great rapidity, and he had been complaining of much pain from the tension of the parts around it. On admission there was a swelling, of great size, partly solid, but covered by a very large cyst containing

fluid, on the front of the thigh. The skin was tense and shining, and was so thin in some parts as to be in danger of giving way. The parts around were thickened from œdema. The swelling appeared to extend all round the limb, and was of a globular shape. He was much reduced in strength and flesh, but appeared free from any other disease. Amputation was performed on July 4th, by the double-flap operation. He lost very little blood; much of the wound healed by the first intention, and he was discharged on August 1st, apparently quite well. The disease recurred, however, in the lungs, and he died about half a year after his discharge. The disease in the lungs is shown in a subsequent Series. On examination of the thigh, the disease was found to be a combination of medullary, hæmatoid, and osteoid cancer. The large cyst which is seen in the preparation, and which lay on the front and inner side of the thigh, contained about three pints of dark grumous blood, mixed with sanious fluid. A second cyst, containing about half a pint of similar fluid, was found at the back part and outer side of the bone. The upper third of the femur is unaffected. In the middle third malignant deposit was found, on microscopical examination, infiltrated between the bone and periosteum; the compact tissue was found to be much thickened, and the superficial lamellæ, both in front and behind, were partly separated from the shaft of the bone by a deposit of medullary cancer, mixed with delicate spicula of bone. This deposit increased in extent as it proceeded downwards, and the thickening of the compact tissue at the lower third had proceeded to such an extent as to obliterate the medullary canal. The new growth is seen to surround the lower end of the bone, and to form the floor of the large cyst in front of the thigh; it consists, partly of bone, partly of soft malignant matter. The bony growth is an inch thick at the broadest part, and covers the lower third of the posterior surface of the shaft. On the outer side of the shaft near the centre, were several irregular laminated masses of bone, formed between the layers of the periosteum, and not adherent to the bone itself.

241. A large Cyst formed by the expansion of the lower end of the Radius ('spina ventosa,' of the old authors). Nothing is known of the history of this preparation; and, as the bone had been macerated before it was sent to the Museum, it is impossible to be sure of the nature of the tumour which probably produced the expansion of the bone; but it is conjectured that this expansion was the result of the growth of a cancerous tumour in the centre of the bone.

242. The Tibia of a Patient who died in the Hospital of debility following a severe attack of Rheumatic Fever. The periosteum

covering the bone is considerably thickened, and in the interspaces between where the bristles are placed, the bone itself is enlarged, and bony projections may be felt in various parts. *Presented by* Sir BENJAMIN BRODIE, Bart.

243. The Opposite Tibia, from the same patient as the preceding, injected. The periosteum is seen to be very vascular, condensed and thickened. At the lower part a circular plate of new-formed bone is seen. The section shows considerable thickening of the compact and also of the cancellous tissue, corresponding externally to the inflamed part. *Presented by* Sir BENJAMIN BRODIE, Bart.

244. Cancer of the Periosteum covering the Tibia. The tumour presents a mixture of the hæmatoid and medullary varieties of cancer. The lighter part of the tumour consists of an aggregation of circular or oval-shaped nuclei, each containing numerous fine granules, or one or two dark refractive granules. The darker portion of the tumour consists of the same elements mixed with numerous blood-globules. The chief deposit exists between the periosteum and the bone, the surface of which has been slightly destroyed, and the cancellous tissue and medullary canal, corresponding to the situation of the tumour, are infiltrated to a slight extent with a similar deposit. The preparation, which has been injected, was taken from Ann L., aged 21, who was a patient in this Hospital. The disease had existed about twelve months, and was thought to have originated in the cancellous tissue of the bone, as the tumour presented several soft parts, surrounded by hard abrupt edges, which appeared to be formed by an expansion of the bone. The thigh was amputated, and the patient recovered from the operation.

245. Opposite Section of the same. *Presented by* CÆSAR HAWKINS, Esq.

246. Cancer of the Periosteum of the Jaw. The patient, Samuel B., aged 61, was admitted Nov. 2, 1842, with a large softish tumour occupying the right sub-maxillary region, reaching downwards by the side of the larynx, and extending into the cavity of the mouth, where it presented a foul fungous growth, as if from the alveoli, extending very far back, and involving the whole of that side of the tongue, and the right arches of the palate. Externally there was an opening, through which the probe entered the soft structures of the tumour, but no exposed bone was felt. The disease began three months before as an external tumour, and got much larger for a month, when the mouth became affected, since which time it had not much increased; there was much hæmorrhage at times from the puncture. There was much sloughing after his admission, and erysipelas, and on the 29th sudden hæmorrhage took place, and returned,

the opening was made three weeks before with a lancet, and after a short interval, and he died the same day. The bleeding was from a prominent point of the tumour, supplied by the lingual artery, the tumour surrounded the lower jaw, but did not affect the bone, and it was doubtful whether it originated in the periosteum, or some soft structure. *Presented by* CÆSAR HAWKINS, ESQ.

247. The Skull of a Fœtus, expanded probably from hydrocephalus; the frontal bone is not formed. No history.

248. A portion of the left side of the Frontal, Parietal, and a small portion of the Occipital Bones; the thickness of the bones is less than natural, but their size is increased; the sutures are not obliterated. This is most probably the result of hydrocephalus. No history.

249. A portion of the Occipital Bone, taken from a Child 2½ years of age. On its inner surface is seen a depression, the lower part of which is very shallow, and corresponds to the torcular Herophili, whilst the upper part is very deep, with abrupt margins. The whole depression is rather more than an inch long, and has quite a vertical direction, so that the lower part of the groove for the superior longitudinal sinus has been deflected considerably to the left side of the median line. The bone forming the hollow is remarkably thin, and at the upper part is seen a foramen, which opens on the external surface of the skull, having an oblique direction upwards. This cavity contained a cyst, which was formed between the layers of the dura mater. The cyst is shown by a preparation in a subsequent Series.

250. A Soft Tumour, springing from the inner surface of the os calcis, and surrounding the posterior tibial artery, which has been laid open by ulceration during life, and gave rise to so much hæmorrhage that amputation became necessary. The patient, a young woman, was admitted into the Hospital on account of pain in the ankle joint, which was at first attended by no swelling or other morbid appearance, and was suspected to be hysterical. Soon, however, a soft swelling made its apperance, accompanied by redness and pain, and a sense of fluctuation. It was punctured, and pus was let out. A few days afterwards hæmorrhage took place from the puncture, and recurred from time to time. The incision having been enlarged in order to search for the bleeding vessel, the posterior tibial artery was found open, and the finger passed into a mass of soft tissue. The foot was amputated, and the patient recovered. The tumour is about the size of a walnut, attached to the bone by a broad base, and consists of a mass of nuclear bodies with a small quantity of fibrous tissue intermixed.

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SERIES III.

DISEASES OF JOINTS.

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* In order to facilitate the study of the subject, references have been added to those preparations in Series II. which show Diseases of the Joints. The preparations of Diseases of the Spine (Series V.) should also be consulted.

† The term Ulceration of Cartilage has been retained, in conformity with the nomenclature in use when this collection was made, although, in the majority of preparations referred to, the condition of the cartilage is subordinate in importance to that of the synovial membrane and of the bones.

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1. Effusion of Lymph on the internal surface of the Synovial Membrane of the Knee Joint, with ulceration of the cartilages No history. *Presented by* Sir Benjamin Brodie, Bart.
2. A preparation showing the synovial membrane of the knee, much thickened, and a deposit of lymph on the whole of its free surface. The cartilages are, in one or two places, slightly absorbed, probably from chronic inflammation. No history.
3. Thickening of the Synovial Membrane around the Patella, with deposition of a thick layer of lymph on its free surface. The patient, George A., had for some time suffered from chronic inflammation of the joint; he was admitted on the 8th of June, 1840, suffering from inflammation of the synovial membrane of the right knee joint. He stated, that his knee had been affected for the previous eighteen months, and that, during the whole of that time, it had been more or less swollen. He attributed the disease to rheumatism, as he had had pain in the other joint. Cupping and blistering were resorted to, and with some relief; he afterwards took colchicum, sarsaparilla, and hydriodate of potash, and iodine was applied to

the knee; the pain was relieved by these remedies; but the size of the joint was not much reduced. He died of hæmoptysis, on September 23rd. On post mortem examination, the tissue of both lungs was found covered with spots of effused blood varying from the size of a pea to that of a hazel nut; the intermediate tissue was perfectly healthy; no other morbid appearances could be detected in these organs. The other viscera were healthy. The cartilages of the joint were healthy. The joint contained a thin sero-purulent fluid.

4. The head of the Humerus. The synovial membrane of the shoulder joint is ulcerated near the cervix of the bone, and the neighbouring cartilage slightly eroded. There was nearly an ounce of pus in the joint. The patient died of symptomatic fever. *Presented by* SIR BENJAMIN BRODIE, Bart.

5. Vertical Section of the Femur, part of the Tibia and the Patella. The joint has been laid open in front. The synovial membrane presents a marked alteration in structure, being greatly thickened from the deposition of new substance on its attached surface. The altered synovial membrane is of a whitish colour, and protrudes into the joint, and over the margins of the cartilages, in the form of irregular-shaped, flattened or lobulated masses. This growth it would appear, is also seen to be developed on the marginal parts of the cartilages of the femur and patella. The new deposit consists of a granular blastema with nuclei and nucleated cells. The limb was amputated in the Hospital, but no further history exists. *Presented by* CÆSAR HAWKINS, Esq.

6. A slice cut out of the Synovial Membrane of a Knee-joint, in which an alteration of structure existed similar to that described in the previous specimen. *Presented by* Sir BENJAMIN BRODIE, Bart.

7. A slice from the Synovial Membrane of the Knee, presenting a similar morbid change of structure. *Presented by* Sir BENJAMIN BRODIE, Bart.

8. A portion of the Structures entering into the formation of the Knee Joint, consisting of a Patella, with the front part of the fibrous capsule of the joint, and of the synovial membrane, and also two portions of a morbid cellular growth, which were connected with the condyles of the femur. The specimen shows thickening of the synovial membrane, the surfaces of which were in parts adherent. The morbid growths before alluded to were osseous in their central parts, and of a soft fibrous nature externally, the direction of the fibres being perpendicular to the periosteum. Some portions of the soft part were an inch in thickness, especially in the hollow behind the condyles, the surrounding areolar tissue being changed into this morbid structure, although the synovial mem-

brane in contact with it was apparently unaltered. The interior of the condyles of the femur was harder and thicker than natural, and some irregular portions of bone projected into the periosteum from the surface of the condyles. Under the microscope, the morbid growth was found to be granular, with numerous nuclei interspersed, as well as fibres and oil-globules. The person from whom the specimen was taken, Thomas M., aged 23, was admitted into the Hospital, April 5th, 1848, suffering from the effects of a sprain experienced five months previously. The pain was so great, accompanied by swelling, that amputation was resorted to. Subsequently some disease along with intense pain of the stump came on, and he died, worn out by irritation, in the country, about March, 1849.

9. Part of the Synovial Membrane of the Knee, together with one Condyle of the Femur, and the Patella. To the internal surface of the synovial membrane are attached numerous excrescences, resembling somewhat the appendices epiploicæ. These excrescences present an endless variety of form and size; some being thin and filiform in shape, others having a narrow peduncle with a thickened and rounded free extremity. They are all of a yellowish white colour, and would appear to contain much fatty tissue. The history of the case is unknown. The preparation was purchased by Mr. BRODIE at the sale of Mr. HEAVISIDE'S Museum. *Presented by* Sir BENJAMIN BRODIE, Bart.

10. Ulceration of the Cartilage of the Patella and Condyles of the Femur. From the inner surface of the synovial membrane numerous pedunculated excrescences, of variable form and size, are seen extending. This preparation was removed by operation from a man about 20 years of age.

11. The right Knee-joint, from a patient who was admitted into the Hospital for some affection of the chest, from which she had suffered for many years. She lived only a week or ten days after her admission. She did not complain of the disease of the knees, which was not discovered until after death. She had suffered severely from rheumatism, from a very early period of her life, and stated that she generally experienced pain and stiffness in the knees when walking. The synovial membrane is seen to be dilated. Attached to the inner surface of this membrane are a number of excrescences, of variable form and size. Similar excrescences, but of smaller size, are attached to the cartilage covering the femur and patella. Part of the cartilage covering the right condyle of the femur is absorbed, and, in its place, an ivory-like deposit is seen, covering the surface of the bone. The bone presents a groove in the antero-posterior direction, as though some foreign body had existed in the joint, and had

been ground against the condyle and patella in the movements of the joint. The cartilage covering the inner condyle is soft, and altered in structure, being at the same time corrugated on its surface. The patella is almost entirely deprived of its cartilage, and deeply grooved on its articular surface. The numerous bodies seen attached to the synovial membrane are in structure something like the appendices epiploicæ in the intestines. On dividing them they looked like condensed fat and cellular membrane. The joint contained a sero-purulent fluid.

12. The left Knee-joint, taken from the same patient as the preceding, This joint was affected with a similar disease to its fellow. The synovial membrane, however, is much more dilated, and was filled with pus. The destruction of cartilage is greater, and the excrescences more numerous and larger. The disease appears also to have encroached upon the surface of the cartilage covering the femur, and must have impeded very materially the motions of the joint. The enormous size of this joint led to an examination of its contents being made in the dissecting room.

13. A Specimen showing disease of the articular cartilage covering the external condyle of the humerus, the internal part of the head of the radius, and of the capsular ligament. There are also a number of tufty pendulous growths on the surface of the synovial membrane. These appearances exist, as may be seen, along with fracture into the cavity of the elbow joint. The olecranon process of the ulna is broken off transversely, and separated from the rest of the bone, the upper part of the shaft of which is splintered into more than one piece. The annular ligament of the joint is still entire. The elbow joint and the fore-arm were removed, owing to the fracture, which was the result of a blow received by a beam falling, during an explosion of the powder-mills at Hounslow. The disease of the joint was unsuspected before the accident, but during an examination of the injury, after the amputation, a "loose cartilage" dropped out, looking very much like a bicuspid tooth, from which the fangs had been removed. The so-called "loose cartilage" was supposed to have had its origin in an increased growth of one of the hair-like tufts connected with the synovial membrane. The man was in good general health, and speedily recovered from the amputation. The loose cartilage has unfortunately been lost. The case is reported in the *Lancet*, 1850, vol. i. p. 393.

14. The Right Knee Joint which has been laid open, showing the inner surface of the synovial membrane, from which are projecting numerous pendulous growths of variable form and size. These growths are limited to the synovial membrane,

and do not anywhere encroach upon the articular cartilage. On the fore part of the articular surface of the femur, a deep indentation may be seen in the cartilage, as if a portion had been chiselled out. In extension of the limb, this corresponds with a triangular-shaped pendulous growth developed immediately behind the patella. The left knee had been amputated for disease, caused by a gunshot wound which had been received many years before. Two years after the operation, he was admitted with disease around the right knee, which was swollen as with rheumatism, to which he was subject. There was also an abscess by the side of the knee : he was thin and feverish. Two or three days afterwards he became extremely ill, with typhoid symptoms arising from the abscess having made its way into the joint suddenly. The joint was opened, but he died in two days. The situation of the abscess can be distinguished at the side of the inner condyle. *Presented by* Cæsar Hawkins, Esq.

15. Patella, with the surrounding soft parts. Numerous long thin filiform processes are seen to be attached to the inner surface of the synovial membrane. They differ from those seen in the preceding specimens, in being of finer texture, and in containing much less fatty matter. *Presented by* Cæsar Hawkins, Esq.

16. A section of the Patella, and its Cartilage, showing that the latter is considerably thickened. This preparation was taken from a subject in the dissecting room in Windmill Street, who appeared to have laboured under inflammation of the tibia and fibula and their periosteum. *Presented by* Sir Benjamin Brodie, Bart.

17. A Portion of the Condyles of the Femur, from a boy (Frederick W.), aged 13. A portion of the cartilage covering the condyles of the femur presents its natural appearance, but in other places, on both condyles, the cartilage is wanting, and its place is supplied by a tough greyish organised substance, consisting of fine areolar tissue, having in its meshes many circular nuclei, granular cells and granules. This new growth is intimately connected with the bone beneath, which is somewhat softer than natural, and it would appear, from examination of other parts of the specimen, that the new growth, as it has advanced, has absorbed the under surface of the cartilage, and completely isolated it from the articular lamella. In the interval between the condyles in front, is a portion of cartilage of considerable size, almost completely detached ; being connected with the neighbouring cartilage on one side only by a narrow pedicle of cartilage. The surface of the bone corresponding to this partially detached piece, is covered with the deposit above mentioned, and the under surface of the detached cartilage is

mamillated as if from absorption. The patient was admitted December 19, 1832, with a large abscess of the left thigh, arising from necrosis, the result of a blow a month previously. He went on well until April, at which time new bone was forming, and he was moving about with crutches and a splint. He was now attacked by erysipelas of the limb, producing absorption of the cartilages and abscess in the knee joint, so that amputation of the limb was necessary. This operation was performed May 27th, the incisions extending across the abscess and the dead bone of the femur. Several inches of dead bone were drawn out six weeks afterwards, but some pieces remained, producing a large deposit of new bone in the stump, with abscesses for a long time afterwards. The femur is preserved in Series II. No. 82. *Presented by* CÆSAR HAWKINS, Esq.

18. Absorption of the Cartilage covering the articular surface of the head of the Tibia, following a blow on the knee produced by the explosion of a cannon which the patient was firing. He died three weeks afterwards. No further history.

19. The articular extremity of the femur from a boy who died in the hospital. The cartilage is entirely absorbed in some places, so that the bone is exposed. In other places, the cartilage is absorbed on the surface next the articular cavity, while that portion which adheres to the bone is entire. This case is referred to in Sir B. BRODIE'S work on the "Diseases of the Joints." ed. 1850. p. 163. *Presented by* Sir B. C. BRODIE, Bart.

20. The head of the Femur, the cartilage of which is, in some places converted into a fibrous structure. *Presented by* Sir BENJAMIN BRODIE, Bart.

21. Two Patellæ. The cartilage covering the upper one is converted into a kind of fibrous structure; the cartilage covering the lower one is ulcerated and the bone exposed. *Presented by* Sir BENJAMIN BRODIE, Bart.

22. The Cartilage covering the Patella, showing fibrous degeneration of a large part of its extent. *Presented by* Sir BENJAMIN BRODIE, Bart.

23. Section of the Condyles of the right Femur. The cartilage covering the internal condyle is quite soft and pulpy, and presents a fibrous appearance, the fibrillæ being in many places distinctly separated from each other, and connected by one of their extremities only to the neighbouring parts. The cartilage covering the groove between the two condyles, presents two patches, which, at the time of the post mortem examination, were remarkably soft and pulpy, looking something like vesicles or blebs; the surface of the cartilage not being in any way broken. These patches are most probably the commencement of the dis-

ease which is seen on the cartilage of the internal condyle. The cartilage at the margins of both condyles is exceedingly thin, having been absorbed. The corresponding condyles of the tibia, and the patella, presented, on the surface of their cartilages, appearances similar to those observed on the cartilages of the femur. There was no matter about the joint, and the synovial membrane did not present any evident signs of primary disease. The patient, aged 43, died of phthisis, with scrofulous deposits in the muscles and areolar tissue around the hip, the cartilages of which were destroyed. *Post Mortem and Case Book*, 1844, p. 37.

24. Ulceration of the Cartilage covering the Patella. Taken from a patient who died in the Hospital. *Presented by* Sir BENJAMIN BRODIE, Bart.

25. Ulceration of the Cartilage and Bone of the Patella. From Mr. HEAVISIDE'S Museum. *Presented by* Sir BENJAMIN BRODIE, Bart.

26. Hip Joint laid open. The cartilage covering the bottom of the acetabulum is ulcerated. The cartilage on the head of the femur presents a fibrous appearance. This case is referred to by Sir B. BRODIE on the "Diseases of the Joints." ed. 1850. p. 176. *Presented by* Sir BENJAMIN BRODIE, Bart.

27. The opposite Hip Joint, from the same patient as the preceding. An injected preparation. The cartilage covering the head of the femur is very extensively ulcerated, as is that of the acetabulum. The bone is exposed and a portion which is dead and nearly separated may be seen at the bottom of the cavity. *Presented by* Sir BENJAMIN BRODIE, Bart.

28. Preparation, showing the Cartilage covering the head of the Femur destroyed by Ulceration, and the bone exposed. Much new bone was thrown out in the neighbourhood of the joint. *Presented by* Sir BENJAMIN BRODIE, Bart.

29. A Knee Joint, showing the cartilages destroyed in many places, and the synovial membrane thickened from chronic disease. No history. *Presented by* Sir BENJAMIN BRODIE, Bart.

30. Ulceration of the Cartilages of the Knee Joint. Taken from a patient who died in Saint Andrew's Workhouse, Holborn. *Presented by* Mr. FERNANDEZ.

31. Extensive Ulceration of the Cartilages of the Knee Joint, from a patient whose thigh was amputated in the Hospital.

32. Extensive Ulceration of the Cartilages of the Knee. The thigh was amputated in the Hospital. A section has been made of the end of the femur, to show that it is of its natural consistence and structure. *Presented by* Sir BENJAMIN BRODIE, Bart.

33. A Knee Joint, amputated at the Hospital. The cartilages are extensively ulcerated, the synovial membrane much inflamed, and

the joint itself filled with lymph. The bands of lymph connecting the articular surfaces form the commencement of soft ankylosis. They are injected, in order to show their vascularity.

34. Extensive Ulceration of the Cartilages of the Knee Joint. No history.

35. The Acetabulum (macerated) from the body of a patient, William W., aged 33, who died with abscess of the hip joint, after erysipelas of the limb. The cartilages were much ulcerated. The bone is almost natural in appearance ; here and there it appears somewhat vascular, and portions of its surface have a polished appearance. *Presented by* CÆSAR HAWKINS, Esq.

36. Ulceration of the Cartilages of the Knee Joint, with partial destruction of the articular lamella covering the lower ends of the femur, tibia, and patella ; the result of abscess around the joint, which probably originated in acute inflammation of the periosteum of the femur. *Presented by* CÆSAR HAWKINS, Esq.

37. Ulceration of the Cartilages of the Knee Joint, with destruction of the articular bony lamella covering the patella and head of the tibia. The articular surface of the femur is covered with a layer of lymph ; the cartilage covering this bone was loose and detached as a slough. The patient was a boy aged 15. The disease had existed two years before the limb was amputated. The operation was followed by inflammation of the peritoneum, and of both lungs and pleuræ; and after death the three serous membranes were found full of pus. There was no apparent inflammation of the veins, and the stump was healthy. *Presented by* CÆSAR HAWKINS, Esq.

38. Ulceration of the Cartilages of the Knee Joint. There are two large openings through the skin which communicated with the joint. From a female, aged 30. The limb was amputated. *Presented by* CÆSAR HAWKINS, Esq.

39. Disease of the Hip Joint. There has been total destruction of the articular cartilages by ulceration, with partial absorption of the head of the femur. The cavity of the acetabulum is much widened, and a portion of dead bone is seen at its upper part. Much new bone has been thrown out in the neighbourhood of the disease. From the dissecting room. *Presented by* CÆSAR HAWKINS, Esq.

40. Ulceration of the Cartilages of the Hip, with partial destruction of the articular lamella covering the acetabulum. An exostosis is seen arising from the pectineal eminence. *Presented by* CÆSAR HAWKINS, Esq.

41. Disease of the Elbow Joint. There has been ulceration of the cartilages, and partial destruction of the articular lamella covering the humerus and great sigmoid cavity of the ulna, with caries of those bones. Much new bone has been deposited upon the

humerus from inflammation spreading up the bone. The limb was amputated, and the patient recovered. *Presented by* CÆSAR HAWKINS, Esq.

42. Disease of the Elbow Joint, originating in chronic disease of the cellular membrane of the arm, which commenced three years and a half before amputation ; the joint beginning to be diseased only about two months before the operation. The cartilages of all three bones were absorbed, and the probe passed through the ulna into the joint. Much new bone has been deposited on the bones in the neighbourhood of the joint. The patient, a man, aged 32, recovered from the operation. *Presented by* CÆSAR HAWKINS, Esq.

43. Ulceration of the Cartilages and disease of the bones of the Hip Joint. The patient stated that the disease was of ten weeks' standing. The greater part of the cartilage covering the acetabulum and head of the femur has been absorbed ; the bone is exposed and carious. Much new bone is thrown out in the neighbourhood of the disease. *Presented by* Sir BENJAMIN BRODIE, Bart.

44. Ulceration of the Cartilages of the Knee Joint. The disease occurred as a secondary affection, the tibia being inflamed. This preparation has been injected. *Presented by* Sir BENJAMIN BRODIE, Bart.

45. Extensive Ulceration of the Cartilages of the Knee Joint, and exfoliation of bone, in consequence of which amputation was performed. A section has been made through the femur, to show that it is of its natural structure and consistence, beyond the point where the exfoliation exists. *Presented by* Sir BENJAMIN BRODIE, Bart.

46. Knee Joint taken from a patient, Ann M., aged 27, who was in the Hospital, in April, 1827. The disease of the knee joint followed an attack of acute rheumatism. The cartilage of the patella is partially absorbed, exposing the bone which is unnaturally vascular; the cartilages of the femur and tibia are more or less ulcerated. The semilunar cartilages are in part destroyed, and the bone beneath them rough and dead. On the inner side towards the back part of the joint, the capsule is partially ulcerated, so that the cavity of the joint communicated with a small circumscribed abscess in the ham, which extended between the vastus externus and the femur, but did not denude the latter of its periosteum. The anterior crucial ligament is also destroyed. *Presented by* Sir BENJAMIN BRODIE, Bart.

47. Ulceration of the Cartilages of the Knee. This preparation was taken from the body of Sarah H., aged 22, who was admitted into the Hospital July 26, 1827, with considerable enlargement about the knee joint, and exquisite pain occasioned by the slightest

pressure. She was suffering also at this time with symptomatic fever. The history of the case was as follows:—The pain and swelling had appeared suddenly the day before, without any injury. There had been no previous shivering. She had not been particularly exposed to cold or wet, but for the last month or more had been subject to attacks of rheumatism in the elbows and shoulders, and was leading a life of prostitution. She had taken mercury, but not for some time previous to the present attack. On the 28th of July, after leeches, etc., had been applied, she took calomel and opium, with much relief. She continued in the Hospital without much decided change, until October. On the 16th of this month, at midnight, she had a rigor of nearly an hour's duration, followed by profuse perspiration. Purging and vomiting came on, the matter vomited being of a dark olive green colour. Several rigors followed. On the 17th, the extremities became cold, and she died in the evening. On cutting into the knee joint, no pus was found in it, and the knee itself seemed much reduced in size. The cartilages, however, of the condyles of the femur (particularly the inner one), of the head of the tibia, and of the patella, were extensively ulcerated, and blood was effused into the joint. The periosteum covering the femur came off more easily than natural, and the bone itself appeared more vascular than usual. The other hip and shoulder were wholly unaffected. The stomach was loaded with a fluid similar to that which had been vomited just before death. The gall bladder was full of a very pale yellow bile, but no other morbid appearances were detected throughout the viscera. *Presented by* Sir BENJAMIN BRODIE, Bart.

48. A Diseased Knee Joint, amputated in the Hospital. The cartilage covering the head of the tibia is in a state of ulceration, and the bone carious. The inner surface of the synovial membrane is encrusted with lymph. From the history of the case, it appears that the disease had its origin in the head of the tibia, and that the affection of the joint was a secondary disease. *Presented by* Sir BENJAMIN BRODIE, Bart.

49. A Knee Joint laid open. The cartilages covering the different bones are destroyed, and the exposed bone is in many places coated with a thick layer of lymph. The soft parts covering the bones are somewhat thickened. No history.

50. Ulceration of the Cartilage covering the Condyles of the femur. The greater part of the articular cartilage has been destroyed: the cancellous structure of the bone is in many places exposed by the extensive destruction of the articular lamella. This preparation was taken from a man who was admitted into this Hospital with an extensive wound of the knee, produced by a scythe. The lips of the wound were brought together by strapping, and he appeared to be going on

well for a few days, but suppuration afterwards took place in the synovial cavity, in the ham, and under the vasti muscles. Extensive incisions were made, which relieved the symptoms very much; the wound of the knee healed by granulations, and the joint appeared quite quiet, when the patient was suddenly attacked with violent hæmorrhage, which was stopped by slight pressure upon the femoral artery; the hæmorrhage, however, recurred, and the patient died exhausted, a day or two after the first appearance of bleeding, and seven weeks after the accident. *Post Mortem and Case Book*, 1843, p. 152.

51. Section of a Knee Joint which for four years had been affected with disease of the synovial membrane, and extensive ulceration of the cartilages. The parts have been injected with size and vermilion. In several places, but especially upon the surface of the patella, may be seen well marked granulations, most beautifully injected, the vessels proceeding from the bone towards the cavity of the joint. The substance in which these granulations were formed, has been in some places removed, to show the extraordinary degree of vascularity which exists underneath it. The patient died of secondary deposits.

52 Section of the femur, from the same knee as the preceding preparation.

53. Ulceration of the Cartilages of the Hip Joint, and partial absorption of the bones. The patient, Ellen D., aged 18, was admitted into the Hospital on the 2nd of September, 1837, complaining of great pain in the hip joint, which came on about eighteen months previously, and had been gradually increasing ever since. On admission, she could not move the limb without acute pain; pressure upon the joint likewise caused very great pain. There was no perceptible swelling about the parts. The limb used frequently to start during sleep. The patient was very much reduced and of a very sickly appearance. She had been treated with leeches, blisters, etc., but had not been confined to her bed. A caustic issue was ordered to be placed behind the great trochanter, but this did not relieve the pain, and the disease gradually gained ground. As the knee and the thigh were inclining inwards, and a slough was making its appearance over the sacrum she was placed upon Earle's bedstead. Nausea, vomiting, and purging came on in a few days, and notwithstanding all possible care, the slough over the sacrum extended. She died on the 30th of September. The capsular ligament and synovial membrane were very much thickened, the head of the femur was partially dislocated, its neck resting upon the anterior margin of the cotyloid cavity, and the great trochanter being directed forwards. The cartilages of the acetabulum and of the head of the femur had been partially destroyed by ulceration, and the remaining part of the cartilages

was very thin and loosely connected with the bones. The cavity of the acetabulum was deeper than natural, as if the cotyloid ligament had been destroyed at its posterior and upper margins. The round ligament had entirely disappeared. The head of the femur was partially absorbed, and a groove ran along its upper part. The groove was formed by this bone pressing upon the posterior margin of the acetabulum. The bottom of the cotyloid cavity was also partially absorbed and very thin. Some bristles are passed through this part of the bone into a small abscess, which was situated under the periosteum of the corresponding part of the pelvis. The bones were not softer than natural. Several ulcerated openings existed in the capsular ligament.

54. Section of the lower end of the femur, the cartilages of which are affected with extensive ulceration. In this preparation, a very thick layer of vascular false membrane is dissected off from the surface of the cartilage in one place, and in another place a similar membrane was found between the bone and the cartilage, which was thus partly loose in the joint ; this portion of the cartilage has been lifted up to show the membrane underneath. In several places, the cartilage still in connection with the bone is pierced by foramina, one of which is very large. The articular lamella of the bone is in some places destroyed, and the cancellous structure of the bone laid bare. From a patient whose limb was amputated for a scrofulous affection of the bones.

55. Disease of the Knee Joint, from a patient, Frederick M., aged 19, who died of phthisis. The preparation shows much thickening of the synovial membrane, with a large quantity of lymph effused upon its surface. The cartilages of the femur and patella are in a state of incipient ulceration. The symptoms of synovitis had existed for fourteen months.

56. Ulceration of the Cartilages of the Hip Joint. The head of the femur is seen resting on the edge of the acetabulum, half dislocated, and the cartilage covering the head of the bone is partly detached. Lymph is effused in the acetabulum, the edge of which is partially absorbed. The disease had existed only six months when the patient died of consumption. Issues aggravated the symptoms. From the body of Jane F., aged 14 September 1, 1830.

57. Bones of the Elbow Joint, extensively diseased. The articular surfaces are in many places carious. The bones in the neighbourhood of the joint, especially the ulna, are covered by a deposit of newly-formed bone. The limb was amputated, and the patient recovered. *Presented by* CÆSAR HAWKINS, Esq.

58. A Knee-joint, from the body of a young woman who had been a patient in the Hospital. She had been admitted, a year before her death, on account of inflammation of the synovial mem-

brane, of which disease, however, she recovered, but subsequently died of disease of the lungs. The articular cartilages seem to have been destroyed in many places, and their deficiencies supplied by a ligamentous substance. *Presented by* Sir BENJAMIN BRODIE, Bart.

59. Disease of the Hip-joint, from the body of Mary P., aged 16, who was admitted into the Hospital, in 1829, with symptoms which seemed to indicate disease of the vertebræ, and also disease of the hip-joint; but the symptoms of the former were more equivocal than those of the latter affection. She died; and, on examination, there was found caries of the spine and abscess. In the preparation, the cartilage covering the head of the femur is partially destroyed by ulceration; but it appears as though the disease had been arrested in its progress by the treatment employed, and that cicatrization had taken place. There was no abscess in the joint. *Presented by* Sir BENJAMIN BRODIE, Bart.

60. Caries of the Elbow-joint, from John R., aged 24. Resection of this joint was performed in December, 1838. The disease had existed four years, and the patient referred it to a horse falling upon his arm at that time. He never would consent to the amputation of the arm. He did very well, and left the Hospital, having free motion of his fingers, but very little power over the fore-arm. After having had an instrument made, to keep the bones in pretty good apposition, he had very good use of the limb, could carry a bucket of water, and lead a horse. Some years after the operation he came to the Hospital, and expressed himself as very well satisfied with the operation.

61. Bones of the Shoulder-joint, extensively affected with Caries, which has, for the greater part, destroyed the head of the humerus. Some portions of dead bone were found in the large cavity in the front part of the head of the humerus. Large quantities of new bone have been deposited in the neighbourhood of the disease. The patient, a man, aged 38, died of hæmorrhage, the result of ulceration spreading to the posterior circumflex artery. *Post Mortem and Case Book.* 1845. p. 269.

62. Bones of the Shoulder-joint, extensively affected with Caries, which has destroyed a great part of the articulating surfaces of both bones. The remaining portions of the articular lamellæ of the bones have, in some places, assumed an ivory appearance. Large quantities of new bone have been deposited in the neighbourhood of the disease, and especially upon the scapula, where the deposit has also taken place upon the greater part of the bone, covering both the anterior and the posterior surfaces. The articular cartilages of both bones were extensively destroyed, and several extensive sinuses led from the joint into

the neighbouring parts, through which the matter had made its way. The scapula was extensively deprived of its periosteum in the supraspinous and subscapular fossæ. The patient, William W., aged 31, died of phthisis, symptoms of which had existed some time; but the disease of the shoulder made its appearance four years before the patient's death, and had come on after an attack of rheumatism, which had affected several joints at the same time. *Post Mortem and Case Book.* 1844. p. 61.

63. Scrofulous ulceration of the structures entering into the formation of the right sterno-clavicular articulation. The preparation consists of the upper part of the sternum, and the contiguous extremities of the clavicle and the first rib, with the adjacent apex of the lung. The ligamentous structures connecting the bones in front have been destroyed, as well as the interarticular fibro-cartilage, and the opposed surfaces of the bones are in a state of disorganisation; the sternal extremity of the first costal cartilage being partly destroyed and rounded off. The soft parts which remain about the joint are greatly thickened, and the apex of the lung is covered by thickened pleura, and contains a vomica with irregular walls. Extensive union between the contiguous surfaces of the pleura in this part has taken place. The preparation was taken from the body of Sarah F., who died January 22nd, 1851. Before dissection, this affection of the articulation was partially visible through an ulcer over it, about the size of half-a-crown. A preparation in a subsequent series shows scrofulous deposit in the uterus. *Post Mortem and Case Book.* 1851. p. 14.

64. Caries of the Bones of the Hip-joint. The head of the femur is very extensively destroyed by caries, and so also is the portion of the acetabulum formed by the ilium and pubes. Much new bone has been thrown out in the neighbourhood of the disease. From the body of a child in the Dissecting-room. *Presented by* CÆSAR HAWKINS, Esq.

65. Caries of the Head and Neck of the Femur, exposing the cancellous tissue. There is much bony deposit near the trochanters, and on the shaft of the bone.

66. Caries of the Acetabulum. The articular lamella has been entirely destroyed, and the cancellous tissue exposed. A few small openings are seen at the bottom of the cavity leading into the pelvis. Much new bone has been thrown out in the neighbourhood of the joint, the result of chronic inflammation of the neighbouring parts.

67. Absorption of the Head of the Femur, from Disease of the Hip-joint. The neck, at the part corresponding to its junction with the head, presents a broad and somewhat smooth surface, as if it had formed an articulation. The surrounding bone

is perforated by numerous foramina, and the surface covered with new bone. No history.

68. Disease of the Head of the Thigh-bone. Two small cavities are seen on the surface of the head, leading into the cancellous tissue. New bone has been thrown out, in irregular-shaped nodules, on the articular surface, and at the junction of the head with the neck of the bone. No history.

69. Disease of the Head of the Thigh-bone. The cancelli are exposed, and absorption has taken place to some extent. No history.

70. Diseased Knee-joint, amputated in the Hospital, January, 1826. The condyles of the femur have been sawn away from the shaft of the bone. The cartilage is partially destroyed by ulceration. In the outer condyle is a cavity which contained a portion of dead and loose bone. There is also a cavity containing a portion of dead bone in the head of the tibia. The head of the fibula also contained a portion of exfoliated bone, but this is not preserved in the preparation. There was an abscess of the joint, which probably arose as a secondary affection, dependant on the condition of the bone, though the connection between the exfoliated bone and the joint could not be discovered. The patient stated, that he was a labourer, and received a violent blow on the knee, which confined him to his bed for six weeks, but he was able to walk, and go about his usual employment, till six weeks before admission, when the symptoms became violent, in consequence of a second injury. *Presented by* Sir BENJAMIN BRODIE, Bart.

71. Knee-joint. All the bones are greatly altered in form, but more especially the lower end of the femur. The condyles have their articular facets limited to their lower parts, and each is little larger than a shilling piece; the remaining part of the condyles is thickened, and presents an uneven nodulated surface. In the interval between the condyles in front is a small cavity, containing a portion of necrosed bone; and between the condyles, behind, a similar but somewhat larger cavity, also containing a piece of dead bone. The articular surfaces of the upper end of the tibia conform to those already described on the femur. The articular surfaces of the patella are also altered in form. From John J., aged 24. The disease was produced by a fall, twelve years before admission, which only occasionally laid him up, till thirteen weeks before, when an abscess formed in the ham, containing two quarts of matter, and another in front containing a pint, which were open on his admission. Dead bone could be felt in one of the abscesses, the probe entering the joint. Gangrene attacked the orifice a few days afterwards, on the subsidence of which the limb was amputated, and he recovered. *Presented by* CÆSAR HAWKINS, Esq.

72. Part of a Tibia. The lower end of this bone is enlarged, and in it is a large cavity, containing a portion of necrosed bone, which extends into the ankle-joint; the articular lamella, with the exception of the necrosed portion, has been absorbed, and the cancellous structure laid bare. New bone has been deposited on the tibia, in the neighbourhood of the disease.
73. The external malleolus separated by necrosis from the ankle-joint of a boy, without any injury to the joint, the motions of which remained good.
74. Necrosis of the articular surface of the patella, in connection with disease of the knee-joint; the portion of dead bone is in process of separation.
75. Exfoliation from the Patella.
76. A specimen, showing extensive Necrosis of the Shaft and Epiphysis of the Tibia. The articular lamella is in great part removed, and the whole of the epiphysis seems to have perished. The shaft is in a similar condition; large portions of the outer layer of the bone have been removed, and the remainder appears to have perished. A copious deposit of new spongy bone may be seen in some parts. The disease of the knee-joint and tibia was of less than two months' standing. A preparation of necrosis of the clavicle, from the same patient, is preserved as Series II. 95. q:v:
77. Section of the Foot, from a young patient in the Hospital, whose leg was amputated June 26th, 1826. The bones are affected with scrofulous disease, and were so soft, that this section was made with a common scalpel. The cartilages between the os calcis and astragalus are in a state of ulceration; and there are abscesses opening externally, and communicating with the ankle-joint. *Presented by* Sir B. C. BRODIE, Bart.
78. The section corresponding to the preceding.
79. Scrofulous Disease of the Bones of the Carpus, and ulceration of the cartilages of the wrist and carpal joints, for which amputation was performed in the Hospital in 1827. *Presented by* Sir BENJAMIN BRODIE, Bart.
80. Scrofulous Disease of the Elbow-joint, which was amputated in the Hospital in 1828. There are strong adhesions between the different surfaces of the joint, and there is a large portion of dead bone near the external condyle of the humerus. Bristles have been passed beneath this piece of bone, to show its separation from the living bone, which is almost complete. The adhesions are injected with size and vermilion, to show their vascularity. *Presented by* Sir BENJAMIN BRODIE, Bart.
81. Scrofulous Disease of the Bones of the Tarsus, with extensive ulceration of the cartilages of the ankle-joint, for which amputation was performed. *Presented by* Sir BENJAMIN BRODIE, Bart.

82. Scrofulous Disease of the Tibia and Tarsal Bones, which are so soft as to admit their being cut with a knife. The cartilages covering the astragalus and tibia are destroyed, with abscess extending into the ankle-joint. The limb was amputated in the Hospital in 1826. *Presented by* Sir B. C. BRODIE, Bart.

83. Scrofulous Disease of the Hip-joint. The cartilages of the head of the femur and acetabulum are completely destroyed, and the cavity of the joint was filled with pus and lymph. An opening exists at the bottom of the acetabulum, which communicated with an abscess in the pelvis. The patient died of phthisis.

84. Scrofulous Disease of the Bones forming the Ankle-joint, with abscess in the lower extremity of the tibia, and destruction of the cartilages between the tibia and astragalus. Several sinuses are seen externally, which communicated with the diseased structures, and through which bristles are passed.

85. Scrofulous Disease of the Bones of the Tarsus. The joints between these bones are, for the most part, obliterated.

86. Scrofulous Disease of the Hip-joint; with ulceration of the cartilages and abscesses. The patient, Margaret M'Q., aged 5, was admitted into the Hospital, on March 27th, 1839. At the time of her admission, she exhibited the usual symptoms of ulceration of the cartilages of the hip, and the parts surrounding the joint presented evident fluctuation. The limb was semi-flexed, and rested upon the opposite one. The disease had made its appearance about twelve months previously; it was not referred to any accident. The child was very intelligent, had light hair, blue eyes, and a fair complexion. Her mother died of phthisis. The abscess was opened, and she was ordered to take steel wine. For some time, she appeared to be doing well; but, in September, the hip became more painful, and the discharge very offensive; she also complained of great pain in the knee. The pain gradually increased, and deprived her of rest at night. She was very much reduced by the profuse discharge, and died on the 28th of November, 1839. The thigh-bone was found to be bent, at a very acute angle, upon the pelvis, the knee pointing in the direction of the navel. There were abscesses in the cellular tissue round the joint, but no pus in that cavity. The synovial membrane was very vascular, especially at the lower part of the joint. The cartilage of the head of the femur had been partially absorbed, but not sufficiently to expose the bony tissue in any part; in some places, the cartilage presented somewhat of a worm-eaten appearance. The cartilage of the lower and anterior part of the acetabulum had disappeared; except at the upper and posterior part, where some traces of it remained. The head of the femur was dislocated, and

rested on the posterior margin of the acetabulum; the lower and anterior part of that cavity was filled with thin membranous adhesions, which extended from the inner surface of the synovial membrane to the bone from whence the cartilage had been removed. The capsular ligament was slightly thickened, and dilated posteriorly, where the head of the femur was resting on the acetabulum. There were no remains of the round ligament. The parts of the bones entering into the formation of the joint were very soft and highly vascular; they were very easily cut with a knife.

87. Scrofulous Disease of the Knee-joint. This preparation has been injected. The cavity of the synovial membrane was distended by a large quantity of scrofulous matter; several pouches containing scrofulous matter were formed both in the synovial membrane, and on its external surface. The internal surface of these different cavities may still be seen lined by a thick layer of concrete pus. The cartilages are partly absorbed and partly covered by a false membrane, in which may be traced the ramifications of some small arteries. The femur is softer and more vascular than natural; in several places, scrofulous matter has been deposited in the cancellous structure. The parts external to the joint are thickened, and very vascular. The bones of the tarsus and of the ankle-joint were also extensively affected with scrofulous disease. The disease had existed two years; the patient attributed the commencement of it to rheumatism. The thigh was amputated; the patient died of pneumo-thorax, the result of vomicæ and tubercles. *Post Mortem and Case Book.* 1842. p. 88.

88. Scrofulous Disease of the Elbow-joint. The bones have become exceedingly light and spongy in texture; they are altered in form, and the articular lamella covering both is destroyed, exposing the cancellous tissue. In the neighbourhood of the joint-ends much bony matter has been deposited, both on the humerus and ulna, but especially on the former.

89. The Os Innominatum and Femur, taken from a patient in the Hospital, who died of phthisis, at the age of 82. He had suffered from disease of the hip-joint for some years, and dislocation of the femur from the acetabulum had been the consequence. The neck of the femur is seen resting upon the margin of the cotyloid cavity, the head and part of the neck having been absorbed. There are several openings in the acetabulum, one of very large size, leading into the pelvis; these communicated with the joint. The whole of these parts were filled up by a ligamentous structure, which allowed some motion to take place, and enabled the patient to make use of the limb. *Post Mortem and Case Book.* 1851. p. 128.

90. Partial Obliteration of the Acetabulum. The cavity is exceed-

ingly irregular, from the deposit of new bone in it, and much osseous matter has been deposited around its margins, especially above and in front. In the recent state, the cavity was filled up with ligamentous tissue. The hip-joint had been diseased, and the head of the femur was dislocated.

91. Right Os Innominatum, and upper part of the corresponding Femur. The parts of these bones that enter into the formation of the hip-joint are extensively affected with caries. The bottom of the acetabulum is completely destroyed; the articular lamella of the remaining part of this cavity is likewise destroyed, and the cancellous structure of the bone laid bare. The head of the femur has been extensively absorbed, and is separated from the shaft. New bone has been deposited in the neighbourhood of the disease. The bones belonged to a young subject. No history.

92. Specimen, showing Scrofulous Caries of the upper part of the Right Humerus, and corresponding articular surface of the Scapula. There is considerable loss of substance of both the opposed surfaces, and a highly porous state of the whole of the scapula. New bone has been thrown out at the upper part of the axillary border of the scapula, as well as in the subscapular fossa and at the root of the coracoid process. The articular surface of the humerus, and a large fragment of the cancellous tissue in immediate contact with it, lies partially loose in a large cavity at the upper end of the bone. The patient, a woman, aged 22, had suffered from abscesses about the joint for some time, and died in the Hospital, with severe head symptoms. A large scrofulous tumour was found involving the right optic thalamus and crus cerebri. There was also a slight amount of scrofulous deposit in the upper parts of the lungs. *Post Mortem and Case Book.* 1852. p. 60.

93. Extensive Caries of the head of the Femur and the Acetabulum. Nearly the whole of the head of the femur has been destroyed, excepting a small portion which is connected with the neck. This portion occupied the cavity in connection with the upper part of the acetabulum, formed by absorption of its upper wall. The floor of the acetabulum, in one part, is cribriform, and almost entirely absorbed. The upper margin of the cavity presents an irregular deposit of new bone. The bones were very soft in the situation where ulceration was proceeding, and presented a worm-eaten appearance. At the back part of the inner surface of the ilium there is a small cavity, which contained some scrofulous matter; and on that portion of the ilium which enters into the formation of the sacro-iliac joint are two larger cavities, containing portions of necrosed bone, not quite separated. This specimen was removed from the body of a man, George T., aged 23, who was admitted into the

Hospital on July 19th, 1848, with well-marked symptoms of disease of the hip. Numerous abscesses formed in various situations after his admission, and discharged very profusely. He remained in the Hospital several months, and died in a hectic state in February, 1849. *Post Mortem and Case Book.* 1849. p. 33.

94. Section of a Knee-joint, the bones of which are united by ligamentous tissue. At the upper and back part of the tibia there is a large cavity lined by a firm dense membrane, which contained a softened tubercle. The greater part of this membrane is covered over by bony tissue; in one small spot, the bony matter had disappeared, and the matter had begun to make its way into the popliteal space. The cancellous structure of the femur, tibia, and patella was, in parts, very vascular and soft; in other places it was of a yellowish colour, but much harder than natural. The bones contained a very large quantity of oily matter. The disease had first made its appearance ten years previous to the amputation of the limb. The patient, a girl of 19, always complained of intense pain at the back part of the joint. The thigh was amputated on the 20th July, 1842. The patient did well.

95. Complete Bony Ankylosis of the Hip-joint. The shaft of the femur is situated on a line with the horizontal branch of the pubes. The inner surface of the ilium is affected with caries, and matter appears to have made its way externally, following the course of the iliacus muscle into the thigh, and likewise out of the great sciatic foramen, where the bone is denuded of its periosteum. Some new bone has been deposited in the neighbourhood of the disease. A small bougie has been passed through the sinus leading towards the thigh. No history.

96. Section of a Hip, presenting complete Bony Ankylosis of the Ilium and Femur. The patient, Cornelius L., aged 17, had, some few years before his death, suffered from scrofulous disease of the hip. He died of phthisis and scrofulous disease of the kidney and bladder. The kidney is preserved in a subsequent series. *Post Mortem and Case Book.* 1841. p. 47.

97. Complete Bony Ankylosis of the Left Elbow-joint. The joint is ankylosed nearly at a right angle; the radius is situated on a level anterior to that of the ulna, and is slightly pronated. No history.

98. Bony Ankylosis of the lower part of the Tibia and Fibula, with the Astragalus; the latter bone is also united by bone to the os calcis and the scaphoid. Large quantities of new bone, presenting a very irregular appearance, have been thrown out in the neighbourhood of the disease, and on the shaft of the tibia. No history.

99. Complete Bony Ankylosis of the upper joint between the Tibia and Fibula. The head of the latter bone has been displaced inwards and backwards, and the interosseous space thus widened in this part. The lower joint between these bones was not affected. No history.

100. Ankylosis of the Tibia and Fibula, in consequence of disease of the ankle-joint. *Presented by* Cæsar Hawkins, Esq.

101. Ankylosis of the Tibia and Fibula with the Astragalus and with each other, following disease of the ankle-joint. *Presented by* Cæsar Hawkins, Esq.

102. Ankylosis of the Elbow-joint. History unknown. *Presented by* Cæsar Hawkins, Esq.

103. Section of a Finger. The articular extremities of the first and second phalanges are united by a soft fibrous tissue, the result of chronic inflammation from injury, ending in abscess of the fascia and sheath of the tendons, and thus in exposure of the joint and ankylosis. The finger was amputated about eight months afterwards. *Presented by* Cæsar Hawkins, Esq.

104. Section of the Femur and Tibia united by bony Ankylosis. *Presented by* Cæsar Hawkins, Esq.

105. Section of the Femur and Patella united by bony Ankylosis, in consequence of ulceration of the cartilages following a blow. *Presented by* Cæsar Hawkins, Esq.

106. Portion of the left side of the Pelvis, showing bony Ankylosis of the Hip-joint. The union is most complete, and around the brim of the acetabulum masses of new bone are deposited. In the recent state, there was a considerable quantity of chalky concretion around and between these bony growths. The patient gave a history of hip-joint disease of above fifty years' standing, but died after fracture of the thigh.

107. The other section of the Hip-joint, from the same preparation as the preceding.

108. Ankylosis of the Tibia and Fibula. New bone has been thrown out in the interosseous space between these bones, about two inches above their lower extremities. *Presented by* Cæsar Hawkins, Esq.

109. Union between two Ribs of a Sheep. *Presented by* Cæsar Hawkins, Esq.

110. Last Phalanges of two Fingers, united together at the time of birth. *Presented by* Cæsar Hawkins, Esq.

111. Portion of the right side of the Pelvis, showing complete bony Ankylosis of the Hip-joint, in an extremely unnatural position, the femur being directed vertically upwards. The bony union is quite complete; and there is also complete fusion of the anterior inferior spine of the ilium with the trochanter minor and neighbouring part of the femur; so that the femur is

united to the whole front of the ilium, with the exception of a small oval aperture which still exists between the bones. The specimen was removed from the body of a young woman who died in the Hospital of disease unconnected with the joint. No further history. *Path. Soc. Trans.* vol. xii. p. 169.

112. Complete bony Ankylosis of the Patella to the front of the Femur. The articular surface of the femur is irregular, and covered, in some places, with small irregular deposits of newly-formed bone.

113. Complete Bony Ankylosis of the lower end of the Radius, with the scaphoid and semilunar bones. The joints between the two rows of carpal bones, and between the carpal and metacarpal bones, are firmly ankylosed. All the bones implicated in the disease present a worm-eaten appearance.

114. Complete Bony Ankylosis of the Elbow ot a right angle, discovered accidentally in the body of a patient who died of a different disease. The radius is situated on a level anterior to that of the ulna. No history.

115. Bony Ankylosis of most of the Carpal and Carpo-metacarpal Joints. The joint between the metacarpal bone of the thumb and trapezium bone, that between the pisiform and cuneiform bones, that between the semilunar and scaphoid, and between the unciform in front and the cuneiform and semilunar behind, are the only joints unaffected. As the joints of the wrist, thumb, and fingers are healthy, it is probable that the hand was perfectly useful; but no history exists.

116 to 120. Fingers taken from a man about 45 years of age, who was a butler. He was admitted into the Hospital in April, 1830, labouring under a severe attack of rheumatic gout, and having the joints of the fingers filled with concretions the result of former disease. He was recovering from this attack, when he was seized with pain and swelling of the thigh, accompanied with severe fever, of which he died in three or four days. The fascia of the thigh, as well as the intermuscular spaces were filled with pus. The joints themselves, and the cellular tissue surrounding them were all occupied by gouty concretion, as also the bursa of the patella, and cartilages of the knee joint. Specks of this same substance about the size of peas, were also found between the cutis and skin, in various parts of the body. *Presented by* Sir BENJAMIN BRODIE, Bart.

121. Surface of the Astragalus encrusted with lithate of soda. The patient had laboured under rheumatic gout in many of his joints. The cartilage is absorbed, and earthy matter is deposited in its place: much lithate of soda is seen at the bottom of the bottle, being washed from the surface of the bone by the spirit in which it is suspended. *Presented by* Sir BENJAMIN BRODIE, Bart.

122. Deposition of Urate of Soda on the articular surfaces of the knee, from a gouty patient. This preparation was from Mr. HEAVISIDE'S Museum. *Presented by* Sir BENJAMIN BRODIE, Bart.

123. The Condyles of a Femur, the cartilages of which are covered by a thick crust of urate of soda. Capsules containing deposits of urate of soda existed in the cellular tissue outside the joint, one of which may be seen in the preparation. The cavity of the synovial membrane was filled by a large quantity of white pultaceous-looking fluid, which was subsequently ascertained to be a mixture of pus and urate of soda; the synovial membrane itself was very much thickened and vascular; the cartilages were in some places destroyed, and in one or two places the bone was exposed, and covered with urate of soda. The patient, aged 52, was admitted with rheumatic gout, of long standing; during his stay in the Hospital, he was attacked with erysipelas of the head and diffuse cellular inflammation of the submucous laryngeal cellular tissue, of which he died. *Post Mortem and Case Book*, 1844, No. 38.

124. Vertical Section of the Patella, from the knee joint of a man who had long suffered from gout. He died in the Hospital of continued fever. The kidneys were wasted and granular and the lungs emphysematous. The preparation shews great thickening of the cartilage, which is striated vertically to the articular surface. Its texture was much softer and more yielding than natural; it has evidently a tendency to tear up into fibres, but was not yet sufficiently degenerated to do so; the cells were of natural appearance, but in much less than their normal proportion to the cartilaginous basis. The urate of soda was found in the following situations: (1.) Under the synovial membrane near the margin of the cartilage. (2.) Upon the surface of the cartitilage, or in its most superficial stratum. (3.) In the substance of the cartilage, at some depth. (4.) In the cancelli of the bone. This matter under the microscope appeared in the form of amorphous masses, sprinkled over with a few crystalline spicula; it formed nearly symmetrical deposits in the two knee joints, and was found also in the metatarso-phalangeal articulations. *Post Mortem and Case Book*, 1848, p. 178.

125. The Articular Surface of the lower end of a Femur. A deposit of urate of soda has taken place, partly upon the surface, and partly into the substance of the cartilage. A thin section of the cartilage taken from its articular surface and placed under the microscope, exhibited numerous minute acicular crystals, separate, or collected in tufts. The patient, a man aged 63, was admitted with fracture of the leg, and died from pneumonia a week afterwards. He had for years suffered from rheumatic gout. *Post Mortem and Case Book*, 1849. p. 53.

126. Three sections of a finger in which all the joints, bones, and other structures were destroyed by encroachment of gouty deposit. *Presented by* J. S. GASKOIN, Esq.

127. Concretions around the joint of the finger in gout. The patient had various deposits in different joints, and numerous other parts of the body, several of which had ulcerated through the skin. He died suddenly with inflamed stomach and chest.

128. The Knee Joint laid open, and partially dissected. The cartilage covering the inner condyle of the femur, and the corresponding articular surface of the tibia has been absorbed, or otherwise removed, and the exposed bone is very firm, of the density of ivory, and presents a smooth highly-polished surface. The form of the articulating surfaces of both bones is altered, both being widened laterally, and that of the tibia much deepened. The internal semilunar cartilage is wanting. A large quantity of newly-formed bone has been thrown out around the entire circumference of the condyles of the femur, and around the margin of the patella. These diseased appearances are most probably the result of chronic rheumatic arthritis. This preparation was originally given to Sir B. BRODIE by Mr. J. BROOKES. *Presented by* Sir BENJAMIN BRODIE, Bart.

129. Upper end of the Radius. The cartilage covering the articular surface is partially absorbed, and the exposed bone is dense in structure, and presents the polish of ivory. Much new bone has been thrown out around the margin of the articular surface near the neck of the bone. No History. *Presented by* Sir BENJAMIN BRODIE, Bart.

130. Lower end of the Humerus. The cartilage covering the articular surface for the head of the radius is partially absorbed, and the exposed bone is dense and highly polished on the surface. The margin of this part of the articular surface is nodulated. *Presented by* Sir BENJAMIN BRODIE, Bart.

131. The Knee Joint. The lower end of the shaft of the femur is thickened, and covered with much deposit of new bone. The articular surface of the condyles is much altered. That of the outer condyle is nodulated, and deeply indented, as if from the irregular deposition of bone ; in front, new bone has been deposited, the articular surface of which is for the most part smooth and highly polished, and two deep cavities are seen in the bone leading into the joint. The tibia is unaltered. The articular surface of the patella presents for the most part a worm-eaten appearance, but is smooth, dense, and highly polished, corresponding to a similar surface on the femur. No history. *Presented by* Sir BENJAMIN BRODIE, Bart.

132. Knee Joint, taken from a patient in the Hospital, who died a few days after admission and who had suffered for many years from rheumatic gout. The cartilage appears as though ulceration had formerly taken place, but had healed, leaving cicatrices.

133. Vertical section of the Head and upper part of the Shaft of the Femur. The direction and form of the head is much altered. The head and neck are at right angles with the shaft. The form of the head is flattened out and expanded, presenting a broad surface, worm-eaten in the greater part of its extent, in other parts smooth, dense, and eburnated. Irregular masses of bone project from the margins of the articular surface both above and below. The neck is perforated near the attachment of the capsular ligament below and in front, by a large irregularly-circular opening, which penetrates the whole of the section ; but becomes so much smaller on its inner aspect, as to render it probable that it did not pierce the whole bone. No history. *Presented by* CÆSAR HAWKINS, Esq.

134. Upper portion of the left Femur. A large portion of the head of the bone is wanting, looking as if an oblique section had been made through it, from above, downwards and outwards ; this surface is for the most part smooth, and presents an enamelled appearance. Much new porous bone has been thrown out around the remaining part of the circumference of the head, and also around the base of the lesser trochanter. The extremity of the lesser trochanter is smooth and polished. No history.

135. Chronic Rheumatic Arthritis of the Shoulder. The glenoid cavity is enlarged ; the head of the humerus much expanded and altered in shape, so that it projected to some extent out of the cavity. This, with the wasting of the deltoid, gave the appearance of partial dislocation before the parts were dissected. The tendon of the biceps had been ulcerated, and had taken an attachment to the humerus about half an inch below its upper end. The articular cartilages are worn away from most parts of the joint ; in others thin shreds of them are left. Numerous large separate masses of new bone are deposited, both in the neighbourhood of the acromion process, and external to the capsular ligament, near the spine of the scapula. The patient, a man 72 years of age, died in the Hospital with senile gangrene. He made no complaint of the shoulder, and it escaped notice during life. *Post Mortem and Case Book.* 1860. p. 100.

136. Four Loose Growths from the Knee Joint. The largest one is almost entirely calcareous in structure, the other three are soft, much smaller in size, and principally fibrous. Two sections taken from the outer surface of the largest body show no true cartilaginous structure : there is a great deal of very clear fibrous tissue, mixed in places with nuclear .bodies, but no cartilage cells. The second shows a homogeneous granular fibrillated structure, with many cartilage cells, but no perfectly formed fibrous tissue. The third and fourth have a similar

structure to the second. These four growths were removed from the knee joint at one operation. The patient, James C., aged 27, was admitted into the Hospital on the 30th of June, 1847. Eleven years previously he had felt something smooth, of about the size of a bean, in the joint. Nine months before admission, he hurt the joint, and after the consequent inflammation had subsided by leeching, etc., he discovered another loose substance in the joint. He stated that one of them had become fixed by wearing a knee-cap. The second had been increasing in size since he first felt it. When the loose body got between the bones of the joint, he used to fall to the ground. These growths were removed by operation, August 5. An incision an inch and a half in length was made down to the situation of the largest, and all of them were easily pressed out of the joint. There was considerable swelling of the joint subsequent to the operation, which was relieved by leeches, and he perfectly recovered, leaving the Hospital within a month of the operation. He was obliged to wear a knee-cap, in consequence of weakness of the joint.

137. Two small Loose Growths from the Knee. *Presented by* Sir BENJAMIN BRODIE, Bart.

138. Two small Loose Growths taken from the Knee Joint. These growths consist of a finely fibrillated and granular blastema, without cartilage cells ; the central part of each growth is calcified. *Presented by* Sir BENJAMIN BRODIE, Bart.

139. A Loose Growth taken from the Knee. In structure it is firm and dense, and to the naked eye the appearance of a section near its centre resembles that of an ordinary fibrous tumour. It consists essentially of fibrous tissue, without any amorphous granular blastema or cartilage cells. Its centre is calcified. *Presented by* Sir BENJAMIN BRODIE, Bart.

140. Condyle of the Femur with two Loose Cartilages. A large cavity is seen in the cartilage covering the condyle, about an inch in length and three-quarters of an inch in breadth. The articular lamella is exposed at the bottom of the cavity, in the greater part of its extent, except in some few points where it is covered by nodulated prominences of cartilage. The cartilage surrounding the margin of the cavity presents a puckered and cicatrized appearance, excepting at one point where its edge is sharp and even ; the cartilage corresponding to this point is partially separated from the articular lamella beneath. Of the two loose cartilages, one is an irregular piece of cartilage, one surface of which is smooth and polished, the other marked by elevations and indentations corresponding to the surface of the articular lamella. Part of the margin of this loose piece is rounded as if from absorption ; the remaining part of the margin presents a broad even edge. The other

cartilage, about the same size as the preceding, is of an oval form, with both surfaces as well as the border comparatively smooth; it is much firmer in texture than the preceding, and consists of cartilage partly calcified. The patient, a young man about 20 years of age, was admitted into the Hospital in consequence of the loose cartilages in the knee joint. An operation was performed for their removal, and one was extracted. Inflammation of the knee, extending up the thigh, supervened, and he died. Three loose cartilages were found in the knee joint, one of which was slightly attached to the surface of the synovial membrane. Two of them are preserved in the preparation; they were embedded in the ulcerated cavity. *Presented by* Sir BENJAMIN BRODIE, Bart.

141. Cartilage taken from the Knee. This preparation is dried, showing that a large portion was converted into bone. *Presented by* Sir BENJAMIN BRODIE, Bart.

142. Condyles of the Femur, with two Loose Cartilages which were found in the Knee Joint. This joint contained also seven other foreign bodies connected with various parts of the cavity. One of them projects from the inner side of the outer condyle of the femur; it is partly cartilaginous and partly osseous, and covered over by periosteum. The articular cartilages present several erosions, one of which corresponds in size and shape to the largest of the loose cartilages found in the joint; the other erosions look as if portions of the cartilage had been chiselled out. The articular cartilages also display, in several places, a marked fibrous appearance, presenting long flocculi, which float out in the fluid.

For the other foreign bodies and for the history of the case, see the next preparation.

143. Condyles of the Tibia, with the foreign bodies connected with the Synovial Membrane, from the same patient as the preceding preparation. Three of the foreign bodies are situated at the lower part of the preparation, and connected with a portion of the ligamentum posticum, which is hanging down; another, of a wedge shape, is situated at the upper part, and is connected by a slender pedicle with the fold of synovial membrane at the front and inner part of the outer tuberosity; and the two others, of the size of grains of sand, are situated in front of the crucial ligaments, midway between them and the margin of the inner tuberosity. All these foreign bodies were covered over by synovial membrane, and developed in the subsynovial cellular tissue, but the bodies at the lower part of the preparation were uncovered in one or two places, the synovial membrane having given way. The bodies last mentioned were partly cartilaginous and partly calcareous; the other bodies were cartilaginous throughout. The synovial

membrane did not contain a larger quantity of synovia than usual, neither did it present any unusual degree of vascularity, but there were several loose fibrinous effusions, of a reddish colour, in its cavity. One of these effusions was lying in the large erosion on the cartilage of the femur. The cartilages of the tibia are eroded, and present a fibrous appearance, with long loose flocculi. The cartilage of the patella was also fibrous in its appearance. This and the preceding preparation were taken from a lad, aged 18, who was admitted into the Hospital with a small wound on the outside of the right knee, for which he had been attending as an out-patient for some time. Shortly afterwards he presented symptoms of an affection of the brain ; and erysipelatous inflammation made its appearance in the neighbourhood of the wound. He died six weeks after his admission into the Hospital, never having made, at any time, any reference to the affection of the knee, from which he appeared to have suffered very little inconvenience, notwithstanding that his other leg had been amputated some time back, and that he had to walk a long distance to the Hospital. *Post Mortem and Case Book*, 1845, p. 239.

144. Loose Cartilage removed from the Knee. Taken from Joseph C., aged 13, who suffered repeated attacks of synovial inflammation produced by the cartilage. It was removed by an incision made on the inner side of the knee, May 27, 1838. Extensive abscesses of the joint and thigh followed the operation. A cure was ultimately effected with ankylosis. *Presented by* CÆSAR HAWKINS, Esq.

145. A Cartilaginous Growth connected by a narrow pedicle with the coronoid fossa of the humerus. Accidentally found while dissecting the joint.

146. Abscess in the neighbourhood of the Patella, not communicating with the knee-joint. *Presented by* Sir BENJAMIN BRODIE, Bart.

147. An Excrescence resembling a Finger, removed from the thumb of an infant.

148. Supernumerary Fingers. No history.

149. Supernumerary Fingers, removed by operation from each hand of a child. *Presented by* CÆSAR HAWKINS, Esq.

150. Portions of the humerus and ulna, which were removed in a case of resection of the Elbow. The larger piece is the lower end of the humerus. The outline of the two articular surfaces is still visible. That for the radius is rugged, exposing the cancellous tissue of the bone. Quite at the anterior part is a small isolated remnant of the articulating surface. The surface for the ulna is in much the same state. It has two small islands of smooth compact bone, while all the rest is uneven and spongy. The position of the condyles is occupied by irregular warty-looking growths of bone. Imme-

diately behind the articular surface for the radius is an arch of bone, of which one pier stands on the outer condyle, the other close to the groove for the ulna. Between them is a hole, which opens upon the anterior surface of the bone, in a position corresponding to the fossa for the head of the radius. The section has been carried across the bone in a rather slanting direction, passing very close to the inner, but at a little distance from the outer, articular surfaces. The part of the ulna removed appears to be simply the olecranon process. The articulating surface is in exactly the same state as those upon the humerus. Many warty projections surround it. This preparation was taken from George R., 23 years of age, by occupation a smith. He was admitted into the Hospital on the 3rd of April, 1862. It appeared that five months previously an abscess had formed, and burst, in the neighbourhood of the left elbow-joint. Numerous abscesses since showed themselves, leaving sinuses, which continually discharged. His general health had remained pretty good. When he came into the Hospital the elbow was much swollen, and the joint extensively disorganized. The limb was fixed in a semi-flexed position. There were numerous sinuses leading inwards. The man had very little pain connected with the joint. On the 10th of April the surfaces of bone were removed by operation. A long incision was made behind the joint, and a transverse one over the outer condyle, which allowed of the removal of the portions of bone preserved. The wound healed slowly and imperfectly. On the 9th of July the patient left the Hospital. The wound was then united. There was much infiltration of the neighbouring tissues, with numerous sinuses. The joint was capable of considerable movement.

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SERIES IV.

AFFECTIONS OF MUSCLES, FASCIÆ, TENDONS, AND BURSÆ.

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Affections of muscles, rupture, 1; atrophy in infantile paralysis, 2, 3; tumours, malignant, 4, 5.
——— tendons, rupture, 6; repair after division, 7, 20; sloughing, 8; ganglion, 13.
——— bursæ enlarged, 11; tumours of, 9, 12, 14, 15; pendulous growth in, 10.
——— loose bodies from bursæ and sheaths of tendons, 16, 17, 18, 19.

1. The Rectus Abdominis Muscle, ruptured in a case of acute tetanus. *Post Mortem and Case Book.* 1855. p. 92.
2. The Flexor Longus Pollicis Pedis, from a young woman, whose leg was amputated in the Hospital, on account of wasting of the extremity from infantile paralysis of most of the muscles of the leg. The limb was amputated when she was fifteen years of age, and she had then had the disease for eleven years. The muscle is much wasted and blanched.
3. The Leg from the above patient, preserved to show the wasting of the muscles, their loss of colour, which now is little altered, but more particularly the distortion of the foot consequent on the disease of the muscles.
4. A section of a large mass of Fungus Hæmatodes, which affected the pectoral muscle, and extended into the axilla. The patient first perceived a small tumour near the axilla about eleven months before his admission into the Hospital, which he attributed to the snapping of something in that situation while lifting a heavy load. The tumour continued dormant for many months, but increased very rapidly before death. *Presented by* Sir BENJAMIN BRODIE, Bart.
5. Malignant Tumour of the character of Fungus Hæmatodes, developed in the sartorius muscle. The preparation was taken from the body of a young woman, who had an enormous mass of tumours of a similar nature around the hip-joint of the same side. No further history.

6. Tendon of one of the Fingers, which has apparently been torn off from its connection with the muscular fibres. Two phalanges were torn off at the same time. There is no history ; but a similar if not the same case was known to have been in the Hospital in the year 1839. The patient did well, without a bad symptom.

7. An Eye, showing the union of the Tendon of the External Rectus Muscle, after its division in a case of squint. The patient died, of phthisis, a month after the operation. The muscle is now connected to the sclerotic by a long thin bundle of fibrous tissue. The insertion of the original tendon into the tunica albuginea is perfectly distinct, and appears quite separate from the new uniting material. The latter was so firm that it allowed of forcible traction without giving way. The deformity appeared to be cured. *Post Mortem and Case Book.* 1841. p. 5.

8. A portion of the Tendon of the Extensor communis digitorum Muscle, which had sloughed, in an abscess from pyæmia, and was found in the course of separation. The patient, James B., had severe erysipelas of the abdomen, penis, and scrotum, with a good deal of sloughing ; but the erysipelas was gone, and the wounds granulating, when the secondary abscesses formed. One large foul abscess was opened in the back, and a swelling, with inflammation, appeared on the back of the hand, which subsided under poultice. He died a few days afterwards. The common extensor tendon was found completely softened, and separated into two portions, except one filament ; similar softening was found in one or two other parts above the wrist, with partial division. The bursa surrounding the tendon was enlarged, and the inner surface bedewed with imperfect pus. The muscular fibres near the elbow were surrounded with a small quantity of pus, which separated the muscle from the rest. Both lungs were acutely inflamed, and pus deposited in the right lung, in its cellular tissue, rendering it soft and brittle. The pleura contained recent lymph and pus. *Presented by* Cæsar Hawkins, Esq.

9. A Bursal tumor, taken from between the patella and skin, having a cavity in the centre, which is reticular, and which contained a fluid resembling synovia. The walls of the bursa are of considerable thickness throughout, and of fibrous structure: the cavity is almost obliterated at its upper part. *Presented by* Sir Benjamin Brodie, Bart.

10. A Bursa Mucosa, from between the patella and skin. It is much enlarged, and contains a long excrescence, which is attached to its internal surface. *Presented by* Sir Benjamin Brodie, Bart.

11. A large Bursa, removed after death, from a man who had been in

the habit of wearing a wooden leg for some time previous, on account of disease of the ankle. He was admitted into the Hospital for the latter, and his leg was amputated; but he died shortly after, with secondary abscesses in the lungs. The walls of this bursa are thick and extremely tough. Two bands will be observed within the cavity of the cyst, each of them being attached to the inner surface of the bursa at either extremity, but quite free throughout the greater part of their length.

12. Bursal tumours, removed from the front of the Patellæ. The tumours consist of a dense fibro-cellular structure, enclosed in a cyst of considerable thickness, and this again surrounded by another investment, consisting, doubtless, of the thickened bursal sac, along with neighbouring areolar tissue consolidated from inflammation. In some parts there is discoloration of the tissue, as if from inflammatory exudation of bloody fluid. These bursæ were removed by operation, from Anne J., aged 27, and were in close and firm connection with the ligamentum patellæ in both knees. After the removal, the lips of the wounds were kept together by ligatures and strapping, and covered by a lint compress. The dressings were removed four days after the operation, and the wounds were found to have healed by the first intention. The bursa on the right side had existed from childhood; that on the left for fourteen months only. The former was particularly hard and firm, and of the size of an orange; the latter was only about two-thirds of that size, and contained a small quantity of fluid; it had been very painful, both during the night and day, the pain striking up the whole thigh on any pressure.

13. Ganglion connected with the Flexor Sublimis Digitorum, just above the wrist. From the dissecting room. *Presented by* Cæsar Hawkins, Esq.

14. Bursa of the Patella, removed by operation. The walls are much thickened, and apparently of a dense fibrous structure. The cavity of the bursa is of inconsiderable size, and intersected by a few small fibrous bands. *Presented by* Cæsar Hawkins, Esq.

15. A large Bursal Tumour from over the Patella, removed by operation. It consists of a cyst with very thick walls, from which fringe-like projections hang down into its cavity. The cyst contained synovial fluid. The patient, a young woman, recovered rapidly.

16. Portions of Lymph, from the cavity of an inflamed Bursa, situated above the great trochanter. The bursa also contained a large quantity of serum. It is these portions of lymph that subsequently become converted into the loose bodies resembling melon seeds, so common in diseased bursæ. *Presented by* Sir Benjamin Brodie, Bart.

17. Portions of Lymph, resembling melon seeds, removed from a bursa in the neighbourhood of the wrist-joint.

18. Pedunculated growth, removed from a bursa situated over the trochanter major. It hung down from the inner surface of the bursal sac. The specimen was found in the dissecting room.

19. A collection of bodies, like melon-seeds in form, of a milk-white colour, and of variable size, from the bursa of the flexor tendons of the wrist. Some of these bodies consist of a moderately firm uniform mass of lymph; others consist of a thin capsule externally, containing a cavity filled with serous fluid, or a soft pulpy mass of lymph. These bodies were evacuated by a puncture with a lancet. The tumour had commenced five years previously, beginning in the palm and spreading under the annular ligament of the arm, so as to form a swelling about four inches long. The opening healed, and fluid re-formed in the cavity; but this was removed by blisters (which had been used unsuccessfully before the opening was made), and the disease was ultimately cured. From a woman, aged 24. *Presented by* CÆSAR HAWKINS, Esq.

20. A severed Tendo Achillis which had been healing for 22 days. The section is within two inches of the os calcis. The cut ends are separated by an interval of a little more than an inch, which is occupied by a substance narrower and thinner than the adjoining tendon. The sheath, and the subjacent fat are closely adherent to this interposed substance. The medium of connection had, when fresh, very much the appearance and consistence of coagulated blood. Under the microscope, much brownish granular matter was seen, which probably consisted of disintegrated blood corpuscles. There were also a great number of small but well-defined blood crystals. Mingled with the granular matter were a considerable number of round, oval, and spindle-shaped cells. These had faint outlines, and were of small size. No nuclei were seen. The preparation was obtained from a man who was admitted with compound fracture of both bones of the leg. There was a large external wound, and much displacement. After vain attempts to reduce the fracture, the tendo Achillis was divided by subcutaneous incision. This measure was not attended with success; the fracture remained unreduced. The wound did not progress satisfactorily, and the limb was amputated 22 days after the section.

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SERIES V.

DISEASES OF THE SPINE.

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See also the preparations of Diseases of the Spinal Cord and its Membranes. and some preparations in Series II.

1. Disease affecting the Cervical Vertebræ and spinal cord. The patient was a young man, 22 years of age, who, after having been exposed to much wet and cold, and leading an irregular life, was attacked with violent pain in the neck, followed by considerable swelling. The swelling was situated chiefly at the right side of the neck, and extended from the head to the shoulder. He continued to go about as usual for some time, and the symptoms in some degree subsided. In April, 1829, he became paralytic in the right arm; no treatment was employed until June, 1829. At this time he had pain in the back of the head and neck, and paralysis of the right upper extremity; the left was partially affected, as were also the lower limbs. His bowels were very torpid, and the urine

slightly alkaline. He was placed under the influence of calomel and opium, leeches were repeatedly applied to the neck, and also a seton. The remedies afforded him no relief; he became perfectly paralytic both in the upper and lower extremities, and died on the 19th of June, 1829. The viscera of the chest and abdomen were healthy, and so were the membranes of the brain. The brain itself and upper part of the spinal cord, were softer than natural. On removing the dura mater lining the vertebral canal, a soft solid substance, of a greyish colour, apparently lymph, which had become organised, was found situated between it and the bodies of the cervical vertebræ, occupying the whole of the anterior and a portion of the lateral parts of the canal, and extending downwards as low as the fourth or fifth cervical vertebra. A substance, similar to that which filled up the canal, was also found on the outside of the bones, lying chiefly on the anterior surface of the bodies and processes. This external mass was in much greater quantity than that on the inside, being not only much thicker, but also extending much lower down the neck. The form of it was very irregular, and in some places it might be about an inch in thickness. The mass of substance on the outside communicated with that on the inside through the spaces between the articulating processes. This communication is exhibited in the preparation, by the insertion of several bristles ; while a section is made of the mass, which is seen reflected. It is much softer in the centre than elsewhere. The bone was carious in several parts where the deposit lay upon it. *Presented by* Sir BENJAMIN C. BRODIE, Bart.

2. A Lumbar Vertebra of a very ancient mummy, from Thebes, in Egypt, showing outgrowth of bone in various parts, encroaching on the intervertebral cartilage, and considerable vascularity, probably the result of chronic inflammation. *Presented by* J. ROUSE, Esq.
3. Ulceration of the Intervertebral Substance in the Dorsal region. This specimen was taken from a patient labouring under disease of the spine. The body of the vertebra is also encrusted with lymph. *Presented by* Sir BENJAMIN BRODIE, Bart.
4. Two Lumbar Vertebræ, with the intervertebral cartilage between them destroyed by ulceration. The bones in this case are but slightly affected by caries. *Presented by* Sir BENJAMIN BRODIE, Bart.
5. Ulceration of the Intervertebral Cartilage in the Dorsal region, with considerable caries of the upper of the adjoining vertebræ. No history. *Presented by* Sir BENJAMIN BRODIE, Bart.
6. Vertical section of a portion of the spinal column. The intervertebral cartilage between two of the vertebræ, as well as the under surface of the body of one of them is ulcerated

to a considerable extent. From a patient who died in the Hospital. *Presented by* Sir BENJAMIN BRODIE, Bart.

7. Corresponding section to the preceding.

8. Vertical section of the bodies of two Lumbar Vertebræ. The intervertebral substance between them is in a state of ulceration. From the same patient as the preceding.

9. A Dorsal Vertebra, taken from the same patient as the preceding. On the lower surface of the body, the intervertebral cartilage is ulcerated to a considerable extent. *Presented by* Sir BENJAMIN BRODIE, Bart.

10. Three Lumbar Vertebræ. The greater part of the cartilage between the second and third has been destroyed by ulceration. At the posterior part of the body of the third vertebra is a portion of necrosed bone, which is in contact with the posterior common ligament, lined by the dura mater and parietal arachnoid. The anterior surfaces of the bodies of the two lower vertebræ present a worm-eaten appearance. Ankylosis, principally osseous, exists on the left side.

11. Specimen, showing an ulcer which has perforated the intervertebral cartilage between the fourth and fifth cervical vertebræ, destroying the capsular ligaments belonging to their articular processes, and partly also the same tissues between the second and third vertebræ on each side. The articulating surfaces themselves are reddened, and when recent, were covered by purulent fluid. There is also a thick coating of recent fibrine around the perforation on the inner surface of the vertebræ. This ulceration was the result of inflammation set up by a piece of bone, which was arrested in the œsophagus in the act of swallowing. Inflammation and constriction of the œsophagus ensued, and ulceration seems to have gradually extended its way backwards, through the intervertebral cartilage into the spinal canal. Perforation of the dura mater, and extensive inflammation, with softening, of the spinal cord, ensued.

For preparations of the œsophagus and spinal cord, see subsequent Series. *Post Mortem and Case Book.* 1852. p. 36.

12. Portions of Carious Bone from the Spine. No History.

13. Caries of the bodies of the four first Cervical Vertebræ and ulceration of the intervertebral cartilages communicating with an ulcerated opening in the back part of the pharynx. The membranes of the spinal cord were, in this situation, united to each other and to the posterior surfaces of the vertebræ. The upper part of the spinal marrow was softer than natural. The soft palate and neighbouring parts were healthy. The symptoms produced by the disease were so slight that the ulcer of the pharynx was not, previous to the patient's death, known to have any communication with the bones of the spine. The

patient died suddenly, after having been in the hospital but a few days. *Post Mortem and Case Book.* 1841. p. 223.

14. The Six upper Cervical Vertebræ with portions of the occipital and sphenoid bones, showing strumous disease, which has produced angular curvature. The bodies of the vertebræ are extensively affected with caries, and the intervertebral substances have been destroyed by ulceration. The basilar portions of the occipital and of the sphenoid bones have also been partially destroyed by caries, which has produced a large opening into the pharynx, through which a bougie has been passed. The carious portions of bone were covered by a thick layer of scrofulous matter, deposited between the bone and dura mater. The scrofulous matter which covered the basilar process has been turned up with the dura mater, in the shape of a flap, which in the preparation stands perpendicularly above the bougie. The only remains of the transverse ligament are marked by two black bristles passed underneath it. Some strong bands belonging to the occipito-odontoid ligaments still serve to maintain the second vertebra in its relations with the occipital bone; but the connexions between the second and third vertebræ are nearly all destroyed. The remaining portions of the affected bones are harder than natural. The scrofulous deposit between the second, third, and fourth vertebræ and the dura mater was very extensive, and produced pressure upon the spinal marrow. The spinal cord is preserved in a subsequent Series.

15. A preparation showing displacement of the Odontoid Process backwards, from ulceration of the transverse and check ligaments, in caries of the upper part of the spinal column. The displacement produced sudden pressure upon the spinal cord, and instant death. The odontoid process is almost denuded of soft parts on its posterior surface, and rough from superficial ulceration. Fragments of the check ligaments are adhering to its apex. On the right side, the ruptured fibres of the transverse ligament can be seen. The articular process of the axis on the right side is exposed by the ulceration of its cartilage, and on both sides dislocation of these processes has taken place. There is also slight ulceration of the laminæ of the third and fourth vertebræ. The preparation was taken from the body of a girl, aged 11, who was admitted into the Hospital on account of strumous disease of the tibia. Abscesses formed in the back of the neck while she was in the house, and were evidently connected with disease of the vertebræ. She died very suddenly one day, while she was being moved in order to make her bed. The tibia is preserved in Series II. No. 52. *Post Mortem and Case Book.* 1860. p. 184.

16. Caries of the bodies of several of the Dorsal Vertebræ. The body

of one vertebra is almost entirely destroyed. No history. *Presented by* SIR BENJAMIN BRODIE, Bart.

17. Dorsal Vertebræ taken from a boy who died in the Hospital from disease of the lungs. A considerable quantity of pus was found in contact with these bones. The bodies are carious, and there is a deposition of new bone on their anterior surface. *Presented by* SIR BENJAMIN BRODIE, Bart.

18. Angular curvature of the Spine in the lower part of the Dorsal region. The bodies of the lower dorsal vertebræ and the first lumbar have been extensively destroyed by caries, probably of a scrofulous nature, as the preparation must have been taken from a young subject. In the neighbourhood of the disease are the remains of the parietes of a thick cyst, at the bottom of which may be seen the thickened theca vertebralis. No History.

19. Scrofulous Caries of the bodies of the Vertebræ in the Dorsal region, producing angular curvature : from a child six years of age. Two large lumbar abscesses had formed. On one side are part of the parietes of an abscess, and the opening which communicated with the diseased vertebræ ; on the other a section has been made to show the extent to which the bone has been absorbed, while the intervertebral substance is much less destroyed. Behind is the spinal marrow, with thickening of the membranes. The child, from whom this preparation was taken, died in the Hospital. *Presented by* CÆSAR HAWKINS, Esq.

20. Caries of the Dorsal Vertebræ. The patient, James M., aged 30, was admitted into the hospital, February 12th, 1834, with curvature situated near the tenth dorsal vertebra, and lumbar abscess, said to have begun without pain three weeks before his admission. The abscess was opened, and issues were made. He began to sink in April, with pain in the abdomen and some cough, and died on June 6th. There was a large abscess in the side of the abdomen, empty, communicating with the carious vertebræ. A large portion of the body of one vertebra was excavated, with new bone thrown out in an arched direction over it. There was a large collection of hydatids in the liver. *Presented by* CÆSAR HAWKINS, Esq.

21. Scrofulous Caries of the Spine. The bodies of the seven lower dorsal vertebræ are extensively destroyed by caries, producing considerable angular curvature. No history.

22. Scrofulous Caries of the Dorsal Vertebræ. The patient, John W., aged 32, was admitted, March 24, 1851, with curvature of the spine opposite the seventh and eighth dorsal vertebræ. He had been subject to pain in the back for several years. The pain increased a year before his admission, and the curvature was perceived six months after this accession of pain. The symptoms

were pain, loss of muscular power in the lower extremities, and paralysis of the bladder. The urine was at first acid, then alkaline and purulent. Phthisis, erysipelas and abscesses followed, and he died on November 28th. Scrofulous abscesses were found under the integuments of the chest. There were pleuritic adhesions on both sides of the chest, and tubercles in the lungs. The mucous membrane of the bladder was ulcerated, with numerous small abscesses in its walls. The kidneys and ureters were inflamed, and their lining membrane covered with lymph. The body of the ninth dorsal vertebra was almost entirely destroyed, and a part displaced backwards upon the spinal marrow. There was a large scrofulous abscess across the spine in contact with the spinal membranes, which were a little inflamed. The bodies of the two adjacent vertebræ were beginning to be absorbed while the intervertebral substance continued nearly sound. There was a small piece of dead bone in the spinous process of the ninth vertebra. *Presented by* CÆSAR HAWKINS, Esq.

23. Scrofulous Caries of the bodies of the Dorsal Vertebræ. The bodies are seen to be nearly absorbed, while the intervertebral substance is much less destroyed, and remains attached to the ligamentous substance in the neighbourhood. This substance forms the boundaries of an abscess in which the spinal cord was included. *Presented by* CÆSAR HAWKINS, Esq.

24. Caries of the Lumbar Vertebræ. The patient was a person of scrofulous habit. The bones are soft. The upper surface and the upper part of the body of one of the vertebræ, are deeply ulcerated. The ulceration did not implicate the intervertebral cartilage to so great a degree.

25. Caries of the Lumbar Vertebræ, fatal by hæmorrhage from the aorta. See the description of the preparation of the aorta in the next Series.

26. Specimen, showing a carious state of the upper part of the Sacrum, especially visible on the different surfaces of the body of the first segment. New bone has been deposited on the lateral parts of the anterior surface of the first and second vertebræ. There is destruction of a part of the intervertebral disc, between the sacrum and the fifth lumbar vertebra. The specimen was removed from the body of Catherine K., aged 32, who was brought into the Hospital December 8th, and died December 12th, 1852. She had been ill for a few days only previous to admission, and was admitted, suffering from peritonitis. Her death was caused by sudden effusion of fluid into the chest. On post mortem examination, besides the fluid in the chest, enlargement of the heart and extensive peritoneal effusion of fluid and lymph were found. There was, moreover, a large sac of thick purulent fluid, in connection with disease of the

last lumbar vertebra and sacrum, bounded by thickened peritoneum and adherent intestine. *Post Mortem and Case Book.* 1852. p. 241.

27. Caries of the dorsal portion of the spine. The bodies of the fifth and sixth dorsal vertebræ have been entirely destroyed, and ankylosis has taken place between the bones above and below. There is considerable angular curvature. *Presented by* Sir BENJAMIN BRODIE, Bart.

28. Angular curvature of the spine, in the lower part of the dorsal and lumbar regions, causing great deformity. The bodies of the six lower dorsal and five lumbar vertebræ have been almost entirely destroyed by scrofulous caries; the remaining parts of the bodies have been soldered together by deposit of new bone. The greater number of the articulating processes, nearly all the laminæ, and the spinous processes of the two last dorsal vertebræ, are united by bony ankylosis.

29. The three last Dorsal and two first Lumbar Vertebræ. The anterior part of the bodies of the last dorsal and first lumbar has been destroyed by caries; bony ankylosis has taken place between these vertebræ on the right side. The deformity is very slight. No history.

30. Four Lumbar Vertebræ. The bodies have been extensively destroyed by caries. Bony ankylosis, both of the bodies, articulating processes, and two of the spinous processes, has taken place; the antero-posterior curvature is pretty well marked. No history.

31. Two Lumbar Vertebræ. The bodies of these bones have been ankylosed by the deposition of new bone, which has been thrown out both on the anterior surface and on the right side of the vertebræ. The bones are slightly affected with caries. No history.

32. The Lumbar Vertebræ with the Sacrum. The bodies of the three lower vertebræ and the anterior surface of the sacrum are affected with caries. The intervertebral cartilages have, for the greater part, been destroyed, and the remaining portions of the vertebræ have become ankylosed. Large portions of new bone have been thrown out in the neighbourhood of the disease. The deformity consequent upon the disease is very slight. No history.

33. Four Lumbar Vertebræ. A portion of the under surface of the second vertebra and the greater part of the interarticular cartilage have been destroyed by caries. The two vertebræ are maintained in their situation by an osseous bridge thrown from one to the other. New bone has likewise been deposited on the anterior surfaces of the vertebræ. The deformity is very slight.

34. Five Dorsal Vertebræ. The front surfaces of the bodies of these

vertebræ are connected together by a deposit of bone. This deposit is especially thick opposite the intervertebral cartilages. There is slight lateral curvature. *Presented by* CÆSAR HAWKINS, Esq.

35. Five Dorsal Vertebræ. The bodies of these bones are united by the deposit on their surface of large quantities of new bone, especially on the right side. The bones are not otherwise diseased.

36. The Four last Dorsal and first Lumbar Vertebræ. The bodies of these bones are firmly united by large quantities of new bone. The greater portion of the new bone is on the right side, where it forms large exostoses; there is very little of new bone upon the left side. In this preparation there is marked lateral curvature upon the right side. No history.

37. Two Cervical Vertebræ. The bodies, articulating processes, and part of the left laminæ, are united by bony ankylosis. No history.

38. Six of the lower Dorsal Vertebræ. Large quantities of new bone have been thrown out upon the bodies of these vertebræ, so as to unite them firmly to each other. More new bone exists upon the right side than on the left; on the fore part, the osseous matter has been deposited in the anterior common ligament. The ligament between the spinous processes of the eighth and ninth vertebræ has also been ossified. The articulating processes of the ninth and tenth vertebræ on the left side present bony ankylosis. No history.

39. Necrosis of the upper part of the coccyx, which has exfoliated entire. The patient, Henry H., was admitted in March, 1829, with a fistula in ano communicating with dead bone. It healed after the exfoliating portion had been extracted.

40. Angular Curvature of the Spine, in the lower part of the lumbar region, produced by the destruction of the greater part of the body of the fourth lumbar vertebra and its cartilages. In the body of the fifth vertebra is a cavity containing a portion of necrosed bone. Large masses of new bone have been thrown out in the neighbourhood of the disease, producing bony ankylosis of the bodies of these vertebræ.

41. Exfoliation from the anterior surface of the atlas. Removed from the same patient as the preparation Series II. No. 85. *Presented by* ROBERT KEATE, Esq.

42. Lateral Curvature of the Spine. The curvature has proceeded to such an extent as to produce actual contact of the inner surface of two of the ribs of the left side with the front of the bodies of the vertebræ. The vertebræ are at the same time completely united by ankylosis. *Presented by* CÆSAR HAWKINS, Esq.

43. Lateral Curvature of the Spine, accompanied by a complete

circular twist of the vertebræ upon each other in the loins, and some deformity of the chest. From the dissecting-room. *Presented by* CÆSAR HAWKINS, Esq.

44. Lateral Curvature of the Spine. Many of the vertebræ and ribs are ankylosed together; and from the healthy form of the pelvis, the disease was obviously not rickets. From France. No history. *Presented by* CÆSAR HAWKINS, Esq.

45. A preparation showing extreme Lateral Curvature of the Spine. The whole spine is inclined greatly to the right side, so that the upper end of the spinal column projects far beyond the right side of the pelvis. In the middle of the dorsal region the spine inclines considerably to the left of the middle line; and this curve is again changed at the lowest part of the lumbar region for one whose convexity is towards the right side. Most of the vertebræ are also rotated to an extreme degree on each other; so that in the middle of the dorsal region, what should naturally be the front surface of some of the vertebræ looks towards the left side and somewhat backwards. The height of the body has been diminished to such an extent that when the pelvis is held in about the natural position, the tip of the odontoid process is not more than seven inches from the base of the sacrum. The upper part of the column is also placed considerably behind the lower. The difference in thickness between the sides of the bodies of the vertebræ on the convex and concave sides of the curves is not very marked. *Presented by* T. A. STONE, Esq.

46. Hydatids developed in the spinous process of the seventh cervical vertebra. The cavity formed in this part communicated with another cavity situated on the side of the same vertebra; here two of the foramina for the passage of nerves have been converted into one. The cavities are lined by a membrane, which contained more than 100 hydatids. In the cancellous structure of the body of the vertebra there are also a few hydatids. The bone around the cyst is perfectly healthy, but the tumour projected inwards upon the spinal marrow. The patient, in consequence of this tumour, had, for several years, some symptoms of diseased spine, with a projection of the spinous process, resembling the symptoms of caries. From the dissecting room.

47. Section of a portion of the Spinal Column affected with cancer. The preparation consists of the three lower cervical and eleven upper dorsal vertebræ, to which are attached portions of the ribs, together with the corresponding portion of the spinal marrow. Taken from the body of Charles G., aged 4, who was admitted into the Hospital on Nov. 9, 1839, on account of a firm inelastic tumour, distending the left nostril. This tumour was of a reddish ash colour, and was attached to the

outside of the nostril, the skin and cartilages being much distended. It was also spreading over the jaw, beneath the muscles. The child's health seemed good. The mother reported that the disease had first made its appearance four months previously, in consequence of a blow, which had caused considerable hæmorrhage; and that the tumour had bled repeatedly of late. The tumour was removed; and as it did not appear to be connected with the antrum, the bone was not excised; but the exposed surface was destroyed with chloride of zinc. All appeared to be going on well, when the patient left the house, January 29, 1840. He was readmitted on February 19, looking pale and anxious, and scarcely able to move any of his limbs, in which much pain was felt. The abdomen was large and tender, there was a good deal of fever, and the nostril was full of tenacious mucus and coagulated blood. It appeared that he had had a fall about a fortnight previously, since which time his nose had bled profusely on several occasions. He had rapidly declined in health; and the right hip, on which he was supposed to have fallen, was painful and tender. After his admission, the loss of muscular power increased, but there was no loss of sensibility, nor any sloughing. Somewhat later, there was incontinence of urine and fæces. Some bleeding continued to take place from the nose, and sloughing of the cheek, by which a large part of the superior maxillary bone was exposed and its vitality destroyed. In March, some glands behind the left ear enlarged considerably, and a tumour was felt at the end of the sternum. The general health gradually declined, with much irritation from the gangrene of the face, and the child died on May 12, without any loss of mental power. The original tumour of the nostril and the bones of the face and base of the skull to which it was found attached, are preserved in a subsequent Series. The tumour of the sternum is preserved in Series II. No. 209. Besides these tumours, there were several in other parts of of the body. There was a large mass in the roots of the lungs, spreading towards the circumference of those organs; and several cancerous tumours, chiefly periosteal, attached to various bones. In this preparation, the whole of the bodies of the second, third, fourth, and fifth dorsal vertebræ are involved in the disease; the other dorsal vertebræ are only partially affected. In those places where the osseous tissue is affected with the disease, it is of a pale yellow colour, and quite soft. The anterior and posterior surfaces of the bodies of the upper dorsal vertebræ are covered by a deposit of a malignant nature, which communicates with the deposit in the cancellous tissue of these bones, their outer shell being absorbed. Here it is evident that the spinal marrow

has been pressed upon and flattened by the new structure, which has encroached upon the spinal canal. A similar deposit has been formed upon the anterior surfaces of the lower vertebræ, along all the spinous processes, and on the inner surface of some of the ribs, between the periosteum and the pleura. The periosteum of the fifth rib, containing a portion of the new structure, has been dissected off the bone. All the growths situated on the outside of the osseous tissue presented, when cut into, a solid semi-cartilaginous appearance; the deposit in the cancellous tissue was diffused and soft. The cartilages of the vertebræ were quite healthy. On microscopic examination of the soft grey deposit taken from the centre of the body of one of the vertebræ, it was found to consist mainly of numerous small, circular, granular nuclei, of extreme delicacy.

48. Medullary Carcinoma of the Lumbar Vertebræ. The specimen shows a mass of carcinoma attached to the left side of the bodies of the three upper lumbar vertebræ. The tumour was lobulated, of a brown colour, and when cut into, presented the usual appearance of medullary cancer. The body of the second lumbar vertebra has entirely disappeared; but the intervertebral cartilages remain entire, the space between them being occupied by some of the morbid growth. The bodies of the first and third vertebræ are partially absorbed on the left side. The bodies of the two or three inferior dorsal vertebræ and the superior lumbar were soft, and could be cut with a knife. Portions of the morbid growth, similar in structure to the principal tumour, were found deposited here and there in the cancellous tissue. The principal tumour had extended posteriorly and laterally, external to the dura mater, compressing the cauda equina, so as completely to obliterate the second pair of lumbar nerves. The lower extremity of the spinal cord seemed to be softer than natural, but was not otherwise diseased. The preparation was taken from the body of a gentleman, aged 39, who, in July, 1849, complained of pain in the right loin, extending down the right thigh, which was increased by certain movements. He had had the pain a month, but for years had complained of "lumbago." Later in July, the pain became worse suddenly, and was aggravated by the least movement. He also had a sense of weight in the cæcum and ascending colon. Purgatives brought away much fæces, but without any abatement of symptoms. He was placed under the influence of mercury, but in vain; and in September, a fulness in the left loin was felt opposite the lowest dorsal and first lumbar vertebræ. Spasmodic twitches of the muscles of the legs came on, and his strength gradually gave way. He lost flesh, and was affected

by nocturnal perspirations, and died December 16th, 1849. *Presented by* T. TATUM, Esq.

For fuller particulars, see Sir B. BRODIE'S *Lectures on the Diseases of the Joints*, 5th edition, p. 364.

49. Corresponding section to the preceding.

50. Specimen, showing a carcinomatous fungoid growth connected with the posterior wall of the pelvis, involving the sacrum and adjoining portion of the ilium, and giving rise to separation of the sacro-iliac synchondrosis. The tumour projects to a considerable extent anteriorly, interfering with the sacral plexus of nerves; and this gave rise, during life, to paralysis, with pain in the left leg, and also interference with the bladder. The patient was a woman, aged 30. The tumour was felt during life, per vaginam; but its character was not made out. It also extended backwards to a considerable extent among the deep lumbar muscles. There were also similar growths from the dura mater and from other parts of the body. A preparation of cancer connected with the skull will be found in Series II. No. 228; and preparations of similar tumours connected with the nose, dura mater and pancreas in subsequent Series. *Post Mortem and Case Book.* 1852. p. 13. See also *Pathological Transactions* for 1851-52, p. 226.

51. Carcinoma of the Spine. This preparation was taken from the body of Jane H., aged 55, who was admitted into the Hospital on November 28th, 1828. There was total loss of sensation and muscular power below the thorax, the bladder, rectum, and lower limbs being all paralysed; but the muscles contracted spasmodically when pinched, and even when not touched. She also suffered from violent pain in the abdomen and limbs, in proportion to their rigidity. The urine was alkaline, and the temperature of the lower limbs three or four degrees higher than that of the upper part of the body. There was much pain on pressure being made along the spine, especially in the dorsal region, where a curve forwards had taken place, as if from loss of muscular power. There were several sloughs upon the nates. Pain had been felt in the back eight months before her admission, followed, in two months, by numbness, and soon after by paralysis. She had had the right breast removed for cancer seven years previously; and, during the last six months, cancerous tubercles began to show themselves in the cicatrix, and enlarged glands in the axilla. She died of the exhaustion caused by the sloughing June 17th, 1839. All the bones of the spine were softened, so as to cut more easily, and were more vascular and cellular, than natural; and in cutting out the spinous processes, there were found, in some places in the osseous texture, spots of yellowish substance. The sixth dorsal vertebra was most changed; and from its

body there projected a firm substance in the form of three or four oval prominences, which encroached upon the canal, so as to compress the spinal marrow, as seen in a preparation in a subsequent series. Three of these were covered by the dura mater, in firm union with the morbid growth; but in one part an oval opening, with smooth edges, allowed the new growth to push through. On making a section, two other vertebræ besides the sixth were found to contribute to the tumour, the morbid growth occupying almost the whole of the bodies of these bones. The body of the central vertebra was most altered. Since the front was not increased in bulk, while the posterior part of the bodies was a good deal enlarged, an acute angle was formed, the spine being curved forwards by the growth. The projection into the canal was about half an inch beyond the line of those vertebræ which had no tumour connected with them. In several of these the same new growth was found, though not visible externally. It had the circular form of tubercles. The new growth was firm, with hard fibrous structure of a white colour, arranged in bands, mixed with some yellow substance in the interstices; and there was very little ossific matter. The lungs were healthy ; but the right was everywhere closely adherent, and the pleura hardened considerably more than in ordinary thickening ; the deposit which produced the thickening was probably cancerous. The abdomen contained a small quantity of serum ; but the peritoneum was almost everywhere covered by small tubercles, not extending into the viscera; they were hard and close set, like grains of wheat, a few rather larger. The diaphragm and parts of the small intestines were most affected by the tubercles, which were smallest on the latter part; and many parts of the small intestine were quite matted together by hardening and adhesion of the tubercles, especially the head of the colon and adjoining part of the ileum. The omentum was hardened into a condensed band, about an inch broad and half an inch thick. The peritoneal covering of the uterus and of the adjoining parts was altered in the same way, and the uterus contained in its substance near the cervix a round red body, the size of a pea, separate from the fibrous structure though embedded in it, and not looking like the common fibrous tumour. The axillary glands were of well-marked cancerous appearance, very hard, and with bands going into the cellular membrane; they were about the size of a walnut altogether. The cicatrix of the operation was not adherent to the muscle; the skin contained several common cancerous tubercles in its substance. *Presented by* Cæsar Hawkins, Esq.

52. Section of a Spina Bifida. The spinous processes of the last

lumbar vertebra and of the sacrum are deficient. A portion of the spinal marrow, which has been cut off, is seen to project through the opening caused by the non-development of the osseous structure. No history.

53. Spina Bifida, connected with the lower part of the Spine. The tumour occupies the posterior part of the sacrum, all the laminæ of the spinous processes of the sacral vertebræ being deficient. The cavity of the tumour is intersected by the extremity of the cord and the nerves emanating from it, all of which proceed to the walls of the tumour; from whence, after having been spread out upon a fine membrane, the anterior branches of the four first sacral nerves return in loops to their respective foramina, through which they pass as usual to form the several plexuses. The two lower anterior sacral nerves do not pass through the cavity of the sac. All the posterior sacral nerves are lost in the walls of the tumour, At the neck of the sac, the two layers of the arachnoid membrane are intimately connected with each other. This preparation was taken from the body of a child, aged five months, who also had slight hydrocephalus. The operation of puncturing the tumour was performed three times. After the second operation convulsions came on, the tumour inflamed, and its walls became thickened. The patient subsequently had an eruptive fever, and died in a few days. The case is reported in the *Medical Gazette* for 1844, vol. xxxiv. p. 459.

54. Spina Bifida, taken from a child which died a fortnight after birth, the immediate cause of death being sloughing of the parietes of the sac. The arches of the three lower lumbar vertebræ and part of the sacrum are deficient. The cauda equina passes into the tumour, and some of the nerves are spread out upon the inner wall of the sac, whilst others intersect its cavity. *Presented by* Cæsar Hawkins, Esq.

55. A Cystic Tumour, connected with the lower part of the spinal column, and formed by an extension of the spinal membranes through the lower opening of the canal. The bones seemed perfectly ossified and the tumour appeared to be caused only by an expansion of the membrane which closes the lower orifice of the canal; but, in other respects, the tumour resembled a spina bifida. The patient, a young man, aged 20, Lewis M., died of diffuse inflammation of the membranes of the cord after puncture of the tumour, producing opisthotonos. The continuity of the cyst with the cavity of the membranes is marked in the preparation by a bougie passed between them. A full account of the case and of the dissection is found in the *Post Mortem and Case Book* for 1852, p. 141; or in the *Pathological Transactions*, vol. viii. p. 10.

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SERIES VI.

INJURIES AND DISEASES OF THE PERICARDIUM, HEART, ARTERIES, AND VEINS.

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1. Specimen showing a thick deposit of fibrine on the surface of the visceral layer of the pericardium, forming a shaggy coat. Part of the endocardium is thickened and opaque.
2. Specimen showing the pericardium (both the visceral and the reflected layer) covered by a thick layer of fibrine. In some places the opposed layers are united to each other ; in others the fibrine has assumed a honey-comb appearance. The preparation was removed from the body of George L., who was admitted into the Hospital for necrosis of the tibia. He was operated on, and remained in Hospital some time. Eventually he died of peritonitis. It was never known that he had suffered from disease of the heart.
3. Preparations showing broad loose bands of adhesion, uniting, though only partially, the opposed layers of the pericardium.
4. Specimen showing universal adhesion between the opposed layers of the pericardium by means of loose connective tissue. A large deposition of fat exists around the heart.
5. Specimen showing close and universal adhesion between the opposed layers of the pericardium by means of dense connective tissue. The heart is apparently from a young subject.
6. Specimen showing the sac of the pericardium which had been greatly dilated by the accumulation of a thick tenacious fluid, of a yellow colour. The free surfaces of both layers of the serous membrane are covered with thick layers of fibrine, of a reddish colour, presenting in some parts a flocculent appearance. The heart is enlarged, but it has not been laid open. There were also found indications of recent pleurisy, and extravasated blood in the substance of the lungs. The preparation was removed from the body of Eliza L., aged 14, who was admitted into the Hospital January 29, 1845. She complained much of orthopnœa, pain at the cardiac region, and feelings of fainting. The heart's action was occasionally intermitting, and accompanied by a tremulous sensation. The expectoration was bloody. The patient died March 20th. *Post Mortem and Case Book.* 1845. p. 71.
7. Specimen showing large deposits of calcareous matter in connection both with the parietal and the visceral layer of the pericardium (dried preparation). The principal part of the calcareous matter has been deposited around the right auricle where it measures $2\frac{1}{2}$ inches in height and 2 inches in breadth. The preparation was removed from the body of William B., aged 57, who was brought into the Hospital January 28th, 1834, with dyspnœa, palpitation, and general dropsy. He had suffered at various times from these symptoms for a period of 12 years, but for about three years before admission, the heart's symptoms had given but little trouble. Whilst in the Hospital, nothing unusual about the heart was

heard with the stethoscope. The patient had an attack of hemiplegia, and died May 5th. *Post Mortem and Case Book*, *p.* 67, *Path. Soc. Trans.*, vol. xi. p. 73.

8. Specimen consisting of a heart, showing a narrow ring of fibro-calcareous matter connected with the pericardium and embedded in the sub-serous tissues of the fossa between the auricles and ventricles (dried preparation). The bony ring entirely encircled the heart, but was not found in any other part. The coronary arteries and veins were natural ; the opposed layers of the pericardium were everywhere firmly adherent. The heart was large, all its walls being hypertrophied, and its cavities dilated. The free edges of the mitral valve-flaps were thickened, and the lining of the left auricle also thicker and more opaque than usual ; the other valves, etc., were healthy. The abdominal organs were very congested. The specimen was removed from the body of Mary P., aged 17, who was admitted into the Hospital October 22, 1856. She had had rheumatic fever four years before admission, and ever since had been subject to palpitation, which for six months had been more severe. On admission into the Hospital the pulse was 120 and feeble, and much distention of the jugular veins existed. The heart's action was tumultuous, and a very loud mitral murmur was audible. The tongue was coated ; the urine scanty and albuminous, containing a few 'casts.' She died four days after admission. *Post Mortem and Case Book.* 1856. p. 247. *Path. Soc. Trans.*, vol. xi. p. 72.

9. Specimen showing a ring of calcareous matter connected with the pericardium and encircling the base of the heart, at the part corresponding to the fossa between the auricles and ventricles (dried preparation). The heart itself was natural, and so were the coronary arteries and veins. The liver and kidneys were granular, and the spleen was of unusual dimensions and occupied by a large wedge-shaped mass of fibrine. A large clot of blood was found in one of the cerebral hemispheres. The specimen was removed from the body of Stephen H., aged 30, who was admitted into the Hospital August 30, 1856, with ascites and epistaxis. The urine contained albumen. He became comatose, and died about three weeks after admission. *Post Mortem and Case Book.* 1856. p. 218. *Path. Soc. Trans.*, vol. xi. p. 72.

10. Specimen showing carcinomatous deposit (encephaloïd variety), in connection with the lymphatic glands at the root of the lungs, which has involved the upper and left portion of the pericardium. The deposit, where connected with the pericardium, ulcerated and gave way, so that about a pint of blood passed into the pericardial sac. The deposit surrounds the lower part of the trachea, the bronchi, the trunk of the pulmonary artery, the

pulmonary veins of the left side, the arch of the aorta, and for the most part its branches ; the anterior part of the aorta and innominate artery were however left uncovered. The deposit was also in contact with the œsophagus, of which about $4\frac{1}{2}$ in. at the point of contact had been thickened and contracted, and with the left lung, into which it extended, considerably diminishing by pressure the calibre of the left bronchus and its branches. The descending vena cava was much lessened by pressure of the tumour, and in one part its coats had been absorbed, so that a small fungous projection had taken place into its interior. The heart was healthy, and except some lymphatic glands above the pancreas, all the other parts of the body were natural. These masses of deposit were for the most part white, but some were black in the centre, and some had begun to soften and become red.

Microscopical Examination.—When examined, after maceration in spirit for many years, these masses of deposit were seen by the microscope to consist almost entirely of small nucleus-like bodies, chiefly oval, but at times round, a few possessing nucleoli. The bodies were mostly smaller than pus globules, even after the addition of acetic acid, and nearly all of them contained opaque and granular matter ; a few were very like pus globules. The preparation was removed from the body of a man, aged 51, who was admitted for cough, dyspnœa and hæmoptysis, with well-marked physical signs of consolidation of the left lung. He was bled and blistered, but excessive expectoration to the amount of 3 pints in 24 hours set in, and he died suddenly on the night chair. Similar deposit in the lung will be found described as preparation 30, in Series vii. *Presented by* CÆSAR HAWKINS, Esq.

11. Specimen showing carcinomatous deposit (encephaloïd variety) affecting the pericardium to a considerable extent, as also the left lung and mediastinum, the pleura costalis, and the intercostal tissues. A portion of the growth has penetrated an intercostal space, and surrounded one of the ribs. Similar growths existed in the spleen, liver, and other viscera.

Microscopical Examination. — After maceration for many years in spirit, the juice expressed from all parts of the deposit, either on the pericardium or surrounding tissues, showed simply large numbers of small oval, round and elongated bodies, most of them having granular contents, but many with only limpid contents. Occasionally large opaque cells were met with, and more frequently cells were seen less than the large ones just mentioned, but larger than pus globules, and a few with distinct nucleoli ; some were angular. Nothing like fibrillation was met with. The specimen was removed from the body of James J., aged 38, who was

admitted into the Hospital January 18, 1843, with symptoms resembling those of pleurisy with extensive effusion into the chest. Shortly after admission, the nature of the disease was made plainer by the appearance of large soft tumours at the intercostal spaces. These increased in size, and ultimately made their way to the parts subjacent to the skin. The patient died February 15. *Post Mortem and Case Book.* 1843. p. 30.

12. Specimen showing rupture of the septum of the ventricles producing a communication between the two cavities. The appearance which now exists at the posterior surface of the heart was produced by the dissecting off of a portion of a serous membrane, under which some blood had been effused. The pericardium was not lacerated. The second and third ribs on the left side were fractured near their cartilages, and the fourth, fifth, and sixth on the same side near their angles. Some ribs on the right side also were fractured. The preparation was removed from the body of a child, aged 5, over whose chest a heavy cart had passed. He died about half an hour after the accident. *Post Mortem and Case Book.* 1843. p. 143. *Path. Soc. Trans.*, vol. i. p. 56.

13. Specimen showing laceration of the left auricle and of a small part of one of the pulmonary veins. This rent, when recently examined, measured half an inch in length and a quarter of an inch in width ; the pericardial sac was filled with blood, and extravasated blood was found at the root of the lung. Two slight lacerations of the surface of the liver also existed. The preparation was removed from the body of Richard D., aged 29, who was admitted into the Hospital October 3, 1845, having fallen from a ladder. When brought in, he was collapsed, and there was great congestion of the face. This disappeared shortly; a small irregular pulse however remained, with great thirst and pain referred to the chest. The patient died two hours after admission. *Post Mortem and Case Book.* 1845. p. 233. *Path. Soc. Trans.*, vol. i. p. 81.

14. Portion of a heart showing a rupture of the anterior and upper part of the right ventricle at its juncture with the pulmonary artery, through which the tip of the index finger could easily be passed into the cavity of the ventricle immediately below the valves of the artery. The laceration, which is in a transverse direction, is situated on the anterior surface of the heart; and the pericardium was filled with blood. The other parts of the heart were not injured, but its cavities were dilated and its muscular structure thin and flaccid. The preparation was removed from the body of George B., aged 53, who was kicked on the chest by a horse. He was thrown backwards several feet by the blow, and was picked up by the passers by,

quite dead. The sternum and several ribs on both sides were fractured. *Post Mortem and Case Book.* 1846. p. 169. *Path. Soc. Trans.*, vol. i. p. 55.

15. Specimen of a heart, showing extensive rupture in a transverse direction, of the left auricle of the heart and of the left side of the pulmonary artery within the pericardial sac. The sac was filled with blood, and much blood was also effused into the mediastinum, about the root of the lung, but none into the pleural cavity. Besides the above lesions, there was fracture of the sternum and of several ribs, as well as rupture of the spleen and extravasation of blood into the abdominal cavity. The preparation was removed from the body of a man who was thrown from, and run over by, a cart, and after some time was brought into the Hospital on the point of death. *Presented by* CÆSAR HAWKINS, Esq. *Path. Soc. Trans.*, vol i. p. 57.

16. Rupture of the septum ventriculorum, about half an inch below the origin of the pulmonary artery. The laceration measured, when the preparation was fresh, about half an inch at its right extremity (in the right ventricle), while in the left ventricle there was only a small hole, just sufficient for the passage of a probe. The muscular substance was bruised around the laceration, and one or two of the columnæ carneæ on the left side of the septum were torn. The pericardium was healthy. The preparation was taken from the body of a boy, aged 12, who was admitted into the Hospital in a dying state, having fallen from a great height, apparently on his feet. There was a compound comminuted fracture of the femur, and the condyle of the lower jaw was driven through the glenoïd cavity. He died about four hours after his admission. *Post Mortem and Case Book.* 1853. p. 31. *Path. Soc. Trans.*, vol. v. p. 101.

17. Transverse section of the heart, showing hypertrophy of the walls of the left venticle. No disease of the valves existed.

18. Specimen showing excessive enlargement of the heart, depending chiefly on hypertrophy and dilatation of the left ventricle. There was no disease of the valves. The heart weighed 40½ ounces. Its circumference near the base measured 14½ inches; the length from the root of the arteries at the base of the septum to the apex measuring 8½ inches. The thickness of the left ventricle, near the base was 1 $\frac{4}{10}$ths-inch, and near the columnæ carneæ 1½ inch. The above statements are derived from Dr. WILLIAMS' work on the chest, in which the specimen was described. It was removed from the body of an under-butler of a nobleman, who had continued going about until within a few days of his death.

19. Preparation showing extensive thickening of the walls of the left ventricle. The aortic valve is natural but thickening

with atheromatous deposit of the walls of the aorta exists. *Presented by* CÆSAR HAWKINS, Esq.

0. Specimen showing dilatation of the left ventricle of the heart, with remarkable attenuation of its walls, especially towards the apex, where their thickness does not exceed that of a shilling. The aortic valve and the root of the aorta are much thickened by atheromatous deposit, which exists also to a slight extent in the coronary arteries. The preparation was removed from the body of a man, aged 35, who had been suffering for two years from palpitation and severe pains about the heart, at times quite excruciating. The pulse was hardly perceptible, and the lower limbs were œdematous. Whilst in the Hospital, the patient had smallpox, from which, however, he recovered. *Post Mortem and Case Book.* 1842-3. p. 62.

1. Specimen consisting of the left side of the heart, showing excessive dilatation of the left auricle, which has been opened, and the parietes of which have been reflected. The mitral orifice is very large, and the walls of the ventricle much thickened. The same condition, though to a much slighter extent, existed on the right side also. The only valvular implication was slight thickening of the corpora Arantii on the aortic valve flaps, and one or two elevations on those of the mitral valve. The entire heart weighed 29 ounces. Much fat existed on the surface of the heart, and many bands of adhesion between the opposed surfaces of the pericardium. There were considerable ascites, and congestion of the abdominal and thoracic viscera, as well as ulceration of the mucous membrane of the cæcum; the blood in the body was præternaturally fluid. The preparation was removed from the body of John M., aged 26, who was brought into the Hospital March 26, 1851, He had suffered from ascites, palpitation, and cough, for some time, but had never had rheumatism. On his entry into the Hospital, there was great and violent irregularity of the heart's action, which was felt over an extended space, and an indistinct bruit with the first sound was audible over the apex of the heart. The patient was anasarcous, and cachetic in look. The urine was not albuminous. The anasarca, palpitation and dyspnœa became worse, and vomiting, with a gangrenous state of the right leg, came on. The patient died April 20 1851. *Post Mortem and Case Book.* 1851. p. 85.

2. Excessive dilatation of the left auricle of the heart, with thickening of the mitral valve flaps, and contraction of the orifice. The dilated auricle presented, at first sight, the appearance of a large aneurysm, inasmuch as its cavity was filled with large fibrinous coagula of a light grey colour, and distinctly laminated towards its circumference; the coagula, towards the centre, were soft and broken-down, but yet quite distinct from

the blood, which, since the death of the patient, had coagulated in the auricle. The layers of coagula, in contact with the walls of the auricle, were adherent thereto in many places, and after these coagula were removed, several small deposits of calcareous matter were found in the walls of the auricle. The right auricle was somewhat dilated, and contained in its appendix a coagulum similar to, but smaller than, the one on the left side; the right auriculo-ventricular orifice was natural. There was also a granular state of the liver, and diseased condition of the kidneys; and the peritoneum was in places thickened. The preparation was removed from the body of Francis J., aged 38, who was brought into the Hospital, October 4, 1843, having shortly before been an inmate for palpitation, from which she had only suffered for six months. She had had rheumatic fever eleven years before her admission, and was suffering from orthopnœa, ascites, anasarca, coldness of the skin, duskiness of countenance, and irregularity of the heart's action. The latter was felt over an extended space, and the pulse was feeble. The urine was not albuminous. The patient died October 13. *Post Mortem and Case Book.* 1842-43. p. 211.

23. Specimen showing dilatation of the right auricle of the heart. The right auriculo-ventricular orifice is reduced to a small circular opening, and all valvular appearance is destroyed by thickening and contraction of, and adhesion between, the valve-flaps. The right ventricle is dilated and thinned as to its walls. The valve of the pulmonary artery is healthy. The left auricle is also somewhat dilated ; and the mitral orifice is so contracted by thickening, and induration of the valve-flaps and tendinous chords, as only to allow the passage of a single finger. The aortic valve flaps are also thickened and contracted. A rounded contracted liver, and granular kidneys, with congested lungs and fluid in the pleural sacs were found. The preparation was removed from the body of Alice P., who was brought into the Hospital November 3rd, 1848, with dyspnœa and palpitation, etc. There was a tumultous action of the heart, and a loud systolic bruit, heard chiefly at the apex, though at the base also, with occasionally a diastolic bruit at the base. The patient had never had rheumatic fever, or other acute disease. *Post Mortem and Case Book.* 1848. p. 57.

24. Specimen showing two pouches in the walls of the left ventricle of the heart, along with unusual pericardial adhesion. Of these pouches, the largest is situated above the mitral orifice, and may be seen to project into the cavity of the left auricle, having very thin walls. This pouch is about equal in size to a pigeon's egg. The smaller pouch, being about equal in size to a walnut, is situated at the upper part of the septum of the

ventricles, and projects partially forwards into the pulmonary artery, and partially backwards so as to narrow the orifice of the aortic valve. Both pouches possess large open communications with the ventricle, with smooth fibrous margins, and are apparently lined by the internal membrane of the ventricle. They also contain the remains of coagula of blood. Both ventricles are somewhat dilated.

25. Specimen showing an aneurysmal pouch in the upper part of the septum of the ventricles of the heart, communicating with the cavity of the left ventricle. The opening into the left ventricle is very large, with jagged irregular margins, as if it originated from ulceration which had also involved a large portion of one of the aortic valve flaps and a small part of each of the others at their bases. Half of the flap chiefly affected is almost completely destroyed by ulceration, only the thicker edges being left. Besides the ulceration, one of the other flaps presents a large oval cribriform opening at one of its angles, and all of the flaps have some recent fibrine attached to their arterial surfaces. The aneurysmal pouch, which is about equal in size to a small bantam's egg, projects considerably into the cavity of the right ventricle, and also presses against one of the semilunar valve flaps of the pulmonary artery, so as slightly to contract the orifice of that tube. The walls of the heart generally do not seem to have been materially affected, but the inner surfaces of the right ventricle, and of the pouch, present small isolated patches of opaque thickened membrane, which, when examined *microscopically*, after maceration for many years in spirit, exhibited merely a quantity of semi-opaque yellowish fibroïd matter. The lining membrane of the left ventricle presents but one small speck of this opaque thickening. The orifices of the coronary arteries are also affected by it.

26. Specimen showing extensive dilatation of the lower part of the left ventricle, the right side of the cavity being the most affected. The ventricle itself was so large that it almost equalled in size a healthy heart. Its walls at the upper part are of moderate thickness, but, lower down, have become gradually attenuated, so that quite at the apex all muscular structure is lost, and nothing appears to remain but thickened and opaque endocardium which is adherent to the parietal pericardium, and which has added to its strength, most possibly preventing rupture. Some layers of coagula are adherent to the thickened endocardium at the lower part of the ventricle. Excepting slight atheroma of the aortic valve flaps, the remainder of the heart is healthy. The preparation was removed from the body of George S., aged 70, who was brought into the Hospital February 28, 1848. There was anasarca,

dyspnœa, and palpitation, and the sounds of the heart were muffled, but unattended by a murmur, the pulse being at one time regular, at another intermitting, at one time large and soft, at another small and weak and jerky. He was greatly relieved by diuretics, but sank and died March 4. *Post Mortem and Case Book.* 1848, p. 43.

27. Specimen showing the pouching of the outer wall of the left ventricle of the heart (close to the apex) forming a sac of about the size of a large nutmeg. The sac is quite empty, excepting some shreddy light-coloured fibrinous material attached to its inner surface, and its inner wall is formed of a dense light-coloured material, consisting of condensed endocardium and muscular structure. Moreover the muscular structure around is in one or two parts replaced by a fibrous substance, and the outer surface of the sac is partly covered by old-standing shreddy fibrinous material, and is seen to have been partly adherent to the reflected pericardium. *Presented by* Dr. JOHN W. OGLE.

28. Preparation showing a cavity in the wall of the left ventricle of the heart, communicating freely with the sac of the pericardium, the result of secondary suppuration. It did not communicate with the cavities of the heart, but corresponding to its inner side, may be seen a crop of fibrinous elevations on the inner surface of the auricle. The patient was a boy, five years of age, who was admitted in a dying condition, on March 24th, 1858, and died on the next day. On post mortem examination, secondary deposits, the sequel, as it appeared, of extensive caries of the right os calcis, were discovered in the lungs and in the subcutaneous cellular tissue; and, on examining the heart, there was found a copious deposit of sero-purulent fluid in the sac of the pericardium, and of lymph on the surface of the heart, as may be seen in the preparation. The walls of the cavity above-mentioned were sloughy (as were those of several of the abscesses in the lungs), and *when examined by the microscope*, its contents were found to be decomposed blood and remains of muscular tissue. The fluid which the cavity had contained had probably been evacuated into the pericardium. *Post Mortem and Case Book.* 1858. p. 85.

29. Specimen showing purulent deposit in the wall of the heart. This deposit, like that in the last specimen, was the result of pyœmia in a child. It is separated from the rest of the heart by portions of bristle.

On *microscopic examination*, it was found to consist of purulent lymph, with broken-up muscular fibres. There was lymph on the surface of the heart. The patient, a boy, aged 6, died of pyæmia, after periosteal abscess of the tibia. 'Secondary deposits' existed in the lungs. *Post Mortem and Case Book.* 1858. p. 220.

30. Specimen showing part of the parietes of the left ventricle of the heart, occupied by a deposit of a lightish buff colour, consisting, as shown by the *microscope*, of nucleus-like cells, amorphous granular and fatty matter, and some incipient connective fibres. This deposit occupied the entire thickness of the wall for about two inches in length, near the apex and towards the septum of the ventricles. Corresponding to it externally, the opposed layers of the pericardium were adherent, and corresponding internally a mass of coagulated fibrine and blood was adherent, evidently of some standing. A portion of one of the fleshy columns was in a condition similar to the heart's walls above-mentioned, being of a light colour, attenuated, tough, and leathery. Associated with this condition, indications of pleurisy and pneumonia, with extravasation of blood into the lower part of the lungs existed, and the heart itself was dilated, its muscular walls being fatty. Moreover, around the deposits, much of the heart's structure had assumed a fibrous character. The specimen was removed from the body of Jane G., aged 22, who was brought into the Hospital April 24, 1852, greatly exhausted and spitting blood. There was great dyspnœa, cough, and red frothy expectoration. Her extreme weakness prevented due examination of the organs of the chest during life, and she died April 25. *Post Mortem and Case Book.* 1852. p. 100.

31. Specimen showing a deposit of fibrinous matter in the muscular substance of the heart of a dog. The anterior and right portion of the wall of the left ventricle, is involved for about the distance of $2\frac{1}{2}$ inches from the apex, where the whole thickness of the parietes is affected by the deposit.
Microscopical Examination.—After maceration in spirit for some years, this deposit was found to consist of an obscure blastematous structure containing some delicate fibres and granular matter, and a few small nucleus-like bodies, as if there had been a tendency to cell formation, but nothing more. *Presented by* Dr. HANDFIELD JONES.

32. Preparation showing deposit of fibrinous material within the septum of the ventricles, and in the substance of the posterior wall of the left ventricle of the heart. The deposit is in the form of large masses, varying in size, and may be seen bulging out on the surface of the septum into the right ventricle. The endocardium corresponding to this deposit, is opaque and thickened. On both sides of the heart the valves are healthy, but slight atheromatous deposit exists at the root of the aorta. The walls of the ventricles generally are thickened, and the pericardial sac was distended with turbid flaky fluid. The lungs were congested and emphysematous, and the liver and kidneys were congested. The preparation was removed from the

body of Henry N., aged 30, who was admitted into the Hospital November 7, 1855, in an anæmic and emaciated state, having lost much blood, owing to piles, and latterly having suffered from epileptic attacks. His pulse was regular, but only 48 per minute, and the heart's action was feeble. Seven years previously he had had rheumatic fever. He suffered from cough, and subsequently complained of giddiness and faintness. His pulse fell to 36 per minute. Pain in the loins, uneasiness of the chest, and great weakness preceded death, which took place on the 17th. The urine was never found to be albuminous. His pulse, during the whole time, fluctuated between 36 and 50 beats per minute. *Post Mortem and Case Book.* 1855. p. 328. *Path. Soc. Trans.*, vol. viii., p. 116.

33. Specimen showing a large quantity of fibrinous deposit in the substance of the septum of the ventricles of the Heart. The endocardium covering the deposit is very thickened and opaque. The left ventricle was dilated and its walls atrophied. The preparation was removed from the body of Horatio E., aged 33, who was brought into the Hospital October 24, 1855, complaining of faintness, vertigo, etc. He had had pain in the chest and cough, with hæmoptysis. The pulse was 36 and weak, and the heart's sounds free from murmur, but distant and feeble. The pulse continued as low throughout, and at one time was only 28 per minute. The patient died October 31, shortly after an attack of grinding of the teeth and twitching of the hands, during which attack the pulse was only 20 per minute. *Post Mortem and Case Book.* 1855. p. 288. *Path. Soc. Trans.*, vol. vii. p. 167.

34. Specimen showing deposits of fibrine, occupying the walls of both ventricles of the heart, and chiefly their septum. The deposit is both diffused and in masses, and in one place, at the base of the septum, there is a depression showing the tendency to the formation of an aneurysmal pouch from the left into the right ventricle. The walls of the left ventricle were hypertrophied; and the aortic valve flaps, as well as the walls of the aorta, were very thickened and rigid. *Path. Soc. Trans.* vol. viii. p. 118.

35. Specimen showing fibrinous masses deposited in the substance of the septum of the ventricles of the Heart. The patient died of some disease totally unconnected with the heart. *Presented by* Dr. JOHN W. OGLE.

36. Specimen showing a large quantity of calcareous matter deposited in the substance of the posterior wall of the left ventricle. This deposit was collected into a rounded mass with a roughened granular surface, and was continuous with like deposit in some of the chordæ tendineæ and in the structures forming the mitral valve, by which its orifice was greatly diminished, and

reduced simply to a longitudinal fissure. The aortic valve-flaps are thickened and somewhat puckered, and the walls of the ventricles, especially the right one, are thickened. The lungs were congested, and contained a small patch of extravasated blood. The liver was granular, the kidneys congested. The preparation was taken from the body of John S., aged 32, who was admitted into the Hospital October 26, 1842. For three years he had been suffering from dyspnœa, palpitation, etc., and latterly his legs had become œdematous, and ascites had supervened; the pulse was very weak and intermitting. The patient died a few days after admission. *Post Mortem and Case Book.* 1842-3. p. 68.

37. Section of a Heart, showing the presence of a large carcinomatous mass (of the encephaloïd variety) projecting into the cavity of the left auricle from the substance of its walls. It is connected with a large irregular mass of the same nature in the posterior mediastinum, and around the root of the lung, and itself consists of distinct rounded masses. (In this preparation the heart is lying upon its right side, and the section of the ventricles has been made nearly on a level with the auriculo-ventricular openings.) Masses of the same kind of carcinomatous material existed also in the region of the left kidney and pancreas.

Microscopical Examination.—This material was found to contain large numbers of oval and round cells of various sizes, some with and others without nuclei; also much granular matter and refracting particles. Some of the cells were elongated, but none were caudate. No fibres were visible. *Post Mortem and Case Book.* 1845. p. 199.

38. Specimen showing carcinomatous deposit (the so-called melanotic variety) connected with the walls of the heart. The deposit affects the substance of the muscle, projecting upon the outer surface and to a slight extent, as in the right ventricle and auricle, upon the inner surface of the cavities. The pericardium was also extensively occupied by the deposit in masses, as were the mediastinal glands, and other viscera of the body.

Microscopical Examination. — These deposits were seen to be mainly composed of rounded and oval bodies of about double the size of pus globules, containing two or three nuclei. A great number of these cells contained much colouring matter, giving the whole mass the dark colour which it possesses.

The specimen was from the body of James H., aged 27, who was brought into the Hospital February 20, 1856, for the relief of several subcutaneous tumours which proved to be malignant. The patient had many epileptic seizures and much pain in the head, no doubt connected with the carcinomatous deposit which

was found within the cranium, and died May 3. *Post Mortem and Case Book.* 1856. p. 100. *Path. Soc., Trans.* vol. vii. p. 5.

39. Specimen showing a large carcinomatous tumour, projecting out of the cavity of the chest, and involving the lungs and base of the heart. A vertical section has been made through the tumour in the middle line of the body, so as to show its relations. In front may be seen the portion of tumour which lay beneath the skin; below this are seen the three fragments of the sternum (possibly the two lower may be ossified ends of the costal cartilages), then the portion filling up the anterior mediastinum, with pieces of lung-tissue involved in it, and still lower down the part which encircles and occupies the base of the heart. The great vessels in the chest were all embedded in the tumour, but none of them were apparently affected by it. A bougie has been passed through one of these, probably the left innominate vein. Separate carcinomatous tubercles were found in many parts of the walls of the heart, some of which may be detected in the preparation; and the tricuspid valve is surrounded by a ring of carcinomatous deposit. The patient, a healthy-looking young man, aged 23, was admitted with a pulsating tumour at the upper part of the sternum, at its right side, of about the size of a pigeon's egg, which he had noticed about seven months. A little cough had preceded its appearance, and just before his admission he had lost his voice and complained of dysphagia. The pulse was full and bounding and the force of the successive beats in the right wrist was unequal. The pulsation of the tumour was strong; and a systolic bruit, synchronous with one at the base of the heart, could be heard over it. No aneurysmal whirr was detected, after repeated examinations; still it was thought most probable that the tumour was an aneurysm. The dyspnœa, which was relieved at first by rest in bed, and by cupping, soon increased, and he died about a month after his admission. *Post Mortem and Case Book.* 1857. p. 243. *Path. Soc. Trans.* vol. ix. p. 29.

40. Specimen showing a large cyst in the walls of the heart. It corresponds partly to the septum, and partly to the apex of the right ventricle towards its anterior part. Muscular fibres may be traced passing over the parietes of the sac, to the outer surface; of which the visceral layer of the pericardium, greatly thickened, is adherent. The sac is lined by a thick membrane, in which deposits of calcareous matter exist; it does not communicate with either of the ventricular cavities. The nature of the contents originally found in the sac is not known.

41. Large cyst beneath the visceral layer of the pericardium, covering the posterior surface of the right ventricle of the heart,

and filled with blood coagulum of old standing, most probably the result of rupture of a branch of the coronary artery. The cyst was flattened, and about 3 inches in length, extending as high as the separation between the auricle and the ventricle: its walls are very firm, and in most parts of considerable thickness. There was no communication between the cyst and any of the heart's cavities. Most of the blood clot in the cyst was in the form of brownish-red granular material, crumbling on pressure: but some of it, and that entirely confined to the immediate neighbourhood of the walls of the cyst, was disposed in a laminated form. On *microscopical examination* nothing was found in the contents of the cyst but blood globules in various conditions, mixed with colouring matter, and such débris as is commonly found in old broken-down blood-clot. Extensive pleural adhesions, of old standing, were found in both sides of the chest, and a very large amount of clotted blood, here and there laminated, existed in the right pleural cavity. The lungs were congested and hepatized, and the kidneys were granular.

The preparation was removed from the body of W. D., aged 55, who was brought into the Hospital suffering from anasarca and orthopnœa. His face was very livid, and he was evidently in a collapsed state. The pulse was very irregular and slow. The heart's sounds were rather muffled, and its action irregular and flagging. There was much thin blood-stained expectoration. The patient became delirious, and died three days after admission. *Post Mortem and Case Book.* 1855. p. 204. *Path. Soc. Trans.*, vol. ix. p. 165.

42. Specimen showing fibrinous coagulum, of rather long standing, within the appendix of the right auricle of the heart. No other clot of any kind existed in the cavities of the heart. On *microscopical examination*, the clot which was very much softened as to its central parts, and much adherent to the walls of the cavity, was found to be full of variously-sized cells, some with and others without nuclei, containing also numbers of delicate small fibrils and isolated nuclei; and also several so-called 'compound granular corpuscles.' There was a slight amount of atheromatous deposit in the coronary arteries, and dilatation of the right ventricle, with thickening of one of the aortic valve-flaps of the heart: the latter weighed 8½ ounces. The whole arterial system showed much atheromatous alteration. The kidneys presented a cysted and granular condition, and the capsules of the spleen and liver were opaque and thickened. The pleural sacs and the lung substance contained much fluid. The specimen was removed from the body of Mary S., aged 65, who was admitted into the Hospital August 25, 1852, with

dyspnœa, ascites, and albuminous urine. After sinking for a length of time, she died October 7. *Post Mortem and Case Book.* 1852. p. 194. *Path. Soc. Trans.*, vol. xiv.

43. Portion of the left side of the heart showing numerous deposits of soft yellow fibrine on the surface of the lining membrane of the auricle, and of the auricular aspect of the mitral valve-flaps. The membrane lining the auricle has an opaque and thickened character. The specimen was removed from the body of a girl, aged 26, who had been the subject of several rheumatic attacks.

44. Specimen showing soft pendulous deposits of yellow fibrinous material connected with the auricular surface of both auriculo-ventricular valves. The valvular orifices, especially the one on the left side of the heart, are contracted.

45. Specimen showing extensive deposits of dense yellow fibrinous material on the aortic valve-flaps, especially upon the ventricular aspect. Amongst these deposits are a few masses of calcareous matter One of the valve-flaps presents a large ragged opening with fringes around it. The mitral orifice and valve were healthy, but the left ventricle was dilated; its walls being greatly attenuated towards the apex. The root of the aorta is slightly atheromatous.

46. Specimen showing numerous long and soft fibrinous deposits connected with the ventricular surface of the aortic valve-flaps hanging down into the cavity of the ventricle. Immediately below the middle flap, are the openings of two small aneurysmal pouches. The mitral valve-flaps were also covered by similar deposits. The preparation was removed from the body of a man who had undergone the operation for aneurysm of the posterior tibial artery. The artery is shown as preparation No. 129 in this series. The patient died with symptoms of heart disease, November 17, 1842.

47. Section of the left auricle and ventricle, showing extensive deposition of irregular patches of fibrine on the lining of the auricle, as well as on the auricular surface of the mitral valve flaps along with a certain amount of calcareous matter. All the cavities of the heart were dilated, but not hypertrophied, and were filled with blood coagula, their lining membrane being blood-stained. Some of the tendinous cords of the mitral valve were greatly thickened and stiffened. There was also extravasation of blood into the lung substance, and disease of the kidneys. The preparation was removed from the body of Henry R., who was brought into the Hospital suffering from palpitation, pain in the cardiac region, and anasarca. He was relieved by blood-letting, diuretics and expectorants. Before death, partial coma, delirium, and dilatation of the pupils came on. *Post Mortem and Case Book.* 1845. p. 47.

48. Specimen showing masses of decolourised fibrine lodged within the recesses between the fleshy columns of the right ventricle. Some of these masses contained puriform fluid within them. A few fibrinous masses were found in the left ventricle also. One of the fleshy columns in the left ventricle was converted into a yellowish white mass, and a large part of the upper portion of the left ventricle near the auricle, had partially undergone a similar change. In these places spots of ecchymosis were met with, and a branch of the coronary artery passing through them, was blocked up by a mass of fibrine. The left internal carotid artery passing at the side of the sella turcica contained a quantity of firm fibrine and clotted blood, which appeared as if it had been very long coagulated ; and the corpus striatum of the same side was softened and of a yellow colour. The preparation was removed from the body of a woman, aged 56, who died in the Hospital, having been for some time before admission subject to supposed hysteria. Only a few days before death, the patient had complained of great pain at the region of the heart ; this was followed by œdema and incipient gangrene of the lower extremities. A drawing of the specimen, executed by Mr. PERRY, in the year 1829, exists in the museum. *Presented by* CÆSAR HAWKINS, Esq. See *Path. Soc. Trans.*, vol. xiv.

49. Thickening and puckering of the aortic valve-flaps, which are only two in number. One of these flaps has apparently been formed by the blending of two original ones. The root of the aorta contains much fibrinous material deposited in connection with the inner coat. Two small openings, through which bristles are passed, are seen between the margins of two of the flaps of the aorta, as if ulceration had occurred at some previous time. The left ventricle was hypertrophied and dilated, and the kidneys were diseased. The preparation was removed from the body of William D., aged 35, who was brought into the Hospital, having died suddenly before admission. *Post Mortem and Case Book.* 1848. p. 216.

50. Specimen showing complete adhesion of the edge of one of the aortic valve-flaps to the opposed surface of the aorta. The heart's cavities were dilated : the lungs were hepatized and the kidneys diseased. The preparation was taken from the body of William H., aged 43, who suffered from dyspnœa, palpitation, and faintness, with pain at the chest. He never had had rheumatic fever. The pulse was not synchronous with the first sound of the heart, which was obscure : the second sound was attended by a loud rough murmur. There was no dropsy. The patient died June 17, 1848. *Post Mortem and Case Book.* 1848. p. 123.

51. Specimen showing general thickening of the aortic valve-flaps.

The middle one is torn away, as to its angles, from its natural attachments, and, united as it were, at a lower level to the arterial tube than the contiguous flaps. This particular flap was also attenuated in structure, and in this manner a species of dilatation or 'sacculus,' with the pouch turned towards the ventricle, was formed by the regurgitating current of blood. There were also indications of slight ulceration of the arterial surface of this flap, to which process the condition of the flap was probably to be attributed. There was a general atheromatous condition of the aorta and also hypertrophy of the heart's walls, with dilatation of its cavities. The preparation was removed from the body of George G., aged 33, who was brought into the Hospital November 19, 1851, and died in January, 1852, of pleuro-pneumonia, having had severe hœmoptysis. The patient had never had rheumatic fever. *Post Mortem and Case Book.* 1852. p. 15. *Path. Soc. Trans.*, vol. ix., p. 139 (foot note).

52. Specimen showing thickening of the mitral valve-flaps, the orifice being so contracted as not even to admit the tip of the little finger. The tendinous cords are much shortened, and the fleshy columns very thickened. The aortic valve-flaps, though slightly thickened, were efficient; the walls of the left ventricle were natural, those of the right one thickened; the aorta was natural. Both lungs were generally crepitant, but contained masses of extravasated blood, some of which were obviously of long-standing. The liver was congested, the capsule and internal fibrous tissue being thickened. The preparation was removed from the body of S. A. C., aged 32, who was admitted into the Hospital September 20. He had had two or three attacks of rheumatic fever, whilst in Africa, about two years before admission, and after this he was seized with hæmoptysis, whilst marching up hill. Subsequently he was subject to dyspnœa and palpitation. When admitted, anasarca, ascites, dyspnœa, a feeble but regular pulse, and an increase in the heart's action existed, along with extended præcordial dulness. A marked systolic murmur was heard, equally at the base and at the apex, and much bronchitic *râle* in the lungs. The urine was at first albuminous, but not so afterwards. Hæmorrhage from the bowels came on, and great duskiness of the face, with increased dyspnœa and cough. Salines, diuretics, and antimony were resorted to, with cupping. Shortly before death, which occurred November 25, 1848, the expectoration contained blood. *Post Mortem and Case Book.* 1848. p. 236.

53. Specimen showing deposit of calcareous matter in the chordæ tendineæ of the left side of the heart. Similar deposit existed also in the valve-flaps and the root of the aorta to a slight extent, and in the coronary artery to a great degree.

54. Specimen showing complete infiltration of the aortic valve-flaps, by calcareous matter, which seems deposited between the component parts of the flaps, the latter being all but united to each other at their margins. In the centre, the common meeting point of all the flaps is only a small opening admitting a pea, which is larger as seen in the arterial aspect than the other ; and radiating from this opening is a small slit, owing to the opposed margins of the flaps not being quite united, though closely approximated.

55. Specimen showing a deposit of yellow opaque matter in the aortic valve-flaps, two of which have been torn away at their contiguous angles from their natural attachments, and after being greatly thickened, again united to each other. The patient had been the subject of rheumatic fever.

56. Specimen showing a granular deposit of calcareous matter (phosphate, with a small amount of carbonate of lime) on the surface of the aortic valve-flaps, the serous membrane having been for the most part destroyed. Both surfaces are affected by the deposit. The other parts of the circulatory apparatus were free from it, but a like deposit was seen beneath the mucous membrane lining the larynx at the point immediately below the true vocal cords, as well as in the neighbourhood of some of the joints of the fingers, and in the interior of the knee joints, but in these latter instances it was probably urate of soda. Hypertrophy of the heart, hepatized lungs, and highly diseased kidneys were found. The preparation was removed from the body of a man, aged 40, who for many years had suffered from hereditary gout. He died June 30, 1850, in a state of coma following convulsions. *Post Mortem and Case Book*, 1850. p. 110.

57. Specimen showing a deposit of phosphate with a slight amount of carbonate of lime on the surface of the mitral valve-flap. There was an enlarged heart and also general dropsy. The preparation was removed from the body of a young man aged 21, who died in the Hospital. *Presented by* CÆSAR HAWKINS, Esq.

58. Specimen showing extensive calcareous deposit in the aortic valves. This deposit forms a rugous projection into the artery of considerable height, in the centre of which is seen a small chink, the margins of which are nearly inextensible, and which would, in all probability admit of free regurgitation. The coronary arteries are seen to be healthy. The specimen was taken from the body of a gentleman advanced in years, a distinguished member of the medical profession. He had enjoyed tolerably good health, and preserved unusual activity till within a few days of his death ; but had suffered occasionally from "angina pectoris."

59. Portion of the left side of the heart, showing an extensive mass of carcinomatous matter connected with the mitral valve flaps. This is chiefly apparent on a ventricular view of the valve,

where it is seen running along the tendinous cords, but it projects also into the cavity of the auricle. There was encephaloïd carcinoma of the breast, axillary glands (which is described in a subsequent Series), and left rectus abdominis muscle. The preparation was removed from the body of Mary H., aged 59, who was admitted into the Hospital December 10, 1845, for the disease of the breast, the skin of which was affected by erysipelas. The pulse was weak but otherwise natural, the respiration free, and the countenance of a yellow anæmic hue. No indication of any visceral complication existed. About three weeks after admission, it was determined not to interfere with the breast. After a time, the skin of the breast gave way, and a large fungous growth made its appearance, the patient gradually becoming weaker, and a fortnight afterwards she was suddenly attacked with urgent dyspnœa and partial syncope, the pulse at the wrist being scarcely perceptible. The patient died on the 21st of January. *Post Mortem and Case Book.* 1846. p. 21. *Med. Chir. Trans.* vol. xxx. p. 3.

60. Specimen showing a mass of carcinomatous substance connected with the internal surface of the right auricle and its appendix, which also projects through the auriculo-ventricular orifice into the right ventricle. All the heart's cavities contained much coagulum of fibrine and blood, and the walls of the left ventricle were thickened. The growth was soft, very adherent to the appendix of the auricle, and when cut into showed many injected vessels. Purulent matter was found in the pleural and pericardial cavities and in the posterior tibial vein of the left leg.

Microscopical Examination.—After maceration in spirit, etc., for many years, the above-mentioned growth was found to consist almost entirely of cells, many of them being smaller than pus cells, others being much larger, round, and oval, and having granular matter and large nuclei within. None of the cells were caudate, and no fibres were seen. A very small amount of fat existed.

The preparation was removed from the body of a man, aged 40, who was admitted into the Hospital for encephaloïd disease of the foot, for which the leg was removed. He died seven days after the amputation. The patient had never suffered from heart symptoms, and his general health had always been good. *Post Mortem and Case Book.* 1844. p. 122. *Med. Chir. Trans.* vol. xxx. p. 1.

61. Portion of the aorta and left ventricle of the heart, showing two aneurysmal pouches in the anterior flap of the mitral valve. Of these the larger one, of the size of a filbert, is situated close to the attachments of the chordæ tendineæ and forms a projection into the left auricle. The other, or smaller one, is situated a little higher up in the direction of the middle aortic valve-flap, its

opening measuring four lines in its greater diameter and two in its smaller one. The circumference of this aperture is fibrous and somewhat jagged, and leads into a pouch of a vermiform appearance, which also projects into the left auricle, measuring six lines in length. The internal surface of the ventricle is continuous with the membrane lining the pouches, both of which still present some remnants of coagula. The apices of the pouches have been destroyed, but this was probably by some instrument in the removal of the preparation. The middle aortic valve-flap presents a large and a small ulcerated opening, the margins of which are covered by soft fibrinous deposits; the other aortic valve-flaps, as also the root of the aorta, are somewhat thickened.

62. Specimen showing extensive ulceration of one of the aortic valve-flaps, which are only two in number, and are thickened and rigid. Below one of the coronary arteries, are two small pouches in the root of the aorta, one of which was adherent to the pulmonary artery; the aorta was otherwise natural. The cavities of the heart generally were dilated, their walls being hypertrophied, and several patches of extravasated blood were found in the substance of the lungs. One of these exists as preparation 9, series vii.

The preparation was removed from the body of James C., who was admitted into the Hospital May 20, 1846, with palpitation, pain in the region of the heart, and bloody expectoration. Both sounds of the heart were almost obscured by a loud murmur. The patient had been ill for four or five months, having first suffered from palpitation. He had never had rheumatism. He died June 4. *Post Mortem and Case Book.* 1846. p. 131. *Path. Soc. Trans.* vol. ix. p. 136, (foot-note.)

63. Specimen showing a rounded opening in the middle of the anterior flap of the mitral valve about equal in diameter to that of a pea, and perforating entirely the flap, which is thickened. A large amount of coagulated fibrine was so connected with the margin of this aperture, and hollowed out, as to give the impression, when recently examined, that the opening in the valve-flap was that of an aneurysmal pouch projecting into the auricle. Much of this coagulum still remains. A slight amount also of coagulum exists around the ventricular aspect of the aperture, and a thin layer also in connection with much of the auricular surface of the flap. There was dilatation of the heart's cavities, with atrophy and softening of its structure. The preparation was removed from the body of an elderly gentleman, who died of acute inflammation of the cerebral membranes, but who had never suffered from heart symptoms. *Path Soc. Trans.* vol. iii. p. 78. *Presented by* PRESCOTT HEWETT, Esq.

64. Specimen showing a rounded opening, probably the result of ulceration, in one of the flaps of the aortic valves. The opening is divided into two, by a rounded cord-like substance running across it, apparently a portion of the valve which had resisted the morbid process. A small chink is seen close upon the free margin of the valve, near one of its horns. Two small aneurysmal pouches exist in the aorta, just above this valve-flap, and others are scattered about the wall of the artery, which is much diseased, owing to atheromatous deposit. The preparation was removed from the body of Charles L., aged 47. *Post Mortem and Case Book.* 1857. p. 211. *Path. Soc. Trans.* vol. ix. p. 144.

65. Specimen showing perforation of the anterior flap of the mitral valve. The orifice is about equal in size to a pea, but not quite circular; its edges are thickened, and, on the ventricular aspect, have one or two deposits of soft fibrine around them. The posterior aspect of the perforation is, as it were, capped by a quantity of firm fibrine adherent to the posterior margins of the orifice, and so disposed as to constitute a hollow cup, into which the perforation of the valve-flap opened. This cup contains only a small quantity of recent fibrine, adherent to its inner surface, but its outer surface (towards the left auricle) is smooth, the extremity of the cup being flattened. The flap is otherwise thickened, and corrugated by deposit in its substance and in the inner wall of the ascending aorta. The preparation was removed from the body of a patient in the Grampus Hospital Ship, who was admitted with anasarca and pain in the chest. He suffered also from disease of the kidney and stricture, etc. The urethra is shown in a subsequent series. *Path. Soc. Trans.* vol. ix. p. 117. *Presented by* CÆSAR HAWKINS, Esq.

66. Specimen showing extensive ulceration of the anterior flap of the mitral valve, and of the anterior and left portion of the wall of the left auricle. A peculiar appearance exists, as of an aneurysmal pouch, produced by adhesion of fibrine to the margins of the ulcerated opening, and there is a cavity in the heart's walls in connection with the above, containing broken-down fibrine. The specimen was removed from the body of a soldier, aged 26, who died of pneumonia and pleurisy following scarlet fever. For the nine last days of his life, he generally lay on the left side, complaining greatly of pain about the heart; and on auscultation, a peculiar sharp click was heard at the termination of the first sound, and continuous with that sound; this unusual click was clearly separated from the second natural sound by the interval which ordinarily exists between the two sounds. It was not ascertained that

the patient had suffered from any heart-disease or rheumatic attack. *Path. Soc. Trans*, vol. ix. p. 131.

67. Specimen showing a large ulcerated opening in the posterior flap of the mitral valve. The preparation was removed from the body of a young woman, aged 25, who was known to have had rheumatism four months previously. *Post Mortem and Case Book.* 1858. p. 46. *Path. Soc. Trans.*, vol. ix. p. 144.

68. Laceration of the chordæ tendineæ of the mitral valve, accompanied by apparent laceration of the valve-flaps. The preparation was removed from the body of Samuel G., aged 32, who died from dyspnœa and palpitation, accompanied by dropsy. Extravasation of blood into the lungs was found after death. *Post Mortem and Case Book.* 1858. p. 156.

69. Specimen, showing a large oval communication (foramen ovale) between the auricles; the length of the orifice being about one and a quarter inches, and the breadth about one inch at the widest part. The circumference of the opening is tendinous as to consistence, etc. The heart is much enlarged, and the two layers of the pericardium are covered by a fibrinous effusion, producing partial adhesions. The valves and large vessels are healthy. The preparation was removed from the body of Wm. S., aged 48, who was admitted into the Hospital, November 23rd, 1842, with general dropsy. He had had repeated attacks of rheumatism, but there had never been cyanosis, or any symptom leading to the suspicion of the above-mentioned malformation. The patient died December 18. *Post Mortem and Case Book.* 1842-3. p. 95.

70. Specimen showing an aortic valve composed of two flaps only. One of the flaps presents a ridge partially dividing it, showing an attempt at the formation of two flaps. There was no indication of disease about the valves of the heart. *Post Mortem and Case Book.* 1844. p. 60.

71. Heart in which several parts are seen to be congenitally malformed. The auricles are dilated, and communicate by an oval opening of the size of a sixpence. This is owing to deficiency at the anterior and upper part of the membrane filling up the fossa ovalis, in which also is a second deficiency of the size of a large mustard seed. The right ventricle is so small as simply to be, as it were, an appendix to the auricle, the tricuspid valve being merely rudimentary. The opening of the pulmonary artery is all but blocked up by a membrane stretched across it, which is formed apparently by the union of the margins of the semilunar valve-flaps, leaving in the centre a small opening. The pulmonary artery is as large as natural. The ductus arteriosus is only partially obliterated. The left ventricle is very large in size, and forms nearly the whole of the heart, the apex of which is round, the walls being thin

compared with the size of the cavity. The mitral orifice is widened, but the valve-flaps natural. The various arteries connected with the arch of the aorta arise naturally, but the arterial distribution in the chest was not made out. No history existed, excepting that the patient suffered from congenital cyanosis. *Presented by* Dr. OGIER WARD.

72. Specimen showing an aortic valve consisting of four flaps. Two of these possess a thickened rounded margin common to them, and are, at their contiguous extremities, united to the arterial wall, by a process common also to both. The walls of the left ventricle were thickened, otherwise nothing remarkable was observed about the heart. The specimen was removed from the body of a man, aged 25, who was brought into the Hospital, January 12th, 1853, and died in a few days. No history of rheumatic fever or heart-symptoms existed. *Post Mortem and Case Book.* 1853. p. 10. *Path. Soc. Trans.* vol. ix. p. 141. (Foot-note.)

73. Specimen showing malformation of the valve at the root of the pulmonary artery. Instead of consisting of three flaps, this valve is reduced to a species of diaphragm having in its centre a foramen equal in size to a pea; this diaphragm, however, presents indications of a triple arrangement having originally existed. The walls of the right ventricle are very greatly thickened, the tricuspid valve being natural. The aortic valve is also of irregular formation; the contiguous angles of two of the flaps presenting the appearance of having been torn away from their attachments, and having become adherent to each other, and to the arterial wall at a lower level. Slight atheroma of the root of the aorta exists. The preparation was removed from the body of a girl, aged 14, of a florid, healthy look, who for some years had been troubled with palpitation and dyspnœa. Shortly before having recourse to medical treatment, she had had pains about her which were thought to be rheumatic, with anasarca of the face and limbs, and when first treated, she had a peculiar wildness of expression and great 'nervousness' not unlike hysteria, suggestive of commencing delirium. There were high febrile symptoms, and an exceedingly loud double murmur at the base of the heart, with pain at the cardiac region. Leeches to the painful part, and calomel and opium with antimony were resorted to, but it was found impossible to affect the gums. The pain and febrile symptoms were relieved; but delirium, and finally coma, came on. Much pulmonary congestion was found after death. *Presented by* Dr. JOHN W. OGLE. *Path. Soc. Trans.* 1853-4. p. 69.

74. Specimen showing a large patch of muscular fibre occupying the substance of the anterior flap of the mitral valve. One or two of the cords of the flap, instead of being tendinous are

muscular; and this is specially so with one of the cords which directly joins the fleshy patch before described. The muscular patch is covered by the ordinary endocardium, which is much thicker and more opaque than usual on the auricular surface of the valve-flap. Excepting one or two atheromatous patches on the aorta and the mitral valve-flaps, the heart was healthy. The specimen was removed from the body of James H., aged 25, who died in the Hospital, August 6th, with diseased kidneys, ulcerated intestines, etc. *Post Mortem and Case Book.* 1854. p. 211. *Path. Soc. Trans.* vol. ix. p. 109.

75. Specimen showing patency of the foramen ovale in an adult. The valvular character of the opening is well seen by the piece of bougie passed through the orifice. *Presented by* Cæsar Hawkins, Esq.

76. Specimen showing one of the tendinous cords of the bicuspid valve occupied by a strong and thick band of muscular fibre which penetrates completely into the substance of the anterior valve-flap. The specimen was removed from a young patient who died of an abdominal affection. The heart was unusually firm and thickened as to its walls, but was not otherwise materially affected. *Presented by* Dr. John W. Ogle.

77. Specimen showing aneurysm of the right wall of the ascending part of the aorta bulging considerably into the cavity of the right ventricle and commencement of the pulmonary artery, the channel of which is almost entirely blocked up. Externally, was seen a hemispherical prominence of about 3½ inches in circumference, situated to the right of the origin of the pulmonary artery, and in front of the appendix of the right auricle, which was pushed backwards by it. This prominence evidently consisted, for the most part at least, of the thickened pericardium, which was protruded, and almost filled by a rounded mass of fibrine; one portion of the pouch was flaccid and indented, owing, as it were, to a retirement of its contents; but when recent, it was fully distended by them. Connected with the external surface of this pericardial pouch were one or two firm shreds of fibrous tissue, apparently the remains of effused fibrine. On opening the right side of the heart, the auricle and the auriculo-ventricular opening were seen to be dilated. The ventricle was also dilated and thinner as to its walls; and in the upper part of this cavity was a large portion of the aneurysmal pouch, involving one of the flaps of the semilunar valve, which, by intimate adhesion to the pouch, was almost obscured; the crescentic outline, however, of a portion of this flap was still recognisable. Adherent to the extremity of the pouch was a large flake of soft, yellow fibrine. On the left side of the heart the cavities were natural, as were also the valves, excepting, here and there, slight patches

of opacity. The inner surface of the root and arch of the aorta was exceedingly scabrous and inelastic, owing to the deposit of yellow atheromatous matter within the arterial tunics. At the inner side of the lower portion of the ascending aorta were two foramina caused by ulcerative destruction of the parietes ; one of these, situated higher than the other, was rounded and small, and only penetrated into the thickened arterial walls; the other was of about the size of a large filbert, with a rounded thickened margin, the lower part of which was situated immediately behind the inner part of the aortic valve; and through this latter opening the finger could freely be passed into the bi-locular aneurysmal pouch before described. The cavity of the aneurysm was filled with fibrinous deposit, which in the centre was perfectly soft, and at its circumference formed firm concentric layers lying in contact with the coats of the aneurysm, which they materially tended to strengthen. There was found also an atheromatous state of the coronary arteries, and about two ounces of yellowish serum along with some shreds of recent flaky fibrine existed within the pericardium. The weight of the heart was 19 ounces ; its structure was slightly fatty. The lungs were considerably engorged. Within the abdominal cavity, much clear, yellow fluid was found, and the intestinal tract throughout was healthy. The kidneys together weighed 10 ounces: they were somewhat lobulated, and slightly granular on their surfaces. They were of firm texture, and light coloured, but a sectional surface had no particular appearance. The spleen was soft, and one part of its capsule was almost of cartilaginous consistency. The other abdominal contents were natural, and the abdominal aorta free from any marked disease. The preparation was removed from a man, aged 38, who was admitted into the Hospital with a livid face, and suffering from intense orthopnœa with cough. The only history attainable was, that for some time he had had cough and dyspnœa, but had only fourteen days before been obliged to give up work. Owing to extreme pain and uneasiness, it was impossible to make a stethoscopic examination. He died a few hours after admission. *Path. Soc. Trans.* 1852-3. p. 112. *Post Mortem and Case Book.* 1852. p. 21.

78. Specimen showing aneurysm of the ascending aorta communicating with the pulmonary artery. Externally is seen a pouch equal in size to a hen's egg, but of a globular shape, situated to the right of the pulmonary artery, and in front of the appendix of the right auricle, which it pushes backwards. This pouch is of thinned walls, and contains a small amount of fibrinous coagulum. On opening the right side of the heart, the cavities were seen to be dilated, with very thinned walls, and a very large auriculo-ven-

tricular orifice was found. The walls of the pulmonary artery are thinner than usual, especially at the posterior portion of the circumference; and in this part, about one-fourth of an inch above the crescentic outline of the middle semilunar flap of the valve is an oval obliquely-placed opening of about three-fourths of an inch in length, communicating with the anterior portion of the aneurysmal pouch before mentioned. Moreover, to this thinned part of the walls of the pulmonary artery, portions of the semilunar flaps of the valve are intimately adherent, so that their outline is well-nigh lost. About two-thirds of the middle flap, and about one-half of the left one, are in this way affected, all power of movement being entirely destroyed. The pulmonary artery in all other parts is healthy. On the left side of the heart, the cavities are also dilated, having thinned walls: the mitral valve-flaps are healthy, but there is slight opacity of the aortic ones. The ascending part of the aorta is rough and thickened by atheroma, and at the inner and posterior part of the tube is an oval opening of about one inch and a half in length, and one inch at its greatest breadth, communicating directly with the pouch noticed externally. The margins of this opening are thickened and rounded, but tolerably smooth, and the lowest part of it is on a level with the union of the contiguous parts of the valve-flaps. On passing the finger into the pouch from this opening in the ascending aorta, it was found to have no clots adherent to its walls, but to contain some loose, bloody coagula. The inner surface of the pouch is roughened, indented, and hardened. The pericardial sac contained about three ounces of yellowish fluid, and a few flakes of recent fibrine. The coronary arteries were natural. There was found a large amount of turbid, reddish fluid in the pleural sacs, with old pleural adhesions and great engorgement of the lungs. The peritoneal sac also contained some yellow fluid, and the abdominal viscera were congested. The kidneys were greatly enlarged and solid, weighing together 13 ounces; they were very smooth as to their surface, and their substance was of a fawn colour. The preparation was removed from the body of a woman, aged 27, who had had dyspnœa and palpitation of the heart for three years; but for some weeks before admission into the Hospital, had been worse, and had had hæmoptysis. When admitted, the face was pale, and the lips blue, but there was no general cyanosis. Great palpitation and irregularity of heart's action existed, the pulse being 120, and very jerking; there were also dyspnœa and cough, with rusty-coloured sputum. A strong systolic murmur was audible over the entire præcordial region. She was cupped between the shoulders, and diuretics with sedatives were given. After a time, the systolic murmur was found to be the loudest on the

left side of the sternum opposite the cartilage of the third rib. To the right of this spot, the diastolic sound was clear and natural, but to the left no second sound was heard. Immediately above and below this cartilage, a distinct tremor was felt corresponding with the systole. Great præcordial pain came on, along with vomiting. The patient died July 7th, 1851, about one month after admission into the Hospital. *Post Mortem and Case Book.* 1851. p. 148. *Path. Soc. Trans.* p. 411. vol. 1852-3.

79. Specimen showing an aneurysm as large as a bantam's egg, situated immediately above the aortic valve. There is considerable atheromatous deposit in the arterial coats around the opening of the aneurysm, the diameter of which is almost equal to that of the aneurysm. The inner surface also of the aneurysm is very scabrous, being coated in places by calcareous deposit. No fibrinous clot exists in the aneurysm. The flaps of the aortic valve are diseased, two of them being greatly thickened and everted as to their margins, the other one being contracted. The cavity of the left ventricle was enlarged, the walls being about three-fourths of an inch thick. The entire heart was large, and the pericardium completely adherent. Moreover, the mitral orifice was much diminished in size, owing to contraction of the valve-flaps, the columnæ carneæ being drawn out as if from the large size of the ventricles. The preparation was removed from the body of Charles W., aged 25. It appeared that the patient had had endocarditis about four and a half years before admission. About nine months before admission, whilst digging, he speedily became affected with sickness, vomiting of frothy phlegm, and some dyspnœa. Vomiting and purging, and 'confusion of head' followed, and symptoms of collapse, with a pulse very variable, being full, accelerated, and greatly intermittent; or small and indistinct. The heart's impulse was strong, and felt over a large extent of the surface of the chest, and a very distinct loud bellows sound was audible over the left ventricle. By means of blood letting and tartar emetic with digitalis, mercury, and iodine, &c., he got surprisingly well. About seven months later, well marked signs of organic disease showed themselves. Prominence of the præcordial region existed, along with excessive and extensive dullness, and strong jogging impulse during the diastole. Bruits indicative of aortic obstruction and aortic and mitral regurgitation existed, and a purring tremor was to be felt above the sternal ends of both clavicles; a hoarse abrupt rasping sound was also audible. The patient eventually died in 1839. For further particulars see *Hope's Diseases of the Heart.* Ed. 3. p. 583.

80. Specimen showing a large bi-locular aneurysmal dilatation of the intra-pericardial portion of the ascending aorta. Owing to the large

size of the pouches which, together, much exceed the heart in dimensions, it is difficult to say exactly at what point of the artery the orifice of the aneurysm exists. It is situated, however, at the right border of the circumference, the whole of the first and second parts of the arch being extensively dilated. The pouches are quite empty, excepting that a small amount of fibrine is adherent to the inner surface of the lower one. The walls of the upper pouch are very much thinned; not so those of the lower one. The heart is very large, and its cavities dilated. The only particular related of the post-mortem examination is, that the left pleural sac was found to contain a small wash-hand basin full of blood: as the upper pouch has two large openings into it, it is probable that blood had escaped into the pleural sac through one of them. The preparation was removed from the body of John T., aged 56, who had been ill for several years. He was the subject of cough and dyspnœa, and severe darting pains between the scapulæ and down the arms. For some time previous to death he spat up large quantities of pus, and before death a pulsating tumour made its appearance through the sternum. After unusual dyspnœa, the patient expired suddenly. *Presented by* Sir BENJAMIN BRODIE, Bart.

81. Specimen showing a diffused aneurysm of the intra-pericardial part of the ascending aorta, which burst into the pericardial cavity. The pouch is equal to a bantam's egg in size, and projects forward within the pericardial cavity to a level with the pulmonary artery. Its surface within this cavity is covered by portions of recently-effused fibrine or blood coagulum, and presents an ulcerated opening through which some of the clot within the pouch projects. The pouch communicates with the anterior part of the aorta by a rounded opening of about a quarter of an inch in diameter at a point about one inch and a half above the level of the valve, and at the anterior and left portion of its circumference. The lining surface of the artery is marked by atheromata. The preparation was removed from the body of a man who was about to be operated upon for aneurysm of the popliteal artery, and who died quite suddenly. The popliteal aneurysm exists as preparation 128 in this series. *Presented by* CÆSAR HAWKINS, Esq.

82. Preparation showing rupture of an aneurysm of the intra-pericardial part of the aorta. At the root of the aorta, which is generally dilated, and to the right of the vessel, a dilatation exists equal in size to a small walnut, and communicating with the arterial tube by an opening of the size of a florin: it is situated a little above and behind the opening of the right coronary artery. Its parietes are very thin, the innermost and middle coats of the vessel being

destroyed whilst the outer one is exceedingly attenuated; at one point it has given way, a small aperture, barely allowing of a pig's bristle to pass, having been produced. This small opening during life had permitted blood to exude so as to fill and distend the pericardial sac, in which, after death, it was found clotted. The inner surface of the whole of the ascending and transverse aorta was much studded and embossed by opaque yellow deposit, but the aortic valves are healthy. The lungs were congested, and there was great thickening of the capsules of several abdominal viscera, but otherwise nothing of importance was noticed in other parts. The specimen was removed from the body of Francis R., aged 46, who was admitted into the Hospital, Sept. 11, 1854, after having fallen down insensible whilst performing some slight work as a waterman. He died twenty minutes after being brought into the hospital, and no very particular history could be obtained. *Post Mortem and Case Book.* 1854. p. 288. *Path. Soc. Trans.* vol. vii. p. 102.

83. Specimen of aneurysm of the ascending aorta bulging into the right ventricle of the heart, and considerably obstructing the orifice of the pulmonary artery, associated with an aneurysmal pouch of the septum of the ventricles. The sac of the aneurysm so involved the commencement of the pulmonary artery that one of the valve-flaps, and portions of the two others, were quite destroyed, and the only passage left for the flow of blood, was an oval chink capable of being distended so as to admit the tip of the finger. This passage corresponded to the portions of the two valve-flaps left uninjured. Into the right ventricle, the aneurysmal pouch in the septum, situated about half-way up the septum, also bulged. This was about equal in size to a pigeon's egg, and its walls and summit were formed by the mere apposition of the lining membrane of the two ventricles, which appeared to have no muscular fibre between them. Examination of the aorta shewed that the orifice of the large aneurysm was situated in the sinus behind the posterior flap of the aortic valve. This orifice was rounded, with even margins, and surrounded by slight atheromatous deposit in the walls of the aorta. It also partly involved the commencement of the left or posterior coronary artery. The aneurysm was full of firm light-coloured clot, and at one part of the aneurysmal pouch within the right ventricle, owing to ulceration of a portion of the walls, the clot was freely exposed to the current of venous blood within the ventricle. The lungs and kidneys were found much congested, and the liver large and granular. The specimen was removed from the body of a man aged 42, who was a patient in the Hospital, owing to bronchitis, general anasarca and albuminous urine. Having left the Hospital

much relieved, he returned with ascites, in addition to his other symptoms. A distinct systolic bruit existed most audible at the apex of the heart, and a double bruit also, mostly audible at the base of the heart, but not traceable along the course of the large vessels. The pulse was regular, small, and about 99 per minute. The patient had been very intemperate, and the subject of syphilis. *Post Mortem and Case Book.* 1855. p. 146 *Path. Soc. Trans.* vol. vii. p. 104.

84. Specimen showing extensive calcareous deposit in the walls of the coronary arteries and root of the aorta. There was some marked disease of the heart, but no history exists. *Presented by* CÆSAR HAWKINS, Esq.

85. Specimen showing extensive laceration of the aorta at its bifurcation into the common iliac arteries. The cavity of the peritoneum was filled with large coagula of blood and bloody fluid; the peritoneum itself presenting an extensive laceration corresponding to the seat of injury to the artery. The left psoas muscle was much bruised and lacerated, and the bones forming the sacro-iliac synchondrosis were slightly separated from each other, but without much damage to the neighbouring soft parts. The preparation was removed from the body ot James M., aged 35, who was brought into the Hospital dead, having fallen backwards from a rearing horse which fell upon him. *Post Mortem Book.* 1845. p. 161. *Path. Soc. Trans.*, vol. i. p. 58.

86. Specimen showing laceration of the internal epigastric artery at a point about one inch from the external iliac. The divided artery may be seen to be contracted, and at the time of the post-mortem examination contained a small clot of blood blocking up the artificial opening. There was also laceration of the ileum, which is shown in the preparation, allowing the escape of fœcal matter into the general peritoneal sac, but no extravasated blood was found in this sac. The small intestines had a considerable quantity of recent fibrine on their peritoneal surface. The preparation was removed from the body of Edward C., aged 30, who was brought into the Hospital, June 21, 1851, with a wound in the right groin, having been struck to the ground from his horse by the shaft of a cab. There was much external hæmorrhage at the time. Subsequently symptoms of peritonitis set in. He sank and died June 23. *Post Mortem Book.* 1851. p. 135.

87. Portion of the femoral artery showing rupture of its two inner coats by an injury from a bull's horn, the outer one remaining entire. The femoral vein was torn across. The patient died of hæmorrhage from the vein a few minutes after the accident. A large cavity behind the peritoneum in the iliac fossa made by the horn was also filled with extravasated

blood. The preparation was removed from the body of Thomas H., who received the injury in Knightsbridge, in 1830, and was brought into the hospital dead. *Presented by* CÆSAR HAWKINS, Esq.

88. Part of the carotid of an ass which had been punctured one or two weeks before death, showing a large mass of fibrinous material connected with its outer surface in the neighbourhood of the wound. The inner opening of the wound is free and open, and indicated by a bristle passed into it. *Presented by* SIR BENJAMIN BRODIE, Bart.

89. Part of the carotid of an ass showing a puncture made through its walls with a lancet two or three weeks before death. The opening is free, and appears as a transverse slit on the inner surface of the artery; but a large amount of coagulated fibrine is seen connected with it on the outer surface. *Presented by* SIR BENJAMIN BRODIE, Bart.

90. Portion of the carotid artery of a sheep in which a longitudinal wound was made ten days before death, and pressure applied for ten minutes. The vessel is quite pervious. The wound healed by the first intention, the cicatrix which was half an inch long being hardly visible. When recent, some coagulum existed externally, along the artery. *Presented by* CÆSAR HAWKINS, Esq.

91. Portion of a carotid artery of a sheep in which a transverse incision dividing half of its circumference had been made and the ani al killed on the 8th day afterwards. The artery is filled with a firm fibrinous coagulum, to the extent of half an inch above as well as below the wound, closely adherent to the vessel, and having, towards the heart, a loose coagulum two inches long attached to it. *Presented by* CÆSAR HAWKINS, Esq.

92. Portion of the carotid of a sheep, out of which a circular part of the walls had been cut by the scissors. The animal was killed after five days. The interior of the vessel was found crammed with coagulum, extending considerably above and below the wound, which was blocked up by a portion of the coagulum. Much fibrinous coagulum is connected with the outer surface of the artery about the wound. The clot in the artery is of a peculiar grey colour. *Presented by* CÆSAR HAWKINS, Esq.

93. Portion of the carotid of a sheep from which a part had been removed by the scissors. Hæmorrhage continued at intervals till the third day, when death occurred. A small recent coagulum only exists in the artery which nearly closed the end of the vessel nearest to the head, but left the lower orifice quite open. The wound of the vessel remained open, and no coagulum had formed externally. *Presented by* CÆSAR HAWKINS, Esq.

94. Portion of the carotid of a sheep of which a part, to the exten

of nearly half its circumference, had been removed by the scissors. Hæmorrhage supervened on the 3rd day, and continued till the 4th, when death occurred. A very small amount of coagulum exists in the interior of the artery near the opening which was undefended by any plug. A small quantity of coagulum exists on the external surface of the artery. *Presented by* CÆSAR HAWKINS, Esq.*

95. The left axillary artery, showing laceration of its two internal coats, which have been dissected from the external coat for about half an inch, and turned down into the cavity of the vessel, so as to block it up. A red coagulum of blood is lodged above the inverted portion of the internal coats. The external coat is entire. The preparation was taken from the body of a man who died about 3½ hours after a fall from his horse. The immediate cause of death was an injury to the head in which the torcular Herophili was lacerated. On his admission, it was said, that the pulse could be felt, distinct yet weak, in both wrists; but about two hours afterwards it was noticed that he had no pulse in the left wrist, though that on the right side was quite perceptible. On further examination, it was found, that the pulsation of the artery could be traced down to the lower part of the axilla, and there ceased abruptly. There was no history of his having injured his axilla, nor any mark of violence in that neighbourhood. On dissection, only a very small quantity of extravasated blood was found in the axilla. *Post Mortem and Case Book.* 1860. p. 298. *Path. Soc. Trans.* vol. xii. For preparation showing laceration of the torcular Herophili, see Series viii.

96. Specimen showing laceration of the right popliteal artery and vein, producing gangrene, for which the thigh was amputated on the 15th day after the accident, with success. The patient, a man, aged 36, was admitted on October 6, 1858. His apron had been drawn into a revolving shaft, which carried him round, and dashed him two or three times against the wall. There were other slight injuries, of which no notice will be taken here. There were considerable ecchymosis and swelling, accompanied by a good deal of pain, in the popliteal space. No pulsation was felt in the swelling, either at the time of admission or subsequently. It was thought that pulsation could be detected in the anterior tibial artery; there was partial loss of sensation in the foot. No bruit could at any time be detected in the ham. The swelling increased

* The above described preparations Nos. 90 to 94 inclusive, form a series illustrating the observations made by Cæsar Hawkins, Esq., on the use of Styptics in the Hæmorrhage of Arteries, specially in connection with the "peculiar styptic" advocated by MM. Jalrich and Halmagrand of Paris, in the year 1832. They are more fully described in the *Medico-Chirurg. Trans.* vol. xvii. p. 121.

to a certain extent for a couple of days: the pulsation of the anterior tibial was, it was thought, detected as late as the third day after the accident. Gangrene of the foot, commencing on the fifth day, extended very slowly up to the calf during the next ten days, and amputation was performed through the lower third of the thigh. At the operation, it was observed that the femoral artery was partially filled by a clot, which, however, still allowed some passage for the blood, so that it was necessary to use a ligature. On examining the limb after removal, a large foul abscess was found beneath the fascia, containing pus mixed with blood-clot and foul gas, which also infiltrated the superficial muscles of the calf. The short saphena vein was entire and pervious. The popliteal vein was broken across, just below its junction with the saphena — the two ends being separated by an interval of about one inch and a half. The lower end of the vein was blocked up by adherent coagulum, which extended beyond its point of bifurcation. The upper end was empty. The coats of the vessel at its point of rupture were somewhat contused, but not otherwise altered. The vein and artery above the seat of rupture were closely matted together. The mouth of the vein, where it had been cut through in the amputation, remained open; but the femoral artery, where it had been cut through, was partially closed by a small clot. The popliteal artery was ruptured at the same place as the vein, and its ends were separated to the same distance; but the two ends remained connected by a string of cellular tissue. The upper end of the artery was firmly plugged by red coagulum, for the space of about one inch, above which the clot only partly filled the vessel: the lower fragment was partially closed by clot, and by the remains of the internal and middle coats. Much of the clot has been removed in the process of preparation.

97. Specimen showing aneurysmal dilatation of the two first portions of the arch of the aorta. There is considerable atheromatous deposit in its walls; to show which, the vessel has been inverted. *Presented by* Sir BENJAMIN BRODIE, Bart.

98. Specimen showing two aneurysms connected with the arch of the aorta, one of which burst into the trachea about one inch above its bifurcation. The first one, of the size of a walnut, is situated near the end of the first portion of the arch at the front and left side of its circumference, and projects in front of the pulmonary artery. It is partially filled with coagula, and the margins of its orifice of communication with the aorta, which is only small, are rounded and smooth. The second aneurysm, situated at the back part of the arch, is just behind and to the left side of the innominate artery and behind the left carotid artery. It passes backwards and is adherent to

the trachea into which tube it has opened by a small orifice. Above this orifice, and separated from it by a cartilaginous ring, there is a small sac formed by the mucous membrane which had been raised up and pushed into the tube by the pressure of the blood in the aneurysm: the sac thus formed, though very thin, had not given way. The cavity of the ruptured aneurysm was partly filled by coagula of some date. The coats of the aorta were to a great extent affected by atheromatous deposit. The lungs were emphysematous and contained patches of extravasated blood. In the right popliteal space was a large aneurysmal sac closely adherent to the joint,—and in the left one was a small solid tumour exactly in the same situation, being the remains of an aneurysm which had been cured by pressure. See 121 and 122 in this Series. The preparation was removed from the body of Ferdinand V., aged 38, who was admitted into the Hospital June 7th, 1848, and treated for the popliteal aneurysm. He presently complained of cough, and great expectoration set in, attended by mucous *râles* in the chest chiefly on the right side. No symptoms indicating anything wrong in connection with the heart or large vessel existed. Dyspnœa became great, and the patient died soon after he had brought up a quantity of blood, August the 20th. *Post Mortem and Case Book.* 1848. p. 185. *Med. Chir. Trans.*, vol. xxxiv. p. 164.

99. Specimen showing aneurysm of the arch of the aorta which burst both into the œsophagus and trachea. It projects from the upper and back part of the arch at its middle portion; its orifice, which is about equal to a half-crown in size, including the origin of the 'innominate' artery, and reaching so far forward as just to miss the posterior margin of the commencement of the left carotid. The inner surface of this part of the aorta is much roughened by the presence of atheromatous deposit, and the margins of the aneurysmal orifice are somewhat uneven and ragged. The aneurysm contains coagula of various colours. Formed of the external coat of the artery, the pouch projects backwards and presses upon the trachea, insinuating itself also between the œsophagus and trachea to both of which it is firmly united, and into which it has burst. The opening into the trachea, situated about an inch above the right bronchus, and equal in size to a sixpenny piece was irregular, the cartilaginous rings having been absorbed in parts. The ulcerated opening into the œsophagus, of an oval shape and somewhat larger than a shilling, had irregular margins, the greater part of which were blocked up by a dark slough still adhering to the neighbouring tissues. Part of the slough had separated and given passage to a large flow of blood which was found as a large coagulum in

the œsophagus and stomach, and which, in the latter viscus, was quite moulded by its walls. The aneurysmal pouch extended in a lateral direction from a little to the right of the innominate artery to beyond the left margin of the left subclavian; and in an upward direction it passed to about an inch above and behind the origin of the large aortic vessels. The lungs were somewhat gorged with blood. The preparation was removed from the body of Andrew M., aged 40, who was admitted into the Hospital, January 8, 1845. About fifteen months previously, he had suffered slight pain, which was greatly increased on swallowing, in the upper part of the back. This pain was constant and situated about two inches below the junction of the neck and thorax. Three months before admission the pain became more severe, but, as before, there was very little dysphagia, though the pain was increased immediately after swallowing. The patient had occasionally vomited, but had never brought up blood. When admitted, he could not lie down owing to the pain. Shortly afterwards, he vomited much bright florid blood, and much crepitation was heard in the lungs. The pulse in the left wrist was also found to be fuller and stronger than in the right one. Vomiting of blood mixed with food, again came on, and he gradually sank and died January 13th. *Post Mortem and Case Book.* 1845. p.13.

100. Specimen of a large aneurysmal dilatation of the anterior part of the middle portion of the aortic arch. The pouch is very elongated in the upward direction, reaching four or five inches in height, and firmly adherent to the posterior surface of the upper part of the sternum and the left sterno-clavicular articulation: it also projects downwards below the arch, which itself is here somewhat generally dilated. The aorta in many parts contains yellow opaque atheromatous patches, and by the pressure of the aneurysm the posterior surface of the inner end of the clavicle has been partially absorbed, and denuded.

101. Specimen showing several aneurysm in different stages of progress connected with the arch and descending part of the aorta; one of which burst into the pleural cavity. One exists at the upper surface of the arch, somewhat larger than a bantam's egg, pushing the commencement of the 'arteria innominata' to the left. Another, about as large again as the former by one-third, is situated at the opposite or under part of the arch, and presses backwards towards the œsophagus, but not so as to affect it. This one is almost entirely full of firm fibrine. In both of them the orifices of communication with the artery have tolerably even and rounded margins. Lower down the aorta, are one or two pouches in its walls; and, much lower down still, is an aneurysm, of the size of a walnut, containing a large

amount of coagulum, which alone in some places forms the boundary of the sac, the proper wall being destroyed. This sac communicates with the inner parietes of the arterial tube by a rounded oval orifice, equal in size to a shilling. On the left side of this aneurysm exists an ulcerated opening through which hæmorrhage into the pleural cavity took place, causing death.

102. Specimen showing an aneurysm of the arch of the aorta which burst into the left bronchus. The aneurysm, which is of the size of a small hen's egg, communicates with the posterior part of the tube of the aorta at a point just above the junction of the arched with the descending part. The orifice is somewhat larger than a sixpence, and rather oval in shape, the margins being tolerably rounded. The left bronchus, into which the aneurysm opens, is considerably diminished in diameter by the pressure thereof. The whole arch, but especially the middle part, is exceedingly dilated; the commencement of the innominate artery being also dilated, and forming, with the tube of the arch, a conical cavity. The heart was in a natural condition both as to its walls and valves. The left pleural sac contained much fluid, and the left lung in one place was in a state of suppuration. The preparation was removed from the body of John T., aged 40, who was admitted into the Hospital October 25, 1831, and who stated that he had only been ill six weeks, having had pain in the chest followed by dyspnœa and cough. He had on one occasion brought up a quantity of blood. He was bled and treated for the inflammatory symptoms which were developed. No bruit at the heart was heard, but the heart's sounds were muffled, and increased pulsation was felt in the epigastrium. He died November 7, after bringing up a large amount of blood.

103. Specimen showing aneurysm of the upper part of the descending aorta, which burst into the left pleural cavity. A portion of lung to which the aneurysm was adherent, is thickly covered with fibrine, and the left bronchus is, at the posterior aspect of the preparation, greatly flattened. Moreover, the aneurysmal sac, passing forwards, has exercised such pressure on the anterior surface of the commencement of the descending aorta as most considerably to diminish the calibre of the same; the diameter being reduced almost to that of a goose-quill.

104. Specimen showing aneurysm of the descending aorta which burst into the œsophagus. The latter much compressed from behind by the sac, and the orifice of communication is very large. The preparation was removed from a body in the dissecting-room. The stomach was full of blood.

105. Specimen (dry preparation under glass case) showing a large aneurysmal dilatation of the descending thoracic aorta which produced such caries of the vertebral column as considerably to expose the medullary canal. The sac measures (now in the dry state) 5½ inches in its greatest vertical matter and 4½ inches in its greatest transverse diameter, and is quite emptied. It projects for about half an inch to the right of the bodies of the vertebræ, and has produced loss of substance to a great extent in the seven lower dorsal and slightly in the first lumbar vertebra: the anterior and left sides of the bodies of the vertebræ are chiefly affected, but their right sides are, however, in many cases affected also. The transverse processes and pedicles of the vertebræ and the heads and posterior parts of several ribs are also greatly affected; and several of the lower of the above mentioned vertebræ are so twisted that their spinous processes are to a great extent inclined to the left side. By reason of the loss of substance in the vertebræ three large communications exist between the interior of the aneurysmal sac and that of the medullary canal. The aneurysmal sac, by reason of the absorption of the ribs, projects considerably beyond the level of their posterior surface on the left side. The preparation was removed from the body of a patient under Dr. Seymour's care. *Path. Soc. Trans.* vol. xi. p.53.

106. Specimen (dry preparation under glass case) of aneurysmal dilatation of the descending thoracic aorta producing extensive destruction of the vertebræ, and bursting into the œsophagus. The sac on the left side of the median line extends upwards as high as the level of the under margin of the head of the tenth rib, and downwards as low as the transverse process of the second lumbar vertebra; the vertebræ affected by it being the last three dorsal and the first lumbar whose bodies are ulcerated as well in front as on both sides. The spinal canal is not exposed, neither is there any new bone thrown out on the surface of the vertebræ. The sac extends to about an inch to the right of the median line; it also separates the fibres of the diaphragm to a great extent, and pushes considerably forward the lower part of the aorta in the neighbourhood. Owing to the twisting of some of the vertebræ, the spinous processes in the lower dorsal and lumbar regions are considerably deflected to the left. The aneurysm at the time of death contained about 1½ pint of coagulated blood. *Presented by* Sir Benjamin Brodie, Bart.

107. Specimen (dry preparation under glass case) showing aneurysmal dilatation of the right lower part of the thoracic aorta which burst into the substance of the right lung, having produced great destruction of the bodies of the four last dorsal vertebræ.

The sac, which extends from the level of the lower border of the head of the ninth rib to below that of the 12th, is situated almost directly in the median line and is half as large again as a cricket ball. To the upper part of the sac a portion of the lung, into which the aneurysm burst, is adherent; and the cavity in the lung, communicating with that of the aneurysm, is of large size and divided into two compartments. The two lower ribs on the left side are greatly depressed, and their articulations with the vertebræ are in part destroyed. Moreover, some of the lower dorsal vertebræ above the level of the aneurysm are so twisted that their spinous processes are deflected towards the right side. Although the aorta opposite the diaphragm is involved in the aneurysm, the abdominal vessels were not affected. In many places, the aorta contains atheromatous deposit, and the arch is rather dilated. The heart was small, with thinned walls. The mitral orifice was large, but the various valve-flaps were natural. The substance of the heart was fatty. The lung-tissue around the cavity, which existed in their substance as described above, was considerably hepatized and the cavity contained much dark coagulum, as did the aneurysm itself. The preparation was removed from the body of John B., aged 54, a stone mason, who was brought into the hospital November 5, 1851. He appeared to be strong and healthy, but the face was flushed, the pulse regular, small, and jerking, and the tongue slightly coated. There was pain in the upper part of the back, and sickness, with a feeling as if the food did not pass lower than the epigastrium; and a firm, resisting, moveable swelling was found above and slightly to the left of the umbilicus, pulsating synchronously with the heart's systole. On auscultation, a muffled whizzing noise was heard immediately below the ensiform cartilage, becoming more indistinct on proceeding downwards; and, at this part, firm pressure caused deep pain striking to the back. The heart's impulse was strong and heaving, and after exertion a loud mitral murmur was audible, but in no ways connected with the sound heard below the ensiform cartilage. The patient said that about 12 months before admission he had strained his back by carrying heavy stones; and that subsequently he had great pain in the back and loins and took to bed for a week, and was unable to lie down on the left side; the pain being, however, relieved by pressure. Afterwards he recovered, excepting weakness in the back, and went to work until about two months before admission, when severe pain in the back with vomiting came on. After being in the hospital a short time sickness with shivering supervened, and some florid blood was expectorated; and much tenderness and greater pulsation existed in the region of the swelling. The

pain greatly increased, and dyspnœa with lividity of the face made their appearance. The face became flushed, the pupils dilated, and the vomiting worse; and subsequently there was profuse and rust-coloured expectoration. He was relieved by cupping, but left the hospital December 19. He went to St. George's workhouse, and there soon died after a violent attack of hæmoptysis. *Presented by* Dr. John W. OGLE. *Path. Soc. Trans.* vol. xi. p.10.

108. Specimen showing an aneurysm of the commencement of the abdominal aorta which burst into the abdominal cavity. The sac is oval in shape, raising the diaphragm to a considerable extent, and has two openings in it, one round and uneven as if from ulceration. The cæliac axis is compressed from above by the sac. *Presented by* SIR BENJAMIN BRODIE, Bart.

109. Specimen showing two small cup-shaped aneurysmal pouches, of about half an inch in depth, in the walls of the descending part of the aorta. They possess rounded even margins, and were originally filled with coagulated blood. Several calcareous deposits exist in the surrounding walls of the aorta. The preparation was removed from the body of a man who died in the Hospital. He was supposed during life to have some aneurysm of the aorta. *Presented by* SIR BENJAMIN BRODIE, Bart.

110. Specimen showing several aneurysmal pouches in the walls of the abdominal aorta. The cup-like projections are occupied by much calcareous matter. In some cases, the inner membrane at the distended part is destroyed: in others, it is only slightly wanting, permitting the blood to penetrate behind this coat.

111. Specimen showing aneurysmal pouches in the walls of the abdominal aorta of a lioness. Calcareous and atheromatous matter is seen in the surrounding parts of the aorta. No coagula existed in them. *Presented by* CÆSAR HAWKINS, Esq.

112. Specimen showing a large diffused aneurysm in the left side of the neck produced by the giving way of the left common carotid, immediately below the bifurcation of that vessel. The opening in the vessel is small, and surrounded by several small atheromatous patches. A piece of white glass is passed through the orifice into the cavity of the sac. The pouch, formed by the neighbouring areolar tissue and the fibrine of the extravasated blood, is a very large one, and has completely pushed the larynx, and trachea over to the right side; and at the back of the preparation it has greatly encroached on the larynx and left aryteno-epiglottic ligaments, which are thickened and œdematous. The death of the patient appeared to be owing to suffocation produced by this encroachment. The preparation was removed from the body of

Henry H., aged 29, who was admitted into the Hospital October 23, 1844, for a large swelling of a purple colour at the back of the pharynx, accompanied by a swelling in the front and left side of the neck attended by much discolouration. It was stated that, two days before admission, the patient, whilst kneading some bread, felt a stabbing pain in the region of the hyoïd bone. In three hours' time the throat was so swelled that he could not swallow food, and dyspnœa came on. After being a short time in the Hospital, the diffuse swelling of the neck became circumscribed, hard, and smaller. There was evident pulsation of the tumour, with a whirring sound accompanying it. The patient went on improving for a month, the tumour becoming reduced to the size of a walnut; it then suddenly increased in size and extended in various directions. The pulsation gradually disappeared, leaving merely a line of pulsation towards its outer surface evidently marking the course of the displaced carotid artery, pressure upon which immediately arrested the beating of the temporal artery. Great difficulty of swallowing immediately followed; the tumour became more and more tense, and the symptoms increased until the death of the patient, which occurred eight days after the sudden increase of the tumour, November the 23rd. *Post Mortem and Case Book.* 1844. p. 254.

113. Specimen showing aneurysmal dilatation of the third portion of the right subclavian artery, the vessel having been tied just beyond the outer edge of the scaleni muscles. The aneurysm was of a fusiform shape, being about 5 inches long and $2\frac{1}{2}$ broad; the sac, as well as the vessel to the inner side of the ligature, being occupied by fibrinous coagulum. This subclavian artery as well as the arch and descending thoracic aorta are greatly dilated, the latter containing much atheromatous and calcareous deposit. The parts about the subclavian artery, vein, and sac, were very thickened, and purulent matter was found infiltrated under the clavicle and around the parts wounded during ligation. The heart was much hypertrophied, and the lungs greatly congested. The preparation was removed from the body of Thomas A., aged 50, who was admitted into the Hospital November 17, 1831. About eight weeks previously, he had first felt pain in the right arm which was relieved by moving it. About a week after, he first felt a tumour unattended by pain, which gradually increased in size at the fore and upper part of the chest. When admitted, the tumour was of about the size of an ordinary lemon, and was situated in the front of the upper part of the right axilla; its long axis being horizontal as regards the body. It pulsated and was attended by a distinct thrill. Pressure on the subclavian artery above arrested the pulsation, and caused diminution of the tumour which was still

felt to contain much firm coagulum. Coldness and numbness of the right upper extremity were complained of. Pulse 62, equal at both wrists. No cough or palpitation. The subclavian artery was tied on the outer side of the scaleni muscles; the operation passed off well; and the tumour diminished in size, and was deprived of pulsation. High febrile symptoms requiring venesection, were followed by hiccough, restlessness, and weak intermitting pulse. The patient died Dec. the 19th. *Museum Case Book.* p. 45.

114. Specimen showing a large aneurysm of the superior mesenteric artery, which communicated with the interior of the abdominal aorta. The sac is almost entirely filled with coagula, and is about one-third larger than a cricket ball, having two branches, divisions of the mesenteric, at its anterior and upper part on the left side. At the posterior part of the preparation the abdominal aorta is seen laid open and exhibiting the orifice of communication with the posterior part of the aneurysm. This orifice is large, oval, and has smooth edges; and through it are seen the coagula which almost fill the sac. These clots were, in places, loose and black, permitting the probe to pass from the arterial tubes on the surface of the sac into the aorta. The pancreas lay on the upper boundary of the tumour and was greatly raised by it. The lungs were much affected by scrofulous deposit. The preparation was removed from the body of William F., aged 42, a coachman, who was admitted into the Hospital February 11, 1835, with a pulsating tumour in the epigastrium. It was felt to be equal in size to an orange, and was painful on pressure, falling under the left ribs when the patient turned on that side. He had suffered once or twice from dyspnœa, and from pain in the loins and along the dorsal vertebræ. Shortly after admission, the bowels became very costive, and he was attacked by cough and profuse hæmoptysis. The pulse remained always regular. Blood continued to be passed from the lungs and stomach; and cramp, with tingling in the arms and legs, and more severe dorsal pain, came on. Before death, which took place in July, the tumour became more painful and changed its position from the left to the right side of the epigastrium. The case is related by Dr. WILSON in the *Med. Chir. Trans.* vol. xxiv. p. 227.

115. Specimen showing aneurysm of a branch of the superior mesenteric artery. The specimen shows the artery in its relation with the small intestine, the affected branch being situated about 2½ feet from the pylorus of the stomach, and the exact position of the vessel being 2 inches from the walls of the bowel. The aneurysmal sac, of about the size of a hazel-nut, had given way, and thus blood had escaped, which, bursting through the peritoneum, found its way into the general peritoneal cavity. There was no firm

clot in the aneurysm. The neighbouring mesenteric glands were enlarged. This specimen was removed from the body of Mary M., aged 34, who was admitted into the Hospital July 23. She was delicate, emaciated, and had a cough with blood-tinged sputum and other symptoms leading to the suspicion of phthisis pulmonalis. She also suffered from excessive diarrhœa. On the second day after admission, she was rather suddenly affected by pain in the hypogastric region, and died shortly afterwards, the abdomen becoming much distended. After death, much blood was found extravasated between the layers of the mesentery; and recently-formed fibrinous granulations were met with on the heart's valves. The lungs were congested. *Post Mortem Book.* 1856. p. 173. *Trans. Path. Soc.* vol. viii. p. 168.

116. Specimen showing aneurysm of the axillary artery for the cure of which a ligature was placed on the subclavian. The sac is of about the size of a bantam's egg, and almost full of laminated pale coagulum. On either side of the ligature the arterial tube contains a slight amount of firm fibrinous coagulum. The preparation was removed from the body of a man who was operated upon by Sir B. Brodie in the Hospital, and died five days after the operation. *Presented by* Sir Benjamin Brodie, Bart.

117. Specimen showing a large diffused aneurysm of the external iliac artery of the left side. The artery is seen at the back of the preparation to have a considerable longitudinal rent in it: otherwise its walls are natural. The preparation was removed from the body of a man who was admitted into the Hospital in February, 1825. He stated that twelve months previously he had felt a swelling in the right groin, which shortly subsided, and was accompanied by pain and swelling of the right knee. In the beginning of January, he was running down hill with a heavy load, and felt something snap in the left groin. On the following day, he found a small swelling, of the size of a hazel nut, in that groin, which increased until, on admission, it was of about 3 inches in size, in all directions. It was attended by a thrilling movement, but no distinct pulsation existed. An attempt was made to tie the artery above the aneurysm, but this failed, owing to its extensive adhesions and connections. The patient died a few weeks afterwards. *Presented by* Sir Benjamin Brodie, Bart.

118. Specimen showing large aneurysm of the left common femoral artery, for which a ligature was applied to the external iliac half an inch above the internal epigastric. The sac, which is equal in size to a large cocoa nut, is empty, excepting a small amount of laminated dark red coagulum lining it. When

recently examined it contained a large amount of blood-stained serum, as well as much soft blood clot. Above the sac the artery is dilated, and below it a small amount of dark clot is seen in the artery. For about half an inch above and below the ligature, the areolar tissue surrounding the artery, as well as the wound of the operation, and the areolar tissue in the posterior part of the abdomen, were found to be sloughy. Recent soft fibrine existed in the peritoneal cavity, and several neighbouring structures were glued thereby to each other. The heart and the other blood-vessels were natural. The preparation was removed from the body of Thomas W., age 30, who was admitted September 17, 1845, into the Hospital, and stated that he had first observed a swelling, of the size of a hen's egg, in the region of the common femoral, about two years previously. It remained of this size until three months before his admission, when it began to increase, the entire limb becoming swelled, but softer. About three days before he came in, it increased rapidly. It was then oval in form, and pulsating, and could almost entirely be emptied by pressure, but soon re-filled; a distinct bruit accompanied the pulsations. Pain was occasioned by pressure upon the sac, and numbness, with sensation of "pins and needles," existed in the leg which was swelled. The external iliac artery was tied, and the pulsation of the tumour arrested, the temperature of the limb, after some hours, being 71°, whilst that of the other leg was 74°. On the next day both feet were of the same temperature, viz: 76°. Tympanitis, vomiting, and delirium, with some amount of pain in the abdomen, came on, and the patient died September 25th. *Post Mortem and Case Book.* 1845. p. 225.

119. Specimen showing aneurysm of the left common femoral artery, for which a ligature was applied to the external iliac. The sac is quite full of clot, mostly colourless, and the artery between the sac and the ligature, as well as at a part between 2 and 3 inches above it, contains much discoloured coagulum. Below the sac the artery is free from clot. The preparation was removed from the body of John G., who was admitted into the Hospital July 18th, 1838, and was operated upon. He died fifteen days after the operation, of "secondary deposits" in the lung.

120. Specimen showing a large aneurysm of the superficial femoral artery, for which a ligature was applied to the external iliac. The sac, which is about half as large as a cricket ball, is full of nearly discoloured clot, which is arranged in layers almost directly vertical in direction. For about two inches above the sac the artery is seen to be irregularly thickened and dilated, having some fibrinous layers on its inner surface. Above this,

the artery, for nearly the distance of 3 inches, is impervious, and reduced to a slender cord, and still higher the external iliac presents some yellow atheromatous patches. Below the aneurysmal sac the artery, for about the distance of 1½ inches, is also impervious. The preparation was removed from the body of George B., who was admitted into the Hospital May, 1839, with a pulsating tumour in the left groin, of the size of a pullet's egg, having all the characters of an aneurysm. A ligature having been applied to the external iliac, all pulsation ceased, and after three months, the patient was discharged as being well. About three months after his discharge, he was re-admitted with pulsation in the tumour, which had existed for a month. Graduated compresses and a roller were applied over the tumour, and round the body and limb, and this was continued for about two months, when all pulsation and sound again disappeared. A year afterwards, the patient was again seen, when a slight recurrence of the pulsation without any increase in size, was observed. After two months the size had increased, but no pulsation or sound existed. From this time, it gradually and steadily increased, and in the course of the next twelve months it grew to the size of an ostrich's egg, being still unattended by pulsation or sound. In January, 1843, the tumour became stationary, and then began to diminish. The patient died of phthisis. *Presented by* PRESCOTT HEWETT, Esq. *Med.-Chir. Trans.*, vol. xxix. p. 75.

121. Specimen of aneurysm of the popliteal artery of the right side, which had been treated by pressure of the femoral artery. The sac is larger than a cricket ball, and is connected with the under surface of the artery, being situated between it and the joint to which it firmly adheres. It is almost filled with laminated coagula, varying in shade of redness, the central parts being softer and very disposed to shell out like the layers of an onion. On the side nearest the artery a channel, rendered uneven by recent red fibrine, is seen passing from the part of the artery above to that below the sac: its upper opening being smooth and free, whilst the lower one is small. The artery below the sac is greatly reduced in size. Following upwards the femoral artery, the coats are seen to be occupied by several atheromatous deposits, and at a point about half an inch above the aneurysm is a small dilatation. The artery was pervious, as also the vein accompanying it, and the connective tissue surrounding them was loose and healthy in character, being totally unaffected by the pressure used in the treatment. In the popliteal space, the vein and internal popliteal nerve were closely adherent to the aneurysm. There existed also an aneurysm of the left popliteal artery, which had been treated by pressure continued for the space of seventeen

weeks, and which constitutes the next preparation No. 122. Extensive atheromatous deposit in the coats of the aorta was also found, with dilatation thereof. One of the aneurysmal dilatations had burst into the trachea, and may be seen as preparation 98 of this series.

The subject of the aneurysm was Ferdinand V., aged 38, who was admitted into the Hospital June 7th, 1848, having been much out of general health for two and a-half years. When first admitted, an aneurysm about as large as a man's fist, was found in the right popliteal space, which he stated that he had first noticed in the preceding March, and which was then as large as a damson plum. Indistinct pulsation was felt in the tumour, which was compressible, but could not be emptied. In the left popliteal space was a firm tumour of the size of a hen's egg, the remains of an aneurysm. The right popliteal aneurysm was treated by the pressure of a tourniquet applied daily for several hours to the femoral artery. The limb became reduced in size, and the tumour, which was, however, still attended by some pulsation, became smaller and firmer. About six weeks after admission, the pressure being still continued, cough and dyspnœa came on, and the patient died after an attack of hæmoptysis, August 28th. *Post Mortem and Case Book.* 1848. p. 185. *Med. Chir. Trans.*, vol. xxxiv. p. 164.

122. Specimen showing aneurysmal dilatation of the left popliteal artery, treated by pressure over the femoral artery, and removed from the same patient as the preceding preparation No. 121. The sac, which is equal to a large hen's egg in size, is about two-fifths full of firm, and, for the most part, discoloured coagulum, its cavity being directly continuous with the arterial tube, as well above as below the sac. The femoral artery is quite pervious, containing no coagulum, but above the sac it is seen to be affected considerably by atheromatous deposit, and in one or two places to be dilated. The aneurysm had existed for eighteen months, the whole limb being at the earlier period of the disease greatly swollen. The femoral artery was subjected to pressure, at the Infirmary at Wexford, for the space of seventeen weeks, at the end of which time the leg was reduced to its regular size, but the pulsating tumour, of the size of a hen's egg, existed in the ham, and was, when the patient came into St. Georges' Hospital, much firmer than the sac in the opposite ham alluded to in the description of the previous preparation. After the patient's admission, attention was confined to the aneursym in the other leg, this aneurysmal sac remaining the same. *Post Mortem and Case Book.* 1848. p. 85, and No. 121 above. *Med. Chir. Trans.*, vol. xxxiv. p. 163.

123. Specimen showing an enormous aneurysm of the popliteal artery, for which the limb was amputated. The sac, which is of an oval shape, measuring 13 inches by $5\frac{1}{2}$, is quite filled by hard parti-coloured fibrine and clotted blood. The artery and vein, and the internal popliteal nerve separated from them, are placed on the inner surface of the sac, and greatly stretched by it. The opening, of an elongated shape, between the arterial tube and the sac, is seen to be full of dark-coloured clot, and in many places the coats of the artery are highly atheromatous. The patient was a man in the Hospital, whose toes were beginning to mortify, owing to the pressure of the large aneurysmal sac upon the blood-vessels. During life, the character of the tumour in the popliteal space (which was quite firm and free from pulsation) was not known.

124. Specimen showing aneurysm of the popliteal artery. The sac of the aneurysm, which is about equal in size to a cricket-ball, is, in places, destroyed, and contains but a small amount of discoloured clot. The femoral artery, at the upper part of its course, appears to have been tied, as it is at that part reduced to a cord, the surrounding structures being indurated and adherent to it. The artery and the vein do not otherwise appear to be affected, and are quite patent, except where the ligature was applied to the former.

125. Specimen showing aneurysm of the popliteal artery. The sac, which is very thin as to its walls, is situated between the artery and the posterior surface of the femur just above the back of the joint, and has been on the inner surface accidentally destroyed, so that much of the contained coagula has been lost; originally, however, the sac was full of clot. The artery which runs on the inner side of the posterior surface of the sac is in places affected by atheromatous deposit.

126. Specimen of aneurysm of the popliteal artery of about the size of a small orange. The sac is quite full of firm coagulum, and the artery above, to the extent of a couple of inches, and also below the sac, contains firm dark coagulum. The artery above the sac, excepting the part containing clot, is quite pervious, but yellow opaque patches are seen in its walls, which, when recent, were quite brittle. The preparation was removed by Mr. Charles Hawkins, from a gentleman passed ninety years of age, in whom cure of the aneurysm had been effected by the application of gentle pressure, by a bandage, to the tumour itself. *Presented by* Sir B. C. BRODIE, Bart.

127. Dry preparation showing aneurysmal dilatation of the popliteal artery. The sac situated between the artery and the bone is about equal in size to a cocoa nut, bulging out more especially to the outer side, and quite empty. The artery has been injected, and is pervious

almost as far as the lower margin of the sac; the nerves are greatly stretched by the sac. The posterior surface of the femur, to which the sac is closely applied, is quite entire. The preparation was removed from the body of a man who was admitted into the Hospital in 1821. The superficial femoral was tied, and the patient left the Hospital. He was however, re-admitted in 1825, pulsation having re-appeared in the pouch about six months previously. In preference to having the artery tied again, the patient chose amputation. He died a few hours after the operation.

128. Specimen showing aneurysm of the popliteal artery pressing greatly upon, and partially surrounding, the popliteal vein. It is full of dark clot, excepting at its orifice of communication with the artery, which is free from clot, though greatly discoloured. The specimen was removed from the body of a man who was about to be operated upon, when he died suddenly from rupture of an aneurysm of the ascending aorta into the pericardium.—See preparation 81 in this series. *Presented by* CÆSAR HAWKINS, Esq.

129. Specimen showing aneurysm of the posterior tibial artery. The sac, quite full of firm laminated coagulum, the central portion of which is very dark, is of about the size of a large nutmeg, and has the posterior tibial nerve spread out on its posterior part. It was connected with the artery immediately after its passage through the solæus muscle. The artery generally, quite healthy, was narrowed opposite the sac, containing a small amount of coagulum. The preparation was removed from the body of a man who died eventually of disease of the heart in the Hospital. Some months previously he had had a ligature applied to the superficial femoral artery for the cure of the aneurysm, having experienced excruciating pain and numbness in the course of the posterior tibial nerve. The diseased heart exists as Preparation 46 in this series. *Post Mortem and Case Book.* 1842-3. p. 71.

130. Specimen showing popliteal aneurysm having the popliteal nerves connected with its posterior surface. The sac is about equal to a cricket ball in size, and is nearly full of pale laminated coagulum, having on one side a projection from its cavity composed of very thin blood-stained walls, equal in size to a walnut, and containing firm coagulum. The femoral artery had been tied, and on post-mortem examination, it was found to contain small specks of calcareous matter within its walls, and to have ulcerated above where it had been tied. The heart and other viscera were healthy. In the opposite leg there was also found a small aneurysm which had not been perceived during life. This exists as the succeeding preparation (No. 131). On examining the specimen, after maceration for several years in

spirit, the walls of the sac at its lower part were found to be unusually thickened, and, in one place, of the consistence of cartilage. Several of the vasa vasorum were greatly enlarged and conspicuous. The preparation was removed from the body of a man who was admitted into the Hospital, August 1st, 1827, for the popliteal aneurysm which had existed nine months. The femoral artery was tied on the 9th. On the 23rd, the ligature came away, and the patient appeared to be doing well. On September 6th, hæmorrhage ensued without any apparent cause, and on the 8th, the artery was taken up above the part where the first ligature was originally applied, and with apparent success. Again, hæmorrhage occurred at intervals until November 2nd, when gangrene of the foot took place, and the patient died. *Presented by* Sir BENJAMIN BRODIE, Bart.

131. Specimen showing popliteal aneurysm removed from the other leg of the same patient as the preceding preparation, No. 130. It is equal in size to a very large walnut, and, except being lined by a thick layer of dense light-coloured fibrine, is quite empty, as is the artery on both sides of it. The vein connected with its posterior and outer surface, is seen to be quite natural. The presence of this aneurysm was not ascertained before death. *Presented by* Sir BENJAMIN BRODIE, Bart.

132. Specimen showing an aneurysm of the abdominal aorta and cœliac axis undergoing a spontaneous cure. The tumour is situated at the root of the cœliac axis, communicating with the aorta by a rounded opening, of about the size of half-a-crown, partially obstructed by coagula. The sac is nearly filled with laminated clot; except in the centre where the coagula are softer. The three branches of the cœliac axis opened from the distal extremity of the tumour. One of them (through which a glass rod has been passed) winds round the exterior of the tumour; another has been cut short off, and a small portion of it is laid open; the third is left entire, and in it are specks of atheroma. The viscera supplied by these arteries were perfectly sound, and it appeared, therefore, that the pouch had been filled up by clot just to the extent which allowed of healthy circulation through the branches. At the root of the superior mesenteric artery a small pouch opens into the aorta immediately below the aneurysm. The rest of this artery proved sound. The whole length of the aorta was much dilated and atheromatous. The patient, a man 69 years of age, died of dropsy from diseased kidneys and hypertrophy of the heart; nothing was known about the aneurysm before death. *Post Mortem and Case Book.* 1858. p. 91. *Path. Soc. Trans.* vol. ix. p. 172.

133. Specimen showing a large spontaneously-healed aneurysm of the innominate artery, along with a smaller one of the arch of the

aorta. The pouch is full of firm laminated light-brown coagulum, the only softened part being of about the size of a pea in the centre. The artery is greatly enlarged, and the aneurysm projects from the anterior part of its wall, its parietes containing no calcareous matter. The aneurysm is very firmly adherent to the upper part of the sternum, and to the sternal portion of the right clavicle, which is very much thickened and expanded and pushed up by the aneurysm. The right common carotid artery is quite plugged up by old standing fibrine, and reduced to the state of a small fibrous cord as high up as the bifurcation into its two main branches. The specimen was removed from the body of a man aged 43, who was admitted several times into the Hospital, where he died of pulmonary phthisis. He was a sailor, and had suffered much from pain, thought to be rheumatic. See *Path. Soc. Trans.*, vol. ix. p. 167. *Post Mortem and Case Book.* 1853. p. 178.

134. Specimen (dried and varnished) showing a large diffused aneurysm of the abdominal aorta which burst into the peritoneal cavity. The sac, of the size of a small cocoa-nut, communicated with the posterior part of the artery, and by it the artery itself, as well as the stomach, pancreas, and left kidney, were much lifted forwards from the vertebral column. The anterior surfaces of two or three of the lumbar vertebræ were greatly excavated in consequence of the pressure of the aneurysm. The left and outer part of the aneurysm was quite destroyed, having given way, and the fluid and coagulated contents had escaped, and were found continuous with a similar mass of blood occupying, and limited by, the muscles of the back and side of the abdomen, which in places were much disintegrated as far down as the crest of the ilium. It was owing to extensive destruction of the fascia attached to the crest of the ilium that a quantity of blood had found its way into the peritoneal cavity. The specimen was removed from the body of John H., aged 40, a billiard-table maker, who (about one year and a-half before death) had been subject to pain in the loins (thought to be lumbago), and subsequently in the left groin and hip. Later on, slight distinct pulsation was found in the left loin, but at that time no distinct bruit existed. The urine was albuminous, and of a sp. gr. of 1009, and it was thought that disease of the kidneys existed. Subsequently, the pulsation was found to have increased, and a "slight" bruit was heard over the left iliac crest. The patient one day became suddenly prostrate, and fainted once or twice; two days afterwards he died. *Post Mortem and Case Book.* 1856. p. 38. *Path. Soc. Trans.*, vol. xi. p. 51.

135. Aneurysmal dilatation of the abdominal aorta, the dilatation occupying about six inches of the whole circumference

of the walls, chiefly of the left side of the artery, and extending to within half an inch of the bifurcation into the common iliac arteries. The sac is of about twice the size of a cricket ball, and its walls are greatly thickened and brittle. The sac had given way in the left lumbar region, and about two quarts of blood had found their way into the surrounding tissues. The left kidney was very large, mottled, and flabby: the other organs were natural. The specimen was removed from the body of a naval officer, aged 69, who, being in previous good health (having for some months nursed a relative who was paralytic, and required much lifting), began to complain of great pain in the loins, which was thought to be lumbago. Whilst in a bath at Vichy, he one day felt, as he described it, a "great deal of pulsation" in the middle of the belly; but no aneurysmal swelling was then noticed. After returning to England, he very quickly became, without apparent reason, greatly emaciated. Pain was complained of in the abdomen, chiefly about the right flank and hip, and a flattened moveable tumour pulsating regularly was found over the abdominal aorta. The pulsations were accompanied by a single murmur, but by no whizz or thrill. Subsequently, the impulse was diminished, but to the left of the median line a very distinct whizz, with coincident thrill, was found over the tumour. Mr. Fergusson was consulted in order that the friends might know whether any operation would do good: but the patient suddenly became faint on the evening of his examination and died. *Path. Soc. Trans.*, vol. xi. p. 49.

136. Specimen (dried and varnished) showing aneurysm of the ascending part of the thoracic aorta communicating with the artery by an oval opening of about the size of a florin, as also general dilatation of the first and second part of the thoracic aorta. The pressure of the aneurysm had caused absorption of the right side of the sternum, of the lower border of the sternal end of the second rib and of the third rib to such an extent, that the sternal end of it was found lying loose in the aneurysmal sac. The sac of the aneurysm had given way, so that its contents were in contact with the pectoral muscles in front. The coats of the vessel were atheromatous: but the heart and its valves were healthy. There were indications of recent pleurisy on both sides of the chest, and the lower part of the upper lobe of the right lung was hepatized. The specimen was removed from the body of Ann B., aged 40 years, who was admitted into the Hospital in April, 1855, when, owing to pulsation at the right of the sternum, aneurysm was suspected. She then became an out-patient, but returned to the Hospital in October, having noticed a slight swelling between the third and fourth ribs on the right side, which, on admission, had attained the

size of a hen's egg. A sharp diastolic click was audible over both scapulæ, and there was much pain down the right arm. Later on, a systolic bruit was audible at the apex. The swelling increased much, and at last reached the size of a moderately-sized man's fist. It also extended downwards, and to the left, and, later still, it extended to the left of the sternum. During this time, nothing was observable regarding the state of the pupils. About three weeks after admission, a decided "whizz" was audible over the aneurysm, and crowing inspiration and orthopnœa came on. Both pupils were noticed as being dilated. The stridulous breathing increased. A few days later, the pupil of the "right eye" became more enlarged, so as to contrast very notably with that of the left, and this state of the pupils continued more or less until death, December 7th. *Post Mortem and Case Book.* 1855. p. 318. *Path. Soc. Trans.*, vol. xi. p. 76.

137. Enormous aneurysm (specimen dried and varnished) of the right sub-clavian artery, affecting the vessel immediately behind the right sterno-clavicular articulation. The vessel is also generally very dilated, and, along with the arch of the aorta, is the seat of atheromatous deposit. The sac is so large that it held several pints of blood, half of its contents being coagulum. The right scapula and clavicle are greatly displaced; and caries of the posterior surface of the latter bone, and of the right sides of one or two lower cervical vertebræ have been produced by the pressure of the aneurysm. The sac also extended so much into the axilla, and beneath the clavicle as completely to push forwards and compress the axillary artery and vein and the various nerves concerned in the brachial plexus. The heart was a little enlarged, but, besides extensive calcareous disease of the mitral-valve flaps, presented nothing unusual. The specimen was removed from the body of Samuel L., aged 50 years, who was admitted into the Hospital, March 28th, 1855, and for years had been the subject of much dyspnœa, following an attack of hæmoptysis. He had also been subject to giddiness, with swelling and numbness of the right arm and hand. When admitted, the pulse was jerking; and there was a distinct pulsating tumour above and below the right clavicle, and a loud and distinct single murmur was heard over it: but below the clavicle a double murmur coincident with the sounds of the heart was heard. A double bruit was audible at the cardiac region, and a single one posteriorly between the spine and edge of the right scapula. The tumour increased, and all sensibility and movement of the arm became lost. Moreover, a peculiar cyanotic condition, with a singular clubbing of the fingers, took place. The aneurysmal tumour gave way twice, with an

interval of some months, and after the last hæmorrhage the patient died October 13th, 1856. *Post Mortem and Case Book.* 1855. p. 281. *Path. Soc. Trans.*, vol. x. p. 103.

138. Specimen, showing extensive constriction of the commencement of the descending thoracic aorta with patency of the "ductus arteriosus." The ascending part and arch are generally dilated, but from the left margin of the left sub-clavian artery to a point opposite the termination of the duct, the artery is diminished to about one-fourth. At the above-mentioned point, the inner surface of the aorta presents a valvular fold, the space between the margins of the valve only permitting the passage of a small pea. Beyond this constricted part, the aorta assumes its natural calibre. The ductus arteriosus is entirely patent. The walls of the left side of the heart are thickened, and the aortic valve-flaps have so much calcareous matter deposited about them as barely to allow a moderately sized bougie to pass through the orifice. The cavities of the right side of the heart are dilated, but the valves, etc., are natural. The mitral orifice and valve, as also the pulmonary artery, are healthy. Extravasated blood was found in the substance of the lung, and one of the kidneys was diseased. The preparation was removed from the body of Nathaniel V., aged 33, who was admitted into the Hospital, May 2nd, 1849, suffering from dyspnœa and febrile symptoms, etc., The dyspnœa and cough increased, and blood was expectorated, and much pain at the epigastrium was felt. The heart's sounds were very indistinct, and somewhat resembled a "to and fro" friction sound. The pulse was always very feeble. Before death the hæmoptysis returned. The patient died May the 22nd. *Post Mortem and Case Book.* 1849. p. 106.

139. Portion of the femoral artery after amputation, having a firm coagulum occupying about one inch and a half of its extremity. The patient died eight days after the operation.

140. Portion of the femoral artery, having a firm pale coagulum occupying about three-quarters of an inch of its extremity, after amputation. The patient died eight days after the operation.

141. Portion of a femoral artery, probably from a young person, showing a light-coloured coagulum, occupying about one inch of its extremity. Removed from a stump after amputation. The day of death after operation is unknown.

142. Specimen showing the posterior tibial and peroneal arteries, occupied by slight discoloured coagulum at their extremities, after amputation. Death occurred July the 23rd, 1851, the operation having been performed twenty days previously, owing to a compound comminuted fracture. *Post Mortem and Case Book*, 1851. p. 157.

143. Portion of the femoral artery and vein, removed from a

stump after amputation, and showing large quantities of firm, lightish-coloured fibrine within them. The thigh was removed for 'fungus hæmatodes' of the knee. The vein was not tied. The operation took place ten days before death. The diseased knee-joint is shewn as a preparation in Series iii. *Presented by* CÆSAR HAWKINS, Esq.

144. Specimen of the carotid artery of an ass, which was ligatured, showing a narrow coagulum of blood within it. The walls of the artery, where the ligature was applied, are thickened. The ligature was removed. The date of death after operation is unknown. *Presented by* Sir BENJAMIN BRODIE, Bart.

145. Portion of a carotid artery of an ass, in which is seen a coagulum of blood, above and below the point where a ligature was applied. *Presented by* Sir BENJAMIN BRODIE, Bart..

146. Portion of a femoral artery, the lower extremity of which is obliterated, being, to the extent of about 2½ inches, converted into a semi-transparent fibrous material. The vessel was removed from a stump. *Presented by* Sir BENJAMIN BRODIE, Bart.

147. Portion of a superficial femoral artery, of which about three-quarters of an inch are completely reduced to the diameter of a piece of strong whip-cord, being completely obliterated. Excepting a very small pale coagulum just below the narrowed part, the entire artery above and below this part is quite pervious and healthy. The artery had been ligatured for a popliteal aneurysm some months before death.

148. Portion of the carotid of an ass, showing a broad ligature of tape, which had been applied one week before death; the vessel is quite void of coagulum, &c. *Presented by* Sir BENJAMIN BRODIE, Bart.

149. Part of the superficial femoral artery, showing a ligature applied to it; it is quite void of any coagulum, etc. The ligature had been applied to the vessel for a large aneurysm of the popliteal artery. Death took place six days after the operation, and when the vessel was examined, a very small soft coagulum, easily displaced by a stream of water, was found above the ligature. The artery contains one or two opaque patches on its inner surface, and is, generally, somewhat dilated. At the time of examination, the artery below the ligature was reddened and thickened, and purulent fluid was found to some extent in the sheath of the vessel above and below it. The preparation was removed from the body of John M., aged 62, who died in the Hospital, February 23, 1849, of gangrene of the leg and foot of the side operated upon. Slight atheroma of the arch of the aorta and mitral valve-flaps was found. *Post Mortem and Case Book.* 1849. p.41.

150. Portion of the aorta laid open, showing rounded and flattened masses of atheromatous deposit beneath the inner membrane, which is somewhat thickened. *Presented by* Sir BENJAMIN BRODIE, Bart.

151. Portion of the arch of the aorta, inverted, and showing thickening of its coats by the deposition of atheromatous material mixed with it, between the tunics, causing great roughness of the inner surface. *Presented by* Sir BENJAMIN BRODIE, Bart.

152. A portion of the abdominal aorta dried, and showing plates of calcareous matter in its walls, appearing for the most part somewhat prominent on the inner surface.

153. Part of the abdominal aorta, showing numerous plates of calcareous matter deposited between its walls and those of the arteries given off from it. In one or two places, the inner membrane has been destroyed. The heart and other vessels were healthy. *Presented by* Sir BENJAMIN BRODIE, Bart.

154. The greater portion of a femoral artery, containing large quantities of calcareous matter within its walls, of which scarcely any part is free from the deposit (dried and varnished). The preparation was removed from the body of a patient who died of gangrene of the foot.

155. The femoral artery, with one or two of its branches having large quantities of calcareous matter in their walls (dried and varnished). In those places where the deposit exists in less amount than in others, it is arranged in quadrilateral plates having their longest diameter in a transverse direction.

156. Part of the arch of an aorta, which is dilated, showing a very large amount of calcareous matter, in plates and nodules, within its walls. Many of them are not covered by any membrane. In some of the arteries of the arch, especially at the commencement of the subclavian, similar calcareous deposits also exist. The preparation was removed from the body of a patient who died in the workhouse of St. Martin-le-grand.

157. Specimen consisting of the lower part of the abdominal aorta, with the iliac arteries, which are all generally dilated, showing large quantities of a soft brown fibrinous pultaceous substance, mixed here and there with a gritty calcareous material, between the arterial walls. The deposit is for the most part, immediately beneath the inner membrane, which, when recently examined, was thick, inelastic, and in many places destroyed.

Microscopical Examination.—The greater part of this deposit, was seen, after many years of maceration, to consist of amorphous granular refracting substance, with much cholestearine. Some of the deposit is between the middle and the outer of the arterial coats, or between the layers of the middle coat, which in places is much thickened, and this deposit contains numbers of altered blood corpuscles. The most superficial layers of the deposit, those immediately invested by the inner layer, were laminated, splitting up, and presenting a most delicate fibrillated character under the microscope. The inner layer itself consisted of

numbers of delicate fibrils, without anything like an epithelium. In one or two places, thick masses and plates of calcareous matter exist between the tunics, as in the iliac arteries especially, which are greatly indurated and thickened. The specimen also shows great dilatation of the artery, and much fibrine from the blood is deposited on the inner surface of the vessel. The preparation was removed from the body of Anne D., aged 73, who was twice admitted into the Hospital for senile gangrene of the feet. During her life, a large pulsating tumour, corresponding to the situation of the lower part of the abdominal aorta but unaccompanied by any distinctive murmur, was detected.

158. Portion of the abdominal aorta, showing atheromatous and calcareous deposit between its tunics. The deposit, where the coats are everted, is of the consistency of boiled white of egg, and laminated, and appears to be situated between the inner and the middle tunics. The inner tunic at these parts is intact. The middle one, opposite the deposit, has become thin and friable, and deprived of its naturally striped fibrillated character, approximating in colour to that of the deposit itself. The outer coat of the vessel is unaffected. At the back of the preparation, the deposit is charged with calcareous matter, which has the appearance of bone-like plates. One or two patches of ulceration of the inner and middle coats exist, having rounded margins, with a base formed by the thickened outer coat.

159. Portion of the aorta and iliac arteries, showing extensive deposits of atheromatous and calcareous matter in the arterial wall. *Presented by* CÆSAR HAWKINS, Esq.

160. Portion of the radial artery, containing large quantities of calcareous matter within its walls. The artery could be felt by the finger during life, but it possessed no pulsation. The patient was a very aged man. *Presented by* CÆSAR HAWKINS, Esq.

161. Femoral artery and its branches, containing large quantities of calcareous matter in their walls.

162. Portion of the femoral artery, containing a considerable amount of firm, dark coagulum, which is closely adherent to the surface of the arterial tube. The preparation was removed from the body of a woman who died in the Hospital of gangrene of the foot. The posterior tibial artery was also full of coagulum (see preparation 167). *Presented by* Sir BENJAMIN BRODIE, Bart.

163. Portion of a femoral artery, somewhat thickened as to its walls, and containing within it one or two masses of pale coagulated fibrine. The preparation was removed from a gangrenous limb. The artery is not otherwise affected. *Presented by* Sir BENJAMIN BRODIE, Bart.

164. Specimen showing extensive deposition of fibrine in the tube of the left femoral artery, in connection with gangrene of the limb. All the tunics are much thickened, and were softer than usual, and easily separable. The inner one is considerably occupied by atheromatous deposit, which, at the upper part of the vessel, has proceeded to ulceration. The deep femoral artery is unaffected, but in the superficial one throughout its entire length, fibrine clot, in various conditions, existed, more or less occluding the tube. In some parts the clot is of a brownish red colour, and but slightly adherent to the inner surface of the artery, which in these places is stained of the same dingy colour. In other places, the deposit is more or less colourless and cord-like, and more or less adherent to the artery. The tissues immediately surrounding the artery were much indurated and thickened, and in this way the vein, which contained much coagulum, was very adherent to it. The main aorta and the iliac arteries contained large quantities of atheroma, and in places much calcareous matter. The lungs were partially in a state of grey hepatization. The preparation was removed from the body of Margaret B., aged 80, who was admitted into the Hospital July 10th, 1850, with senile gangrene. She had been in general good health until three weeks before admission, when she noticed a dark-coloured spot at the root of the nail of the second toe, which was painful. After about ten days, the nail had become loose, and the discolouration had extended. When admitted, there was much constitutional depression and low delirium, and wine, with opiates to procure sleep, were given. Very little pain was suffered, but the foot and toes became cold, numbed, and shrunken. The four inner toes and adjacent parts of the foot became dry and black, and the patient died July the 20th. *Post Mortem and Case Book.* 1850. p. 128.

165. Specimen showing part of the aorta and iliac arteries filled with fibrinous coagula of some standing. These coagula were slightly adherent to the internal coat of the artery, but the coats of the vessel were neither thickened nor discoloured. In several places the centre of the coagula was broken down, and presented a cream-like appearance. Similar coagula were found in the main arterial trunks, and in the veins, of both inferior extremities, as well as in the iliac veins and lower part of the vena cava, also in the arteries and veins of the left kidney, in the left ventricle, and in the right auricle. The left kidney was much enlarged ; the right one was atrophied and granular. The preparation was removed from the body of Harriett D., aged 37, who was admitted into the Hospital June 11, 1846, with incipient gangrene of the lower extremities, which began with

severe pain in the foot. She sank and died July the 15th. *Post Mortem and Case Book.* 1846. p. 161.

166. Specimen showing a portion of a femoral artery, having its inner surface coated by a thin layer of recent fibrine. The specimen was removed from the body of a girl, who died in the Hospital of erysipelas of the thigh and leg. *Presented by* Sir BENJAMIN BRODIE, Bart.

167. Specimen showing a portion of the posterior tibial artery, filled by firm colourless coagulum. This is in places very firmly adherent to the arterial walls, and much contracted. The specimen was removed from the same patient as the preparation No. 162 of this Series. *Presented by* Sir BENJAMIN BRODIE, Bart.

168. Specimen showing the femoral artery, reduced to a thick cord, owing to thickening and contraction of its walls. This state of its walls commences quite suddenly about one inch and a half below the giving off of the deep femoral, and ceases as suddenly at the lower part of the vessel (upper part as placed in the bottle). A small amount of coagulum at the lower part of the specimen projects from between the thickened walls. Above and below the constricted part, the inner surface and walls of the artery are apparently healthy. The specimen was removed from the body of a man who was operated on, (July the 21st, 1826), for popliteal aneurysm in the other leg, no unnatural state of the present artery being suspected. Nothing was known of any conditions inducing the diseased state of the vessel. The patient died, August the 11th, of abscess in the popliteal sac, and hæmorrhage, for which an operation was resorted to. *Presented by* CÆSAR HAWKINS, Esq.

169. Specimen showing obliteration of the posterior tibial artery, in connection with gangrene of the great toe. *Presented by* CÆSAR HAWKINS, Esq.

170. Specimen showing the femoral artery considerably ulcerated as to all its walls. The artery and vein are both shown, having bougies passed through them, and the wall of the artery, where divided by ulceration, is seen to be greatly retracted. The ulceration was in connection with a sloughing bubo. The preparation was removed from a patient who died in the Lock Hospital of hæmorrhage.

171. A portion of the abdominal aorta, which was ulcerated, in a case of caries of the spine, giving rise to fatal hæmorrhage. The artery was unfortunately laid open before the hole in it was discovered, so that the appearances presented by the latter are considerably obscured; but at the lower part of the preparation a part of the artery is swollen and forms the rim of a large opening, corresponding in situation to the openings of the lumbar arteries. The patient was a man of dissolute habits, 30 years of age. He was admitted into the

Hospital on account of weakness and pain in the back. On the evening following his admission he fainted while getting out of bed. On the next day a pulsating tumour was observed in the abdomen, and, on the following day, he had another attack of syncope, which proved fatal. *Post Mortem and Case Book.* 1859. p. 130. The carious vertebræ are shown as a preparation in Series V.

172. This specimen exhibits an oval laceration in the lower part of the right internal jugular vein, at about a quarter of an inch from its junction with the subclavian to form the innominate vein. The vein contains no coagulum about, or within it. The preparation was removed from the body of James C., aged 23, who was brought into the Hospital July 1, 1851, quite dead. He had been standing under a tree in Hyde Park during a thunder storm, when a rotten bough fell down and struck him against some hurdles. He died almost immediately afterwards. On examination after death, great swelling and deformity were found about the lower part of the neck on both sides, produced by fracture of both clavicles, also great extravasation of blood among the pectoral muscles caused by fracture of the second rib, and into both of the mediastina, in connection with fracture of the sternum. There was also bloody extravasation under the cervical fasciæ and between the peritoneum and the abdominal muscles. The injury to the jugular vein was manifestly from depression of the fractured parts of the clavicle. The subclavian veins were uninjured, and the lung on one side was lacerated by some broken ribs, not by the fractured clavicle. *Post Mortem and Case Book.* 1851. p. 145.

173. Specimen showing the effects of a ligature to the jugular vein of a horse. The vein is thrown into tolerably regular longitudinal plaits, which at their free edges inside the vessel are, in one or two places, only jagged. No clot within the tube, or discolouration of the tunics exists, but coagulated fibrine is accumulated at the point of ligation external to the vein. The animal was killed twenty-four hours after the application of the ligature. *Presented by* Sir BENJAMIN BRODIE, Bart.

174 Portion of femoral vein more than usually vascular. The specimen is dried to show its vascularity. *Presented by* Sir BENJAMIN BRODIE, Bart.

175. Portion of an internal jugular vein, communicating by a large ulcerated opening with the cavity of an abscess, the parietes of which remain partly connected with the vein and are circumscribed by condensed areolar tissue, etc. The internal coat of the vein presented its usual smooth and polished surface, and was but slightly discoloured, except in the neighbourhood of the opening, where it was injected, and presented some yellow spots, apparently of pus, on the external surface of the inner

membrane; the outer membrane at this part being thinned and partly destroyed. At the time of examination, the opening into the tube appeared to be partly blocked up by a small coagulum of fibrine and blood. No coagulum existed within the vein. The contents of the abscess, although dark, were certainly not of a marked red colour.

176. Portion of a femoral vein, thickened and indurated as to its walls, and containing a quantity of coagulated fibrine, part of which has been softened and broken down. This specimen was removed from the same patient as Nos. 177 and 178.

177. Portion of the same femoral vein, showing coagulated fibrine within it; the walls of the vein being of natural thickness, etc.

178. Portion of the same vein as the two preceding preparations, showing coagulated fibrine adherent to the inner surface, but not nearly in such quantities as in the preceding specimens. This part of the vein is the most superior of the three: the first specimen being from the lowest part of the vein. In some parts of the clot a semifluid brownish pus-like material was found, when recently removed from the body.

The above three specimens were taken from the body of a man who died in the Hospital, in 1824, from erysipelas, in connection with a diseased knee, producing abscesses of the leg and thigh. *Presented by* Sir BENJAMIN BRODIE, Bart.

179. Portion of an iliac vein containing yellowish coagulated fibrine, and removed from the body of a woman who died with phlegmasia dolens. *Presented by* Sir BENJAMIN BRODIE, Bart.

180. Portion of the inferior vena cava and two common iliac veins, quite plugged-up by coagulum. When recent, the coagulum was of a brownish red colour, and of a cheese-like friable character.

Microscopical Examination.—On examination, many years after maceration, the inner central parts of the coagulum were softer and more crumbling than the outer, and found to consist almost entirely of round small cells, which might be either pus-cells or white blood-corpuscles; many of them were uneven at their surface, and some contained distinct nuclei, whilst others only had dark granular contents. The other parts, even the most superficial, contained similar bodies, but they were mixed with much indistinct granular material, evidently simply coagulated fibrine. The walls of the veins are not affected.

The specimen was removed from the body of a child who died of pulmonary consumption, and who laboured under scrofulous disease of the hip joint.

181. Specimen consisting of a portion of a femoral vein, containing much coagulum and removed from the thigh after amputation

above the knee. The lower part of the vein, which had been divided in amputation, contains a large conical clot of about two inches in length, whilst the other parts are only coated on their inner surface by a thin film of coagulum, excepting in one place where it is more accumulated.

182. Specimen consisting of a portion of a femoral vein, containing a quantity of coagulum, and removed after amputation of the leg. The coats of the vessel are much thickened, and the clot at the upper part, which was nearest to the knee, is accumulated in a mass, whilst in other parts, it only covers the inner surface of the vein as a thickish film. The vein was not tied. The wound became foul, and the patient died in a state of stupor three weeks after the operation. *Presented by* CÆSAR HAWKINS, Esq.

183. Specimen consisting of a large portion of the inferior vena cava, a portion of the right common iliac, with the whole of the left common iliac and its bifurcations, showing the presence of coagulated fibrine within them all, excepting the right common iliac. The vena cava as high as, but not higher than, the liver (a part of which is seen in the preparation), was at the higher part smooth and pale, as to its inner surface, and the coagulum lining it was firmer and paler, whilst at the lower part the venous tunics are greatly thickened, and the coagula are in greater abundance, staining the vessel. The right common iliac is quite empty and healthy. The various veins, with fibrinous contents, were adherent by surrounding consolidated areolar tissue to the respective arteries and other contiguous structures, and the lymphatic glands of the iliac, lumbar, and femoral regions were much enlarged. In addition to the firm coagulum in the various veins, a quantity of dingy greyish red puriform fluid, which was readily washed away, was found mixed with it. The spermatic veins, as well within as outside the broad ligament, and also the left hypogastric and uterine veins were very darkly blood-stained, but did not contain coagulum. Within the folds of the broad ligament on the left side a small accumulation of pus was found, but this did not appear to be connected with any of the veins. The uterine veins on the right side had a natural appearance. The muscular structure of the uterus was natural, but the serous lining was destroyed, displaying a roughened, ashen-grey coloured surface, and at the right corner of the uterus a portion of the surface was seen to which a placenta had been evidently attached. The mucous membrane of the os uteri and vagina was flaccid and congested, as were the ovaries. The kidneys were diseased, and the results of pleurisy, bronchitis, and lobular pneumonia, in various stages, were met with. Throughout the body, the blood was fluid and the structures generally softened. The specimen

was removed from the body of Elizabeth G., aged 22, who was brought into the Hospital June 24, 1851, having miscarried about three weeks previously. Parturition had been succeeded by abdominal pain and constipation, and these had been followed by rigors and diarrhœa, with pain and swelling of the left calf of the leg, which extended up the thigh, the abdominal pain subsiding. On admission into the Hospital, the tongue was coated, the pulse quick and feeble, but the abdomen was soft and free from pain. The thigh was swelled, and very tender on pressure. There were dyspnœa and cough, with scanty viscid sputa and pain at the chest. Calomel and opium were given, and leeches and blistering resorted to. Rigors and perspirations came on, also diarrhœa and vomiting, and she sank and died July the 11th. *Post Mortem and Case Book.* 1851. p. 150.

184. Specimen showing fibrinous coagulum in the inferior vena cava and the right and left common iliacs, with their subdivisions. The upper part of the vena cava, within 2 inches of the liver, does not contain any coagulum. The fibrine is tough, pretty firmly adherent to the surface, and in some places very closely adherent; in many places the coats of the veins are exceedingly thickened. The coagulum in the right external iliac and femoral veins is of a dark rusty colour, and more easily detached from the veins than in the other parts. The deep femoral vein on the right side is free from coagulum. Some of the rounded portions of indurated areolar tissue, which are connected with the minuter subdivisions of the internal iliacs, contained pus. Moreover, inside the veins, besides firm coagula, there were quantities of chocolate-coloured viscid puriform substance. The results of peritonitis were met with, and a thickened hard membrane existed, binding the pelvic organs firmly down; the tissues about the rectum and bladder were thickened, containing deposits of pus. The vesical and hæmorrhoïdal veins contained collections of pus. Secondary lobular pneumonia had existed, and there were large sloughing sinuses in connection with fracture of the right tibia and fibula. The preparation was removed from the body of Edward M., aged 19, who was bronght into the Hospital April 16, 1851, with the above-named fracture. The wound became unhealthy; pain in the groin, followed by rigors, came on, and subsequently extensive diffuse inflammation of the areolar tissue of the entire limb, and a gangrenous state of the foot. The patient died of bed-sores, July 11, 1851. *Post Mortem and Case Book.* 1851. p. 151.

185. Specimen showing coagulated fibrine in the lower part of the inferior vena cava, the commencement of both common iliacs, and a portion of the right femoral vein. This coagulum was

of variable colour and consistency, portions being found softened and containing purulent fluid. The uterine and vaginal veins were in the same state. There was extensive thickening, with ulceration, of the submucous areolar tissue of the pyloric end of the stomach. The kidneys were diseased, but the uterus and vagina were healthy. There was no other marked disease, nor any traces of injury, &c., about the limbs. The preparation was removed from the body of Anne P., aged 39, who was admitted into the Hospital October the 8th, 1851, with symptoms of extensive disease of the stomach. Before death the legs swelled considerably. The patient died December the 7th. *Post Mortem and Case Book.* 1852. p. 244.

186. Specimen showing extensive fibrinous coagulum in the lower part of the inferior vena cava, in both iliac veins and their branches, and in the right femoral vein. There was also encephaloïd carcinoma of the ribs, &c. In many places the deposit within the vein was softened, and passing into a brown thinnish fluid. The preparation was removed from the body of James L., aged 60, who was brought into the Hospital July the 14th, for pain in the thorax, and swelling under the pectoral muscles. The patient died semi-comatose, August 20, 1852. *Post Mortem and Case Book.* 1852. p. 164.

187. Specimen consisting of the inferior vena cava, with parts of the iliac veins, and also both renal veins, showing the presence of a quantity of fibrine for the most part distending them. The left renal vein, which is larger than an ordinary vena cava, and the left supra-renal vein, were completely occupied by a quantity of soft putty-like pinkish-coloured material, which, on *microscopical examination*, turned out to be fibrine almost entirely converted into fat; the right supra-renal and renal veins were however empty. The entrance of the left renal vein into the inferior cava was open and free; but below the communication, the entire vena cava was filled by firm fibrinous indurated material, and was shrunken and reduced to the state of a dense cord. This contained material could only be removed with difficulty, and quite plugged up the vein. A similar mass of soft fatty-like material, as above described, also occupied a very large portion of the anterior half of the left kidney, and the left supra-renal capsule. There was also much recent fibrine blocking up the left external iliac vein; and disease of the kidneys existed. The preparation was removed from the body of Charles S., aged 50, who was brought into the Hospital February the 20th, 1856, with ascites and anasarca. He had been a great gin-drinker, and had suffered from pain in the loins. He died March 18th, in an attack of dyspnœa. It was noticed (in connection with

the affection of the supra-renal capsule) that no discolouration of the skin existed. *Post Mortem and Case Book.* 1856. p. 64. *Trans. Path. Soc.*, vol. vii. p. 177.

188. Preparation showing the common iliac vein, and its derivatives, full of very firm fibrinous clot, which in several places had gone on to softening and liquefaction.

189. Specimen showing masses of carcinomatous material mixed with blood-coagulum in the vena portæ, and tributary veins emerging from the substance of the liver. The preparation was removed from the body of John R., aged 40, who died in the Hospital in 1827. The liver and the stomach were extensively affected by soft carcinomatous growths, which, along with the history and microscopical appearances, will be found fully described in series X.

190. Portion of a vein in which a thin layer of calcareous matter has been deposited between the tunics.

191. Portion of a vein removed from the broad ligament of the uterus, containing a round white pea-like mass of calcareous matter within its coats. The vein is pervious.

192. Part of the common iliac vein, having, on the inner surface of its posterior wall, a mass of calcareous matter of about two inches in length; and tapering to its extremities from the middle part, which was between one quarter and one half of an inch in thickness. This mass was covered here and there by dried glue-like material, the remains of firm fibrine, found, when recent, to be closely investing it. The other portions, not covered by the fibrine, had been freely exposed to the venous current of the blood. On *microscopical examination* lacunæ and true canaliculi were found in the calcareous formation. *Trans. Path. Soc.*, vol. vii. p. 133.

193. Specimen showing the effects of a ligature passed through part of the parietes of the jugular vein of a horse. The walls at the wounded place are thickened and rather knotted. There was no hæmorrhage, either at the time of, or after, the operation. The animal was killed three days after the application of the ligature. *Presented by* Sir BENJAMIN BRODIE, Bart.

194. Large coagulum of blood removed from the pulmonary artery, and several of its minute branches. At the thicker portion of the clot the impressions of the valve-flaps are very well seen.

195. Blood removed from a vein during life, showing a buffy coat, and a cup-like surface.

196. Specimen resembling the preceding specimen.

197. Specimen showing rupture, of about an inch in length, of the posterior and upper part of the left ventricle of the heart. The muscular fibre was much affected with fatty degeneration. The preparation was removed from the body of a labourer,

68 years of age, an abstemious man, who had been principally engaged on night-duty in the gas works. His general health had been very good till the last year or two; since that time he had much cough and expectoration; he occasionally had to absent himself from his work, feeling ill, but not sufficiently so to see the medical man who attends the men belonging to the works. A day or two before his death, he had been unwell, and complained very much of harassing cough, and difficulty of expectoration. No disease of the heart was suspected, and the night before his death he had been out all night at his usual avocation. He went into the office to receive his wages the following morning, complained of shortness of breath, staggered a few steps, and fell insensible. No convulsion or noise of any sort occurred. He was seen in a few minutes by the medical attendant of the works, who said he was quite dead. On post-mortem examination sixty hours after death, the body was found to be well nourished. There were adhesions in both the pleural cavities; the lungs were emphysematous; the mucous membrane of the bronchial tubes was red. On opening the pericardium, the heart was completely enveloped in a coagulum of blood, which weighed between 4 and 4½ oz., and some of which was then in the orifice of the rupture. The brain and all the other organs were healthy. *Presented by* Mr. TEPPER.

198. Specimen showing masses of old fibrinous concretions in the cavities of the heart, especially in the depressions of the wall of the left ventricle, and in the auricular appendages; and more particularly in the right auricle, where the largest concretion exists. The masses varied in size from a large walnut, downwards. They were of a dull yellow colour, opaque and inelastic, and firmly attached to the cavities in which they lay. Some appeared to have undergone alteration previous to softening.

On *microscopical examination*, they had the indefinite structure peculiar to fibrinous deposits. For history, see the account of the following preparation.

199. The superficial femoral artery corresponding to the preceding preparation. A partly decolourised coagulum is impacted in the upper extremity of the vessel, and of this the upper end is scooped out, as if by the action of the blood as it passed into the deep femoral, which was unobstructed. The clot was irregularly adherent to the wall of the vessel, which had, at the point of contact, a slightly roughened appearance. Elsewhere the lining membrane was quite natural, and the vessel empty.

This and the former preparations were taken from the body of a man, Robert W., who was admitted into the Hospital with dyspnœa and dropsical swelling. While under treatment, the left foot

became gangrenous, and the surgeon who was called in consultation distinctly felt an obstruction of the femoral artery, below Poupart's ligament, and was thus guided to a diagnosis, which was exactly borne out by the post mortem examination. The spleen also contained large fibrinous blocks, and the branches of the splenic artery, tending towards these formations were obstructed by fibrinous coagulum. The spleen is shown in a later series. *Post Mortem and Case Book.* 1862. p. 23. See also *Path. Soc. Trans.*, vol. xiv.; the *British Medical Journal*, 1862; and Drawings in the Museum.

200. Specimen showing fibrinous deposition in the walls of the heart, and within the canal of the pulmonary artery. The preparation displays the right ventricle, laid open, and the commencement of the pulmonary artery. A large lobulated deposition of fibrine occupies the right ventricle, reaching up to and partially destroying the pulmonary valves. The endocardium, at the time of the post-mortem, was intensely congested. The pulmonary artery is roughened, and the coats much diseased, up to the bifurcation. At this spot the orifice of the right branch is contracted to the size of the coronary artery. Within this narrow opening is seen a mass of fibrine, which occupies the entire course of the artery, even to its smaller branches. The mass of fibrine in the ventricle is quite continuous with that which obstructs the pulmonary vessel. It appears to have crept upwards, at first keeping between the coats of the artery, though it afterwards makes its appearance in the cavity. In the ventricle, the fibrinous mass exists to a certain extent, at the expense of the muscular wall, which, in one place, seems quite to have disappeared. On *microscopical examination*, the mass was found chiefly to consist of irregular and fragmentary matter, of no definite structure, mingled with much loose fat. The pericardium was covered with ragged lymph, and the cavity distended with bloody fluid. The interlobular septa of the right lung were thickened by fibroïd deposition. The lung was compact and devoid of air. The bronchial tubes were natural. The liver was in an early stage of cirrhosis, and gave evidence also of the so-called anyloïd degeneration.

The preparation was taken from the body of a man aged 40, who died in the Hospital, and whose case was considered at first to be one of pleurisy. There was a systolic murmur at the base of the heart. *Path. Soc. Trans.* vol, xiii. p. 60. *Post Mortem and Case Book.* 1861. p. 223.

201. Specimen showing extreme contraction of the mitral orifice. The mitral valve is thickened by the deposition of cretaceous matter within the anterior flap and about the auricular opening. The structures forming the valve have contracted symmetrically

and the orifice is diminished so as not to admit the point of the little finger. Considerable flexibility still remained about a portion of the anterior flap, so that it appears unlikely that any regurgitation could have taken place. The other parts of the heart were healthy. Parts of the lower lobe of the left lung were hepatized, and the liver was in a state of incipient cirrhosis. The preparation was taken from the body of a woman 40 years of age, who became a patient in the hospital in consequence of general œdema, and shortness of breath, from which she had suffered for four months. It is stated, that there was a loud systolic murmur, chiefly audible at the apex. The pulse was small and feeble. She had had an attack of rheumatic fever sixteen years before her admission. She was treated with diuretics and stimulants, but gradually sank, and died about a month after her admission. *Post Mortem and Case Book.* 1861. p. 305.

202. Specimen showing dissecting aneurysm of the thoracic part of the aorta. About half an inch above the aortic valve, is a transverse rent, which occupies two-thirds of the circumference, and forces an entrance to a space between the coats. In the immediate neighbourhood of the rent, the splitting is between the outer and middle coats. Opposite one end of the rent the outer coat has given way, and the blood has escaped into the pericardium. From this spot, the separation can be traced downwards to behind the sigmoïd valve, and in the other direction along the arch, and completely along the whole of the thoracic part of the vessel. At the point of rupture, as has been stated, the fibrous tissue of the outer coat is exposed to view; but everywhere else the separation has taken place in the substance of the middle coat, a fibre of which can be peeled off both sides of the cavity. The splitting has extended into the left subclavian, but not into any other branches. Besides the rent described close to the sigmoïd valve, there are other lacerations of the inner surface of the artery: one immediately over it and parallel, but scarcely deep enough to pass through the inner coat, and not penetrating into the cavity within the wall; another, higher up, and angular in form, passing quite through the inner wall of the cavity. The origins of the innominate, left carotid and left subclavian, are marked by transverse splits, which also penetrate into the space, which was nearly empty. The lining of the vessel is free from disease, excepting one or two minute specks of atheroma near its origin. The abdominal aorta was not examined. The heart was of rather large size, but otherwise it was quite natural. The spinal cord was healthy. The specimen was taken from the body of a policeman, 32 years of age. He had been suddenly seized, while on duty,

with a shooting pain down the centre of the abdomen, and paraplegia. He died suddenly twenty-four hours afterwards. *Path. Soc. Trans.* vol. xiii. p. 48. *Post Mortem and Case Book.* 1861. p. 267.

203. Specimen showing perforation of the inter-auricular septum. In this heart, which is much hypertrophied, there is a large triangular hole connecting the auricles, through which the finger might be passed. The edges of this opening, as well as the mitral and aortic valves are smooth and rounded, and have every appearance of long standing, but are fringed with quite recent lymph. The hole must either have resulted from congenital malformation, or from ulceration at some very remote period. It is situated immediately above the attachment of the mitral and tricuspid flaps. The foramen ovale was closed. The aortic valves are stiffened by atheroma, and the surface of the ventricles is covered with a thin film of old false membrane. The specimen was taken from the body of a man, 42 years of age, who was brought into the Hospital moribund, and died the following day. His history was exceedingly imperfect. When seen, he was cold and pulseless, in a state of great dyspnœa, and was generally œdematous. *Post. Mortem and Case Book.* 1862. p. 46.

204. Specimen showing general dilatation of the aorta, innominate and subclavian arteries. The dilatation commences close to the aortic valve, and involves the whole arch of the aorta. The convex part of this vessel has yielded more than the concave, so that a tumour has been formed, which projects upwards from the highest part of the arch. The entire artery is atheromatous. The innominate and subclavian arteries are greatly dilated, the enlargement terminating in a rounded extremity in the axilla. The right carotid and axillary vessels were healthy This preparation was taken from the body of a man, 45 years of age, who had formerly been a patient in the Hospital, with pulsations about the right collar-bone, and pain in the right hand and arm Later on, a palpable swelling arose above the clavicle, in which no bruit could be distinctly made out; there was, however, a cardiac murmur. *Path. Soc. Trans.* 1862. p. 30. *Presented by* PRESCOTT HEWETT, Esq.

205 Specimen showing congenital communication between the ventricles of the heart, and occlusion of the pulmonary artery. The orifice of communication is of a triangular shape, its base being about three-fourths of an inch in length; and it is situated almost immediately below the aortic valve, having rounded edges. The walls of the left ventricle and the aortic valve-flaps are thickened; the mitral valve healthy, but its orifice unusually large. The right ventricle is diminished in capacity; and where the orifice of

the pulmonary should have been, is a slight recess, blocked up by thickened and indurated tissue, which, on cutting open the pulmonary artery, may be seen, on the arterial surface, to be smooth and nodulated, and evidently forms the remains of the valve of the pulmonary artery, the canal of which, beyond this point, is quite free and natural. From the body of a boy, aged 12, who, from his birth, had had cyanosis. He was very sluggish in mind and body, though not idiotic ; and generally had a cold skin, and a very feeble pulse. The lungs were found in places to be adherent to the parietes of the chest and non-crepitant, being totally devoid of elasticity. This case is described by Dr. Norman Chevers in the "Medical Gazette," New Series, Vol. III., 1846. *Presented by* Dr. T. K. CHAMBERS.

206. Specimen showing a large firm fibrinous coagulum of old-standing, containing in its centre a quantity of broken down puriform fluid, and occupying the right auricle of the heart. The mass of coagulum was quite firmly adherent to the parietes of the auricle, and was exceedingly solid and compact in texture. All the cavities of the heart were dilated, but especially those of the right side, and the right auriculo-ventricular orifice was very unusually large. There was much emphysema of the lungs, with a vascular condition of the bronchial tubes ; and in the upper part of the right lung was a large patch of tissue in a leathery condition, as if from previous consolidation. There was a large amount of pleural adhesion, and much reddish fluid in the pleural sacs. The kidneys were very vascular and heavy; their capsules adherent. The liver was large and "nutmeggy." Other organs natural. The specimen was removed from the body of a man, S. Y. K., a gas-fitter, aged 45, who was admitted into the Hospital, February 26, 1857. He was a resident of a very low part of Westminster, near the river, and was an intemperate man. He stated, that having been in good health until six weeks ago, he then "caught cold," and had "tightness of breath," which was followed by anasarca of the lower limbs. On admission, his face was blue, being congested, and the heart's action feeble, but not irregular. On several occasions a murmur was distinguishable at the apex of the heart; and the position in which he lay appeared to diminish or remove the murmur; but at other times no cardiac bruit could be found. The urine was scanty, very albuminous, and had a specific gravity of 1018. Subsequently, the albumen decreased; but casts of renal tubes, pus, and blood-corpuscles were met with. He expectorated much muco-purulent fluid, and had many attacks of dyspnœa, the face and hands continuing blue. He died, March 8th, having gradually sunk from exhaustion.

Post Mortem and Case Book. 1857. p. 54; also, *Path. Soc. Trans.* vol. xiv.

207. Specimen showing a fibrinous clot in the right auricle, adherent to the walls of the cavity, and (when recent) containing in its centre a quantity of brownish red grumous fluid, which escaped on section. In addition to the above-mentioned state of the right auricle, the heart was very large, and the cavities on the right side were exceedingly dilated, their walls being attenuated and the orifices large. The valves on the right side were healthy. On the left side the cavities were dilated, and the heart's walls thickened. The valves were healthy; but bead-like fibrinous deposits were found on the edges of the mitral valve-flaps. There was a large quantity of brown fluid in the right pleural sac, compressing the lung, which contained a trace of extravasated blood in its centre. The left lung was emphysematous. The liver was congested, the kidneys granular, and diminished in size; and in the spleen was a large block of yellow fibrine, appearing on the surface, and passing into the interior of the organ. A fibrous tumour existed in the uterus. The specimen was removed from the body of a woman, M. B., aged 45, who was admitted into the Hospital, May 25th, 1855, having been an in-patient previously with cough, palpitation of the heart, etc. When admitted a second time, she had much anasarca of the lower limbs, drowsiness, and, at the same time, restlessness, and much "oppression" at the region of the heart. The heart's action was irregular and violent; but no decided murmur could be detected. There was, however, some jugular regurgitaiton. Much albumen existed in the urine. Symptoms, general and stethoscopic, of pleurisy came on, and also much lividity of the face, and a slow and laboured state of the heart. She sank and died, in spite of diuretics, salines, aperients, and stimulants, which at first gave great relief. *Post Mortem and Case Book*, 1855. p. 166; *Path. Soc. Trans.* vol. xiv.

208. Specimen showing old-standing fibrinous coagulum, softened and broken down, in its interior, into puriform fluid. All the cavities of the heart were very large and the walls of the left ventricle were thickened; in addition to the old-standing clot above-mentioned in the right auricle, the right ventricle, as well as the left ventricle, contained slight collections of coagulated fibrine, undergoing softening and other changes. The valves and orifices of the heart were natural, and the left ventricle was almost quite contracted. Both the lungs contained quantities of extravasated blood in their lower parts; and both shewed that their substance had been much compressed by fluid, which, along with a certain amount of recent

fibrinous exudation, existed in the pleural cavities. The kidneys were diseased, being granular and contracted. The spleen, liver, and other organs, were apparently healthy. The specimen was removed from the body of a woman, S. H., aged 45, who was admitted into the Hospital, March 11, 1856, (having been ill for nine months) with cough, dyspnœa, weak and irregular pulse, and distinct physical signs of pleuritic effusion. Albumen was found in the urine; and much vomiting was complained of. She was the subject of many attacks of intense dyspnœa and gradually sank, and died April 1. *Post Mortem and Case Book.* 1856. p. 77; also, *Path. Soc. Trans.* vol. xiv.

209. Specimen showing a softened old-standing fibrinous coagulum within the cavity of the right auricle, quite broken down, and diffluent in its centre. Similar softened and old-standing clot was also found in the right ventricle. The heart was itself unusually large, and its muscular structure was flabby. The valves and orifices were natural. There was a little atheroma of the ascending aorta. The liver and spleen were congested, and the kidneys were unusually large, smooth, and mottled; and on section, presented a deposit of a greyish white colour in their cortical parts. This specimen was removed from the body of a man, T. R., aged 41, who was admitted into the Hospital, June 11, 1856, having been ill six months previously, with pain in the limbs and dropsy. From these symptoms, he said, he recovered; but they had returned three weeks before admission. Great pain in the head, and much vomiting existed, and the urine contained pus and blood and renal casts. He died June 16th. *Post Mortem and Case Book.* 1856. p. 144; *Path. Soc. Trans.*, vol. xiv.

210. Specimen showing a fibrinous coagulum, situated in the right ventricle of the heart, softened in its centre, and broken down into a puriform fluid. This mass was intimately adherent to the inner surface of the ventricle, and entwined about the columnæ carneæ. White fibrinous coagula existed in both ventricles. The heart was large, weighing 15 oz. Both lungs were emphysematous, and the bronchial membrane throughout was vascular, the tubes being filled with mucus; pleural adhesions on both sides. The liver was "nutmeggy," the spleen congested, the kidneys natural. From the body of a man, W. S., aged 19, who had been in the the Hospital for bronchitis one year before, and was admitted December 21, 1857, having been ill again with bronchitis and excessive dyspnœa. The heart's sounds were distinct, face livid, pulse quick and full; and there was undue dulness over the base of the right lung; auscultatory signs of bronchitis existed. Extreme orthopnœa came on, and increased daily, until death

occurred, January 8th, 1858. *Post Mortem and Case Book.* 1858. p. 7; *Path. Soc. Trans.* vol. xiv.

211. Specimen showing a large mass of firm decolorised coagulum, filling up the right ventricle, and passing up considerably into the pulmonary artery. This mass of coagulum received distinct impressions from the prominences on the inner surface of the heart, and from the valve at the root of the vessel. The surface of the coagulum was bloody, but when cut into, its substance was of a light yellow colour, not softened, however, or in any way disintegrated. A certain amount of firmish blood-clot existed in all the heart's cavities, but much less firm and solid than the above one in the right ventricle. The heart was natural in structure, etc. The lungs contained scrofulous deposit and vomicæ, and indications of old-standing pleurisy were found. The kidneys were much diseased, granular, and of a light yellow colour and studded with cysts; other organs natural. From the body of a man, T. A. H., aged 46, who was admitted into the Hospital Jan. 25, 1854, having been ill with weakness, cough, and expectoration for four months, ever since he had an attack of fever and bilious vomiting. The stethoscope indicated the existence of phthisis. Albumen, renal casts, and pus globules, were met with in the urine. He sank, and died Jan. 29. *Post Mortem and Case Book.* 1854. p. 28. *Path. Soc. Trans.* vol. xiv.

212. Specimen showing a large mass of old-standing yellow fibrinous coagulum, occupying the cavity of the left ventricle. This coagulum is very brittle, and laminated, and quite firmly adherent to the walls of the ventricle. *Path. Soc. Trans.* vol. xiv.

213. Specimen showing a vertical rupture of the walls of the left ventricle of the heart.—*Presented by* PRESCOTT G. HEWETT, Esq.

214. Specimen showing rupture of the posterior wall of the left auricle of the heart, The lining membrane and also the muscular walls are ruptured through their entire thickness; but the pericardial covering remains entire. The rent is about 1¼ inch in length, horizontal in direction, and extended just above the auriculo-ventricular orifice; its edges are even, abrupt, and, when recent, were red in colour. The muscular fibres between the edges of the rent were covered by dark clotted blood. Excepting a slight thickening and yellowness of one part of the endocardium of the auricle, this structure was natural. There were several, evidently, old-standing coagula adherent to the walls of the left auricle undergoing softening. The heart's valves were natural. The pericardial sac contained a quantity of turbid fluid, and there was a white patch on the surface of the heart. The lungs were œdematous. The specimen was removed from the body of a child, C. H., aged 12 years, who was admitted into the Hospital on account of dropsy, and suppression of urine,

with epileptiform convulsions following scarlet fever. When admitted, a strong systolic bruit was heard in the cardiac region. Dyspnœa was a very prominent symptom, and the heart's action became very turbulent. The cardiac bruit, however, ceased before death, which occurred after symptoms of collapse. *Post Mortem and Case Book*, 1854. p. 340. *Path. Soc. Trans.* vol. xiv.

215. Specimen showing transverse rupture of the walls of the root of the aorta. The pericardium was found to contain a large amount of clotted blood. The parietes of the aorta contain much atheromatous material. The rupture was quite independent of any external force. *Presented by* Dr. JOHN W. OGLE.

216. Specimen showing ligation of the carotid artery of an ass. Fibrinous coagulum exists in the vessel above the ligature.

217. Specimen showing aneurysmal dilatation of the arch of the aorta. The tumour is of about the size of a large orange, and adherent to the interior surface of the sternum, the right clavicle, and the cartilages of the first and second ribs. The anterior part of the aneurysm was in close connection with a quantity of purulent matter, situated under and amongst the fibres of the right pectoral muscles, by means of an ulcerated opening through the tissue, between the cartilages of the second and third ribs. The specimen was removed from the body of J. C., aged 53, who was admitted into the Hospital in June, 1853, for pain at the right side of the chest, extending down the right arm, which he had felt since straining himself in throwing a stone. He went out relieved, and enjoyed tolerable health until ten weeks before he was re-admitted, Jan. 24th, 1855, when he had orthopnœa, and some degree of projection of the upper part of the sternum, where a "knocking" impulse was perceptible; no bruit, however, existed. The cough and voice were affected as in cases of obstructed trachea. Copious expectoration came on, and the orthopnœa became more severe, until death, February 12th. *Post Mortem and Case Book*. 1855. p. 50.

218. Aneurysm of the posterior part of the arch of the aorta, bulging to a slight degree into the lower part of the trachea, about one inch above its bifurcation. The ascending part of the aorta is much dilated generally.

219. Specimen showing the spontaneous healing of an aneurysm of the superior mesenteric artery. Removed from the body of a patient who was not known to have been the subject of aneurysm.

END OF SERIES VI.

SERIES VII.

INJURIES AND DISEASES OF THE LUNGS, PLEURA, LARYNX, TRACHEA, BRONCHI, AND BRONCHIAL GLANDS.

THE LUNGS.

Wounds and other mechanical injuries, 1, 2, 3, 4, 112, 116.
Emphysema.
(*a*) Vesicular, 7.
(*b*) Subpleural and interlobular, 5, 6, 41.
Hæmorrhage (pulmonary apoplexy), 19, 117.
Consolidation by effused fibrine, independent of injury (red hepatization), 9, 10, 11, 12, 80.
Purulent infiltration (grey hepatization), 13, 15.
Abscess, 14, 15, 16.
Gangrene, 17, 18.
Deposits, morbid growths, etc.
(*a*) Fibrinous (excluding hepatization), 113.
(*b*) Tubercular, in various conditions, including vomicæ, etc., 32, 33, 34, 35, 36 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50.
Of these the following contain calcareous concretions, viz., 38, 39, 44, 45, 46. 47.
Nos. 34 and 46 show the opening of vomicæ into bronchial tubes; and No. 43 the opening of a vomica into a vein.
Nos. 48 and 49 illustrate the opening of a vomica into the pleural cavity (pneumo-thorax).
(*c*) Carcinomatous.
Encephaloïd variety, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30; see also Series VI. 11, 39.
Colloïd ditto, 21.
Osteoïd ditto, 31
(*d*) Pigmentary, 13, 14, 15, 16, 43, 46, 50, 51, 81.
Entozoa, 52.
Effects of pressure upon the lungs from liquid pleural effusion or contracting false membranes, 8, 54, 59, 60.

INJURIES AND DISEASES OF THE BLOOD-VESSELS OF THE LUNGS.

Laceration, 112; see also Series VI. p. 113.
Fibrinous coagulum within their canals, 9, 10, 11, 51, 211; see also Series VI. p. 194.

THE PLEURA.

Perforation, by the bursting of vomicæ, 48, 49, 58.
Fibrine of comparatively recent origin connected with the surface, 1, 2, 3, 4, 9, 13, 15, 17, 19, 20, 22, 23, 26, 30, 31, 33, 36, 54, 55, 56, 57, 116, 117.
——— old-standing, forming adhesions of opposite surfaces or not, 5, 6, 24, 34, 35, 37, 40, 43, 47, 53, 54, 58, 67, 68. Of these No. 68 shows the deposit of much pigment, among the adhesions.

Thickening and induration of the pleura, 14, 48, 49, 60, 61, 62, 65, 66.
Deposits, morbid growths, connected with the pleura and subpleural tissue.
(*a*) Fibrous and fibro-cellular, 64, 65, 66, 67.
Of these, No. 67 illustrates the formation of "loose bodies," within the pleural cavity.
(*b*) Tubercular, 63.
(*c*) Carcinomatous. See carcinoma of the lungs, also Series VI, 11.
(*d*) Pigmentary, 12, 38, 50, 62.
Instances of accumulations of fluid in the pleural cavity, 8, 58, 59, 60.
Of these, Nos. 58, 59, were cases of empyema.
Fistulous opening between the pleural cavity and the external air, 59.
Communication between the pleural cavity and the bronchial tubes, 58.

THE LARYNX, TRACHEA, AND BRONCHI.

Wounds and other mechanical injuries.
Injury of the cartilages and cartilaginous rings, 70, 71, 72, 112, 115, 116, 119.
Of these No. 72 gave rise to general emphysema.
Perforation of the thyro-hyoïd membrane, 69.
Union after division, is illustrated by No, 71.
Foreign bodies producing obstruction, 79.

Diseases of the cartilages and connecting membranes.
Calcification, 82, 83, 86, 87, 93.
Ulceration and its results, 84, 85, 86, 87, 88, 89, 99. Of these, Nos. 85 and 87 are instances of exfoliation.
Carcinomatous disease (encephaloïd variety), 109. See also Series for Diseases of the Œsophagus, and of the Thyroïd Gland.
Dilatation of the bronchial tubes is illustrated by Nos. 80 and 81.

Diseases of the mucous and submucous membrane.
Œdema, chiefly of the Glottis, owing to the effusion of serum, or fibrine, or pus, in the submucous tissues, 74, 75, 90, 91, 93, 104, 110.
Thickening and induration (of old-standing) of the mucous membrane, 86.
Superficial deposits of fibrine, whether from disease or injury, and either forming membranous coats or not, 74, 77, 78, 80, 84, 94, 95, 96, 97, 98.
Of these, No. 74 was in connection with the operation of laryngotomy.
Ulceration, 84, 85, 86, 88, 89, 99, 100, 101, 102, 103, 104. 105, 106, 107, 108, 122, 123.
Epithelial growths, 110, 121.
Illustrations of laryngotomy and tracheotomy, 70, 73, 74, 75, 76, 77, 92, 93, 120.

THE BRONCHIAL GLANDS.

Chronic enlargement, 111, 112.
Deposits morbid growths, etc.
(*a*) Calcareous, 100, 113, 118.
(*b*) Tubercular, 32, 114, 115.
(*c*) Carcinoma (colloïd variety), 21.
——— (encephaloïd do.), see Series VI. 10.
(*d*) Pigmentary, 111.
Of these No. 32 illustrates the compression of bronchial tubes by enlarged bronchial glands.

1. Portion of the left lung, showing the course taken by a pistol ball which entered the chest anteriorly at a point about two inches above the left nipple, and passed through the lung, fracturing the third rib anteriorly, the fifth rib posteriorly, piercing the blade of the scapula, and resting beneath the integument of the back. The lung in the immediate neighbourhood of the gun-shot wound is very firm and consolidated, owing to effused blood and fibrine. The pleural sac contained much dark fluid, and the opposed layers of the pleura were covered by thick dark-coloured fibrine, which was easily torn away; at the upper part of the sac were several bands of very old standing. The right pleural sac contained many firm adhesions, and the right lung much scrofulous deposit with vomicæ. The preparation was removed from the body of William W., aged 40, who was admitted into the Hospital, January 29, 1851, and died January 31. The patient, a butler, had shot himself, and was brought into the Hospital in great pain and very faint, but not collapsed, and with blood welling out from the wound at the anterior part of the chest. The bullet, a leaden one, was felt under the integument at the back, and having been removed by an incision was found to be flattened, having a portion of bone attached to it. The man had been depressed in spirits for some time, and had had a severe cough for some months. After admission, urgent dyspnœa, with increased pain at the region of the wound, and emphysema on the left side of the chest, came on. Blood-stained sputum was expectorated. The dyspnœa continued, but consciousness was preserved until death. The pulse was very weak and frequent, and nausea and vomiting set in. The pain continued until the end of his life. The injured ribs and scapula are shown as preparations in series ii. *Post Mortem and CaseBook.* 1851. p. 21.
2. Portion of the upper part of the right lung, showing extensive laceration of its substance, with deposition of soft recent fibrine on its surface. The lung around the wound, when first examined, was very full of blood, but not hepatized. A quantity of blood and serum, which proceeded from the injured part of the lung, and was enclosed by recent fibrine, was found collected within the pleural sac. The costal pleura was not injured, but there was fracture of several ribs, as well as of the lower jaw and of both clavicles. The specimen was removed from the body of William W., aged 28, who fell from the driving-box of an omnibus. He was collapsed, and became very irritable and delirious. He died April 16, 1833, eight days after the accident. *Presented by* CÆSAR HAWKINS, Esq.
3. Specimen showing extensive laceration of the lower part of the left lung, caused by the fragments of very extensively fractured

ribs. Large vessels are seen passing uninjured across the wound. This specimen was removed from the body of a man who was brought into the Hospital dead, having sustained other extensive injuries. *Post Mortem and Case Book.* 1859. p. 13.

4. Specimen showing laceration of the left lung, without fracture of the ribs. The patient was a boy, 7 years of age; and the injury was caused by the passage of some vehicle over the chest. He survived the accident two days. *Post Mortem and Case Book.* 1859. p. 16.
5. Specimen, showing a large emphysematous bulla connected with the surface of the left lung. The lung, though it presented many of these bullæ, was otherwise quite healthy; several old standing pleural adhesions existed. The right lung was rendered almost, if not quite, useless by false membrane on its surface binding it down. The bronchial tubes of the left lung presented nothing unusual. This specimen was removed from the body of a girl, aged 17, who was brought into the Hospital, suffering from fever. She lingered for a length of time, and died from extensive bed sores. *Post Mortem and Case Book.* 1848. p. 232.
6. Portion of the right lung, showing several emphysematous bullæ connected with the surface of its upper and anterior part. The margin is the chief part affected. One of the bullæ, the largest, has very firm and dense parietes, and is of the size of a small orange, with blood-vessels coursing over it. The emphysema was accompanied by indications of old pleurisy; and in one part of the lung there was an old quiescent mass of scrofulous deposit. Indications of slight bronchitis existed, but the bronchial tubes were not otherwise affected. The bronchial glands were enlarged, and contained deposits of carbonaceous material. The corresponding lung was similarly affected. Extensive hypertrophy and dilatation of the cavities of the heart existed, as well as slight atheromatous thickening of the flaps of the pulmonary artery valve. The patient, Henry S., aged 52, was brought into the Hospital January the 29th, 1851, with intense dyspnœa, and collapsed. He rallied for a time, but sank into coma, and died the day after admission. *Post Mortem and Case Book.* 1851. p. 19.
7. Specimen, consisting of a portion of lung, showing enormous dilatation of great numbers of the air-cells, several of which have coalesced. The investing pleura is much thickened and opaque.
8. Specimen, consisting of a lower lobe of the left lung, the substance of which has been rendered impervious to air by the accumulation of limpid fluid in the pleural sac. The structure of the lung is otherwise natural. *Post Mortem and Case Book.* 1845. p. 201.
9. Portion of lung, the lower part of which is extensively affected by

hepatization, and of a dark, reddish brown colour. Some of the blood vessels contain coagulated blood; and on the surface of the pleura there is a darkly stained 'false membrane.'

Microscopical Examination. — After maceration for many years in spirit, the following appearances were met with. Of the inferior and firmest part, five or six different portions were seen to consist for the most part of small highly refracting particles, some being not larger than mere granules, and rounded and distinctly fatty; some were about three-fourths of the size of blood globules, having among them very occasional irregular bodies of the size of pus globules. In many places accumulations of this material existed in a globular and oval form, and of a dark and yellowish brown colour: these were more abundant nearer the healthy parts. In other places, much of the material was disposed in a cylindrical form, these forms having here and there an even outline. No large or nucleated cells, and no fibrillation, existed, nor, except to a very small extent, were any traces of lung-tissue, or vessels visible. Occasionally, black colouring matter existed. The above described material was rendered somewhat clear by acetic acid, but not affected by caustic potash. The false membrane covering the pleura presented the anatomical appearances of progressing organisation, blood-vessels existing in various stages.

10. Specimen, showing 'red hepatization' of the lung, with extensive deposit of dark red fibrine in the pulmonary artery. Double pleuro-pneumonia had existed, and there was tolerably firm adhesion between the layers of the pericardium. The cavities of the heart were dilated, specially the left auricle, which was lined by recent yellow fibrine. The margins of the mitral valve-flaps were occupied by recent fibrine also, and slight atheroma of the root of the aorta existed.

Microscopical Examination.—The pulmonary tissue was beset, and, in places, quite obscured by large quantities of granular and refracting matter, containing vast numbers of very small oval and rounded nuclear bodies with granular contents, of about the size of blood corpuscles. Some bodies were much larger than pus corpuscles even, but they were few in number; some of them were flattened at one extremity, and extended at the other, being pear-shaped. Occasionally large oval bodies of $\frac{1}{2000}$th of an inch in size, existed, containing two and three large nuclei along with granular matter, No conglomerate bodies were seen. Here and there plates of cholestearine existed. On examining the clot in the pulmonary artery, it was found to consist of a refracting brownish material containing many small rounded nucleus-like bodies. Much of the granular

matter was arranged in rounded, oval, and more elongated shapes with a definite outline not unlike 'conglomerate bodies.' The preparation was removed from the body of Elizabeth P., aged 16, who was admitted into the Hospital, April the 9th, 1851, with severe symptoms of diseased heart. She died on the 24th. *Post Mortem and Case Book.* 1851. p. 89.

11. Specimen, consisting of a portion of lung in a state of 'red hepatization.' The lung is exceedingly firm and solid, and very mottled in colour, some parts being very light in hue. Here and there the blood-vessels contain loose brown blood-clot.

Microscopical Examination.—The light-coloured parts consisted chiefly of opaque yellowish amorphous material containing numbers of very small, rounded, and slightly oat-shaped cellules or nucleus-like bodies, along with a few structures like old pus cells. Very little of the proper lung-tissue was to be seen. The dark portions contained the same kind of cellules as the light part, but, in addition, many large rounded bodies, which became much paler on the addition of acetic acid. They all contained granular matter, and some had a distinct large nucleus; some were of a pear-shape. The largest one which was seen, of a round or oval shape, measured $\frac{1}{200}$th of an inch. A few angular rather flattened cells, with nuclei, something like those of pavement epithelium, were seen. Much more lung-tissue was visible than in the lighter-coloured patches. The soft clot in the vessels consisted of dark granular matter, evidently broken-down blood corpuscles, mixed with well-marked entire corpuscles and irregular dark red masses, some being of a bright garnet colour. Much refracting granular matter was met with in places, and also some large bodies the size of pus globules, containing fatty material. Some of the blood corpuscles were aggregated, very transparent, and had very fine single outlines, giving to the whole mass quite a network character.

12. Specimen, consisting of a portion of lung in a state of 'red hepatization,' and dotted over with black pigmentary amorphous deposit.

Microscopical Examination.—After maceration in spirit for some years, all parts showed vast numbers of well-marked pus globules surrounding the pulmonary meshes in every direction, many of them containing highly refracting particles. There were also mixed with them a few large globules containing granular matter, and about six or seven times larger than pus globules, being round and oval in shape. Here and there a few oval and irregular bodies of the size of pus globules were also seen, most of them with highly refracting nuclei. Very little granular matter was anywhere met with. *Presented by* CÆSAR HAWKINS, Esq.

13. Specimen, showing 'grey hepatization' of the lower part of a lung.

14. Portion of lung, showing the cavities of two large abscesses in its substance. Their walls are shreddy, and when recent they contained a large amount of pus. The pleural investment was in places much thickened. The preparation was removed from a patient in the Hospital who died of acute pneumonia.
Microscopical Examination.—After maceration in spirits for many years, the lung around the cavities, which was tough and rather indurated, was seen to contain vast numbers of oval, round, and rather elongated cell bodies, about as large as pus globules, chiefly with granular contents, but now and then containing nuclei. A few large accumulations of granular matter, and a very small amount of free granular material existed. Occasionally a capacious, round, and pale cell with a large nucleus was seen. The lining of the cavities was in places occupied by loose whitish fibrine, in which, besides the elements just described, much granular matter and great numbers of very small round refracting bodies existed.

15. Specimen, showing several small cavities with ragged walls in the substance of the lung, surrounded by tissue in a state of grey hepatization. These cavities contained purulent matter.
Microscopical Examination.—After maceration for many years in spirit, the softish curdy light-coloured part showed vast numbers of large pus-like globules, chiefly refracting, and containing in some cases two refracting nuclei. Very little granular matter was visible, but occasional large round bodies, with opaque amorphous contents, and twice as large as pus-globules, were seen, with, here and there, ciliated epithelium. The walls of the cavities had the same microscopical characters as the other parts.
The specimen was removed from the body of a man who was found in Kensington Gardens during the winter, and was said to have been lying in the snow for three days. He was admitted into the Hospital in a state of collapse. Reaction ensued, and with it violent inflammation of the lung, of which he died.

16. Specimen, showing small cavities in the substance of the lung, containing purulent fluid, in the midst of surrounding grey hepatization, etc.
Microscopical Examination.—In the neighbourhood of the abscesses, large numbers of well-marked cells, many of them four or five times larger than pus-cells, were seen. These contained distinct nuclei of the size of a pus globule, along with granular matter; many being very dark. Many isolated bodies also existed in the above nuclei. Several of the larger cells were connected with each other, and had, from their

flattened form, rather an epithelial character; some of the smaller ones, owing to the nuclei being very large, appeared to have a double outline. A few cells were elongated and rather flattened at one end, like columnar epithelium. Some of the larger cells above-mentioned were arranged, three and four at a time, in a cylindrical form, united by a delicate finely granular basement, but very little granular matter was met with. Here and there very large irregular knotted masses of a dark material and of a deep garnet-colour existed. Lung-tissue was abundantly seen, and all parts were rendered very pale by acetic acid. The specimen was removed from the body of Richard B., aged 58, who died in the Hospital, May 17, 1845, with pneumonia, accompanied by disease of the heart. *Post Mortem and Case Book.* 1845. p. 119.

17. Specimen, showing a cavity caused by extensive gangrene of the lungs. The contents of the cavity, as well as of the pleural sac, which consisted of a greenish fluid, were very fœtid. The left lung and heart were natural. The specimen was removed from the body of Sarah T., aged 46, who was admitted, September 6, 1843, into the Hospital, with a scirrhous affection of the scalp. The cough was very troublesome, and attended by a copious bloody expectoration. She died March 16, 1844. *Post Mortem and Case Book.* 1844. p. 53.

18. Specimen consisting of portions of the upper ribs on the right side, with their outer coverings and part of the lung adherent to them, which were all, more or less, in a state of gangrene. When recent, the soft parts mentioned, as well as the inside of the right arm, were of a dark green colour, and when cut into, found to be very fœtid. The neck was also involved. The lung which was adherent to the thoracic walls, was very green and fœtid. This state of things arose from 'diffuse inflammation' proceeding to abscesses about the arm and axilla. The patient, Esther L., aged 45, died October the 1st, 1844, with typhoïd symptoms. *Post Mortem and Case Book.* 1844. p. 53.

19. Specimen, showing the presence of a large quantity of extravasated blood in the substance of the lung.

Microscopical Examination.—After long maceration in spirit, blood débris was distinctly seen amongst the lung-tissue, along with numbers of round and oval, dark, reddish-brown, light-refracting, garnet-like bodies. The specimen was removed from the body of a man, James C., who was admitted into the Hospital May the 20th, 1846, with hypertrophy and dilatation of the heart, attended by urgent dyspnœa. He died June the the 4th. After death, considerable disease also of the aortic valve-flaps, *which were only two in number*, was also found.

These are shown as preparation 63, series vi. *Post Mortem and Case Book.* 1846. p. 131.

20. Specimen showing large rounded masses of carcinomatous deposit (encephaloïd variety) in the substance of the lung. Several are seen on the surface, projecting to a great extent, and covered by a thin layer of recently-formed false membrane. Many of the blood-vessels in the lung are much pressed upon by the carcinomatous deposit.

Microscopical Examination.—After maceration in spirit for many years, the deposit showed for the most part corpuscles with granular contents of the size of pus globules, and mixed with these were others of various characters; some were five or six times larger than the preceding, with nuclei and granular matter inside, and a few were much larger, oval in shape, and with very dark obscurely granular contents, equal in length to rather less than $\frac{1}{100}$th of an inch. Some of the largest oval and round cells also contained distinct nuclei. A few cells only presenting anything like a caudate appearance were seen; and in places numbers of very small oval corpuscles were met with, arranged in a linear form, as if they had filled tubes of some kind. In some places, distinct lung-tissue was seen, and also epithelial cells mixed with the deposit; also simple fibrous tissue, and in parts much granular and fatty matter.

21. Specimen, consisting of a portion of lung having masses of carcinomatous substance (the so-called colloïd variety) studding its sectional surface. The masses are very small in size, and exist chiefly along the track of the bronchial ramifications, even in many cases along those of the smallest size. Similar deposit also occupies the bronchial glands, where dark colouring matter is mixed with it. Much of the deposit, especially in the larger masses, is of a softish semi-transparent character.

Microscopical Examination.—After some years' maceration in spirit, the deposit was found to contain great numbers of very large oval cells, having granular matter and large distinct nuclei within. The deposit about the bronchial glands, although more gummy, was of the same nature, and contained much delicate homogeneous and slightly fibrous tissue. The preparation was removed from the body of Mary H., aged 40, who was brought into the Hospital May the 28th, 1841, with most urgent dyspnœa. She died two days after admission. On post mortem examination, similar carcinomatous masses were found in the peritoneum and walls of the stomach, which are seen as preparations in Series X. *Post Mortem and Case Book*, 1841. p. 103.

22. Specimen, showing carcinomatous deposits (the encephaloïd variety) affecting the lung and diaphragm. It would seem as if the

growth had progressed from the lung and involved the diaphragm, which it had, as it were, penetrated, appearing as a large fibrous-looking radiating mass on the abdominal surface thereof. The fascia lining the under surface of the diaphragm has been dissected off to show the mass.

Microscopical Examination.—The deposits in the lung, which are in places coated by a film of false membrane, were found to consist entirely of round and a few oval corpuscles, mostly of the size and appearance of pus corpuscles; many were twice the size, and a few were still larger. Occasional granular matter but no free fat or fibres were distinguishable. The cells were dark and vitreous-looking, generally having granular contents, but no distinct nuclei were visible. The masses outside the lung-substance which were softer than those in the lung (those internal to the diaphragm) had intrinsically the same elements as the above, but many fat globules were seen. The cells appeared on the whole to be less granular and more transparent. In the masses on the abdominal aspect of the diaphragm, numbers of very large oval and rounded nucleated cells were seen amidst the other elements.

The preparation was removed from the body of George B., who died in the Hospital in 1827. He had been the subject of rheumatism and pain in the chest, but recovered and remained in good health until six weeks before his admission into the Hospital. *Presented by* Sir BENJAMIN BRODIE, Bart.

23. Specimen, showing a portion of lung affected by carcinomatous deposit from the same patient as the preceding one.

24. Portion of lung affected by carcinomatous deposit from the same patient as the two preceding specimens.

25. The major part of the left lung, containing carcinomatous tubercles (encephaloïd variety) of various sizes, situated both in the centre of the lung itself and on its surface, projecting from beneath the investing pleura ; some even being pedunculated. Several were very vascular, and some contained much blood extravasated within their substance. Both lungs were similarly affected and both pleural sacs contained much bloody serum.

Microscopical Examination.—The deposit was found to consist almost entirely of small round and oval cells, containing simply granular light refracting material. A few of the cells were as large as pus globules, but the majority were not so large. In some places, many fat globules, large and small, were seen. In some of the protuberances, which were identical in structure with those deposited in the interior of the lung, distinct lung-tissue was found mixed with the cell-elements.

The specimen was removed from the body of W. A., aged 19, who was admitted into the Hospital December the 5th, 1850,

with a carcinomatous tumour of the left femur. This was found after death to be connected with the shaft, to be 32 inches in circumference, and to reach in outline from the crest of the ilium, almost to the knee. No other part of the body, excepting the lung above-mentioned, contained any similar deposit. The patient died June 2nd. A portion of the large tumour of the femur exists in the Museum of the Royal College of Surgeons. *Post Mortem and Case Book.* 1850. p. 98.

26. Specimen, showing large quantities of carcinomatous deposit (encephaloïd variety) within the lung.
Microscopical Examination.—After maceration for many years in spirit, these deposits were found to consist almost entirely of cells of various sizes and forms. They were chiefly rounded and oval, and some had short fibres connected with their extremities, a few being decidedly fusiform. Some were as large as the $\frac{1}{750}$th of an inch, but these were few, and many contained large nuclei indistinctly seen. Most of the cells were of a dark brown colour, and cleared considerably by the addition of acetic acid. In places, a good deal of granular matter existed.

27. Portion of lung injected and containing masses of carcinomatous deposit (encephaloïd variety).
Microscopical Examination.— After maceration for some time in spirit, great numbers of round and oval cells, varying in size, up to $\frac{1}{100}$th of an inch, were found to exist in the lung, some with prolongations, both pointed and blunted, at their extremities, and several with two or three distinct nuclei. The cells were soon cleared by acetic acid.

28. Specimen, consisting of a part of the upper lobe of the right lung, studded throughout with various small masses of carcinomatous material (encephaloïd variety). The specimen was removed from the body of Caroline P., aged 44, who died in the Hospital of carcinoma of the thyroïd gland, May 23, 1849. Similar deposits existed in the other lung and mediastinal glands. *Post Mortem and Case Book.* 1849. p. 108.

29. Specimen, consisting of a portion of lung injected (by Mr. Kierman) and containing rounded masses of carcinomatous material (encephaloïd variety). Specimens of carcinoma of the liver, from the same patient, exist in the series devoted to that organ.
Microscopical Examination.—After maceration for some time in spirit, the deposit was found to consist of small refracting cells of the size of, and in places rather larger than, pus globules, containing granular matter but no nuclei, the largest being most opaque. Scarcely any surrounding granular matter existed, and but very little fibrous tissue.

30. Specimen, showing masses of carcinomatous deposit within the lung, which, when recent, had the character of so termed 'fungus hæmatodes.' The surface of the lung is extensively covered by soft fibrine.

Microscopical Examination.—The deposit after immersion for some years in spirit, was found to consist almost entirely of small oval and rounded bodies, varying in size up to that of a pus globule, and only in few cases containing any thing like a nucleus, but generally semi-transparent fluid, and slightly granular material. Occasional loose granular matter and fat globules with fatty crystals were seen, but nothing more. The deposits gave a distinctly cream-like juice on pressure. The specimen was removed from the body of a man aged 51, who had suffered from dyspnœa and hæmoptysis. There was also carcinomatous deposit of the lymphatic glands at the root of the lungs and pericardium, which exist as preparation 10, series vi. The patient died from hæmorrhage into the pericardial sac. *Presented by* CÆSAR HAWKINS, Esq.

31. Specimen showing a mass of osteoïd cancer, deposited in the lungs of a patient who had recovered from amputation at the hip joint, performed on account of the same disease in the lower end of the femur. There were several similar deposits in other parts of the lungs. For the preparation of the affected femur and the history of the case, see description of preparation, No. 240 in Series II.

32. Specimen showing the presence of scrofulous deposit in a crude form, and arranged in pea-like masses at the surface, as well as in the substance of the lung. Similar deposit is also seen in some of the bronchial glands compressing greatly the bronchial tubes.
Microscopical Examination.— After some years of immersion in spirit, the deposit was seen to consist of granular matter mixed with small irregular nuclear bodies, and occasional much larger corpuscles, like original lung-epithelium ; but no fibres were discernible, nor natural lung-tissue. The deposit in the glands was of the same nature as that in the lung. *Presented by* Sir BENJAMIN BRODIE, Bart.

33. Specimen showing several large vomicæ and extensive scrofulous deposit occupying part of a lung. Much thick, but recently formed, false membrane exists on the surface of the lung.
Microscopical Examination. – The more solid light-coloured parts of the lung, after immersion for some years in spirit, showed large numbers of oval and rounded, and in some cases rather elongated, cell bodies, varying in size up to that of pus globules, containing granular matter, and occasional bright refracting particles, but no nuclei. No large nucleated cells were anywhere seen. The cream-like fluid covering the walls of the vomicæ contained much fatty matter, and granular materials, with a few irregular bodies, small and oval, like incomplete cells. Plates of cholestearine were also seen. The false membrane showed vast numbers of delicate as well as

strong fibrils, also fibres containing several small round and oval bodies, of the size of pus globules, many of them strongly refracting. Several nucleated large cells were also seen, and some oval and round, with long tail-like processes attached to them, and having one or two refracting bodies inside. Crystals of cholestearine and margarine existed also in the false membrane, and a few blood-vessels, which were very large. The whole structure was rendered much paler by acetic acid.

34. Portion of a lung studded by miliary scrofulous deposits, with a large vomica, into which a bronchial tube, is seen to open. The walls of the vomica are formed by a dense fibrous membrane, lined by a soft reddish stratum internally, and containing a thin fluid, in which some flaky material floated. The vomica was evidently cicatrising. The opposite lung contained a similar vomica. *Post Mortem and Case Book.* 1848. p. 182.

35. Portion of a lung containing deposits of scrufulous matter, and showing portions of the walls of a large vomica, which are seen to be firm and irregular, and lined by a thin film of soft yellow membrane. *Presented by* Sir BENJAMIN BRODIE, Bart.

36. Specimen, showing a large amount of scrofulous deposit and several vomicæ, in a lung. One of these elongated and flattened, and situated near the surface of the lung, communicated by an oval opening with the cavity of the pleura. The visceral pleura covering the lung is very opaque, and apparently thickened, and in the neighbourhood of the aperture has some tolerably recent fibrine connected with it. Pneumo-thorax was recognised during life. *Presented by* Sir BENJAMIN BRODIE, Bart.

37. Specimen, consisting of a portion of a lung almost totally occupied by scrofulous deposit, and containing several vomicæ. The remains of pleural adhesions are also seen on the surface of the lung.

38. Specimen, consisting of a portion of a lung containing several small accumulations of scrofulous deposit, and also a large irregularly rounded mass, formed by aggregations of smaller portions of calcareous matter, the remains of dried-up scrofulous matter. A puckering or cicatrix exists of the corresponding surface of the lung, which also contains much dark pigmentary matter distributed throughout its substance. The specimen was removed from the body of a man aged 50, who committed suicide. *Presented by* Sir BENJAMIN BRODIE, Bart.

39. Portion of a lung containing a rounded mass of firm light-coloured calcareous matter, enclosed by a capsule of dense fibrous material, which is closely adherent to the lung-tissue around. No recent scrofulous deposit existed in this or any

other part of the lung; but the deposit was doubtless originally owing to the conversion of such matter. The specimen was removed from the body of E. T., who was supposed to have died of anæmia in the Hospital, August the 14th, 1848, aged 41. *Post Mortem and Case Book.* p. 163.

40. Portion of lung containing much scrofulous matter and vomicæ. *Presented by* CÆSAR HAWKINS, Esq.

41. Specimen, consisting of a portion of lung which contains aggregations of scrofulous matter, and at the upper part is affected by emphysema. The lung is injected with vermilion. Vomicæ also existed in other parts of the lung. The preparation was removed from the body of Eliza A., aged 29, who died in the Hospital September the 11th, 1848, with albuminuria and disease of the kidneys. *Post Mortem and Case Book.* 1848. p. 197.

42. Specimen, consisting of a portion of lung from the same patient as the above, but showing, in addition to the scrofulous deposit, a distinct vomica, surrounded by a dense capsule of fibrous tissue.

43. Specimen, consisting of a posterior part of the apex of a lung studded with miliary scrofulous deposit, and containing a vomica of the size of an ordinary hen's egg, which has very firm dense walls, and to the inner surface of which some white loose fibrine is attached. The cavity now empty, was originally filled with coagulated blood and a cheese-like matter, and on examination of it in the first instance, after peeling off some of the fibrinous lining before mentioned, the opening of a largish-sized vein, communicating with the vomica, was found. A piece of pink stained glass has been passed through this vein, to show its course. The specimen was removed from the body of W. W., aged 38, who died in the Hospital March the 21st, 1850; having been admitted with hæmoptysis, which had existed for some weeks. Only a few hours before death he had spat up not less than three pints of blood at one time. *Post Mortem and Case Book.* 1850. p. 50.

44. Portion of calcareous matter removed from the lung in a case of phthisis, of a very irregularly nodulated form, and very dense, being of about the size of a cob-nut. *Presented by* CÆSAR HAWKINS, Esq.

45. Portion of lung condensed by scrofulous deposit, and containing a large vomica, in which a mass of calcareous matter is seen lying.

46. Part of the apex of a lung containing a mass of grey deposit, consisting chiefly of calcareous matter, mixed with a cheese-like substance and having a rounded cavity in its centre, of the size of a large pea, which communicated with a bronchial tube, as shown by a glass tube passed through the opening. The

deposit appears to be the result of transformation of scrofulous deposit.

47. Specimen, consisting of a portion of lung showing a large collection of white putty-like material, surrounded by a very dense fibrous capsule in the apex of a lung. The deposit was found to contain phosphate and carbonate of lime. The deposit was doubtless the result of conversion of scrofulous matter, but no other scrofulous matter was found in the lungs, or other parts of the body. Old pleuritic adhesions correspond to the deposit, and dilatation of the heart and emphysema of the lungs existed. *Post Mortem and Case Book.* 1851. p. 19.

48. Specimen, showing a portion of lung containing scrofulous deposit, and several small vomicæ. Two of these have burst into the pleural sac, producing pneumo-thorax, the pleura through which they opened being very opaque, and much thickened. The specimen was removed from the body of a person who died in the Hospital of phthisis.

49. Specimen, consisting of a portion of lung containing much scrofulous matter and several vomicæ, of which three have burst into the pleural sac. The investing pleura is greatly thickened, and much purulent fluid was found in the cavity. Scrofulous peritonitis also existed. The preparation was removed from the body of James R., aged 24, who died in the Hospital January, 1843. *Post Mortem and Case Book.* 1843. p. 3.

The specimen showing the results of the peritonitis, exists as a preparation in Series x.

50. Specimen showing accumulations of black material around each of a number of small scrofulous deposits, situated immediately beneath the pleura.

Microscopical Examination. — After immersion for many years in spirit, the black material was found to consist of much granular and refracting matter, in which the pigment was situated. This was disposed in irregular masses, formed apparently for the greatest part by the accumulation of smaller particles; but in many places very decided and distinct oval and round cells, of various sizes, existed, containing, some, only semi-transparent matter, and some, distinct black granular matter of exactly the same character as that in the isolated masses before spoken of. Some of the cells, with dark pigmentary contents, measured the $\frac{1}{2000}$th of an inch. Occasional large flattened cells like altered pavement epithelium were seen.

51. Specimen, consisting of a portion of lung containing accumulations of black pigmentary matter distributed throughout its substance. This material was chiefly restricted to the lower lobes of the lung.

Microscopical Examination.—After immersion for many years in spirit, similar general appearances to those observed in the case above (No. 50) were seen. The pigmentary matter was more opaque than in the above, and the cells, containing dark matter, were fuller; at the same time the irregular deposits were more numerous. The black masses were intimately connected with the fibrous trabeculæ of the lung-tissue, and were generally removed some little distance from the interior of the meshes. The blood-vessels of the lung contain much coagulated blood.

The specimen was removed from the body of Arthur B., aged 21, who was admitted into the Hospital September the 13th, 1848, with caries of the atlas and axis, and ulceration of the transverse ligament. He died September the 27th. *Post Mortem and Case Book.* 1848. p. 205.

52. Specimen, consisting of the parietes of an hydatid cyst, which was brought up during a fit of coughing. The thick membrane, on examination after immersion for some years in spirit, was found on its inner surface to be cleaveable into thin laminæ.

Microscopical Examination.—The laminæ were found to be almost homogeneous, with only an occasional granular appearance, and exhibited numbers of parallel curved lines indicating a concentrically laminated arrangement. In one part the inner membrane, when peeled off, showed a number of small yellowish elevations consisting of much granular and refracting material, amidst which, numbers of oval and round brownish yellow bodies existed (ovules of entozoa?). These bodies were of every possible size, from the minutest up to the $\frac{1}{300}$th of an inch. The smaller ones contained nothing but granular matter; the larger ones were marked by numerous lines across them, mostly irregular in direction, some being, however, parallel. These bodies were rendered much paler by acetic acid, but nothing like nuclei were seen within them.

The patient, a young boy, was in the Hospital with cough and slight expectoration. He was at times much troubled by dyspnœa, and had been losing flesh. The skin was hot, and the pulse 120. He one day brought up the hydatid cyst, and his symptoms gradually subsided. He was seen at the Hospital some months after his dismissal, and was then gaining strength and flesh.

53. Specimen, shewing numbers of filamentous bands of adhesions between the opposed layers of the pleura, which are in some cases above an inch in length, and very strong and firm. *Presented by* Sir Benjamin Brodie, Bart.

54. Specimen, consisting of a portion of lung covered by a layer

of fibrine of rather old standing, which could nevertheless be peeled off. The lung beneath has been much compressed by it, its edges much rounded, and its surface somewhat shrunken and puckered. The specimen was removed from the body of W. K., aged 45, who died in the Hospital of diseased heart and kidneys, October 25, 1848. *Post Mortem and Case Book.* 1848. p.221.

55. Specimen, consisting of a portion of a lung coated by a layer of soft yellowish fibrine, which is slightly dimpled or honeycombed in character. It was readily peeled off. *Presented by* CÆSAR HAWKINS, Esq.

56. Specimen, consisting of a large, thick, and spongy mass of yellow fibrine removed from the surface of an inflamed pleura. *Presented by* CÆSAR HAWKINS, Esq.

57. Specimen, consisting of a portion of lung having its pleural surface, which is opaque, covered by a thickish layer of tawney-coloured fibrine of tolerably recent formation, but very consistent and dimpled on its external surface. *Presented by* Sir BENJAMIN BRODIE, Bart.

58. Specimen, showing a very large cavity in the pleural sac circumscribed by adhesions, and situated between the under surface of the right lung and the diaphragm. The cavity is lined by a thick membrane, and communicates by an opening with a large-sized bronchial tube. The tissue of the lungs appears natural. Purulent fluid existed in the cavity.

59. Specimen, consisting of portions of the fifth, sixth, seventh, and eighth ribs on the right side, together with a portion of the lung and a small piece of the liver and diaphragm, showing a cavity circumscribed by these parts and originally containing purulent fluid. The cavity is about four inches in length and three in breadth, and was lined by a soft vascular membrane. It communicated with the external air by two large fistulous openings which had existed twelve years before the death of the patient, and during that time had constantly given passage to large quantities of pus. The lungs were generally emphysematous, and towards their back parts loaded with serum. The patient died of recent pleurisy on the left side of the chest, aged 59, in 1845. See Vol. xxxv. of the *Medical Gazette*, p.890. *Presented by* H. LEE, Esq.

60. Specimen showing excessive thickening of the pleural membrane covering the lungs, diaphragm, and ribs. Some portions are nearly half an inch in thickness, and the pleural cavity no doubt contained much fluid, as the opposed pleural layers are widely separated. On *microscopical examination*, the thickened membrane presented the ordinary appearance of white fibrous tissue.

61. Specimen showing extensive thickening of the opposed layers of the pleura, which are closely united with each other.

62. Specimen, consisting of a portion of lung with the investing pleura thickened to the extent of about half an inch. The specimen was removed from a patient who died of phthisis. *Presented by* CÆSAR HAWKINS, Esq.

63. Specimen, consisting of part of four ribs with the corresponding intercostal muscles, showing four masses of scrofulous deposit situated beneath the pleural membrane investing them.
Microscopical Examination.—After immersion for some years in spirit, the deposit was found to consist of granular matter mixed with small irregular and indistinct cells, but nothing like fibres were anywhere seen. Scrofulous deposits also existed in the lungs, kidneys, intestines, and mesenteric glands, etc.
The preparation was removed from the body of Alfred H., aged 20, who died in the Hospital, October 31, 1845, of inflammation of the subarachnoïdean tissue and white softening of the central parts of the brain. *Post Mortem and Case Book.* 1845. p. 131.

64, Portion of lung, showing masses of fibrous structure connected with the investing pleura. These are of various sizes, the largest being of the circumference of half-a-crown. Some are not much raised above the surface of the lung; others, on the contrary, are almost half an inch in thickness, and some are quite flattened on their surface whilst others are rounded. These growths are very light-coloured, and, on section, proved to be of a yellowish white hue, and exceedingly dense and firm.
Microscopical Examination. — After immersion for some years in spirit, it was found to consist entirely of fibrous tissue, having mixed with it a few rounded and oval cells containing granular matter, and a little larger than pus-globules. A very few fat-cells and slight granular matter existed in places. Much of the pleura, both visceral and parietal, was covered by similar deposits; and many of these were dark in colour, containing some kind of pigment.
The specimen was removed from the body of Mrs. F., from whom the right mamma, along with two axillary tumours, were removed in April, 1826, for carcinomatous deposits. The deposit reappeared in the cicatrix which ulcerated. The patient died one year and a half after the operation, and similar carcinomatous deposits were found in many of the viscera. *Presented by* CÆSAR HAWKINS, Esq.

65. Specimen showing a fibrous growth attached to the diaphragmatic portion of the pleura. It consists of a rounded mass of about the size of a two shilling piece, projecting considerably, and having numbers of rounded small secondary elevations

connected with the surface of the larger growth. Various parts of the parietal pleura were likewise affected.

Microscopical Examination.—Nothing but very firm yellowish fibrous tissue, mixed with a small amount of waving or crossing fibres, was observed. No cell elements existed.

The specimen was removed from the body of William R., aged 40, who died in the Hospital, February 1850, of secondary abscesses following the fracture of a leg. *Post Mortem and Case Book.* 1850. p. 38.

66. Specimen of fibrous growths connected with the parietal layer of the pleura. The central one is quite smooth and somewhat flattened, the upper and lower ones being more or less rough and tuberculated.

Microscopical Examination.—Quantities of firm fibrous tissue, much of which was arranged in crossing fibres, were seen, and in places much granular material also. Nothing like cell-formation existed.

67. Preparation showing some bodies which lay loose in the cavity of the pleura, and others which are still attached to the pleura covering the lung. One of the latter is very loosely attached to the pleura by a pedicle. The structure of these bodies is fibrous, with a small mass of calcareous matter in the centre. Traces of old pleurisy were found. *Post Mortem and Case Book.* 1853. p. 138.

68. Specimen showing collections of black colouring matter connected with some delicate false membrane adherent to the parietal layer of the pleura. Nothing of the kind existed in other parts of the body.

Microscopical Examination.—This colouring matter was found to consist of irregular-shaped masses, but no cell-form was visible.

69. Preparation showing an opening of the size of half-a-crown made through the thyro-hyoïd membrane and other corresponding parts, by the hand of a suicide. The carotid arteries are unaffected, but on the left side of the wound, a small artery may be seen with a ligature.

70. Specimen showing extensive injury of the thyroïd and cricoïd cartilages by the hands of a suicide, also an opening made during the operation of laryngotomy. The left ala of the thyroïd cartilage is in several places wounded transversely, some of the wounds being so deep that very slight handling snapped the cartilage. On the left side also the descending cornu of this cartilage, as well as the cricoïd cartilage, is divided in two places. None of the incisions penetrate through the mucous membrane; but this membrane was found to be very vascular, and there was œdema of the glottis. The omo-hyoïd muscle on the left side was divided, but the large vessels were uninjured. The specimen was removed from the body of Benjamin B., aged 60,

who was brought into the Hospital February the 1st, 1851, and died on the following day. He was found, about an hour before admission, in a field, having cut his throat in a fit of intoxication; there was considerable hæmorrhage. On admission he spoke in a whisper and was slightly collapsed. The wound was brought together by a suture, and water dressing was used. Shortly afterwards much bloody fluid exuded, and he spat blood-stained mucus. Dyspnœa, with a quick weak pulse came on. On the day following, being on the point of suffocation, laryngotomy was performed, but the patient died two hours afterwards. *Post Mortem and Case Book.* 1851. p.22.

71. Larynx and trachea showing an opening of the size of a quill leading from the surface of the skin into the trachea, the result of a wound dividing the upper rings of this organ. The first and second rings were divided through nearly three-fourths of their circumference; but, as may be seen in the interior of the tube, they had united in perfect apposition, except at the little orifice in front, where the mucous membrane was separated from the cartilages to a small extent. Both sterno-cleido-mastoïd muscles had been more or less divided, and a small abscess was found under the right one. The preparation was removed from the body of John R., aged 26, who, in an excited state of mind, cut his throat, January 10, 1837, and was on the same day brought into the Hospital. He was quite sensible, but very low, and had lost much blood. About three days afterwards much pain existed in the neck on coughing, and "subsultus tendinum" had come on. He was subsequently affected by severe rheumatism, then by delirium tremens, and afterwards by erysipelas of the face causing death, February the 4th. *Presented by* CÆSAR HAWKINS, Esq.

72. Specimen showing a double fracture of the anterior and right portion of the cricoïd cartilage. A portion of the broken cartilage was separated, and presented a pointed extremity which produced an opening in the laryngeal mucous membrane, leading to emphysema of the whole surface of the body. There was also extensive injury of the surface of the brain. The preparation was removed from the body of Robert M., aged 26, who was admitted into the Hospital, May the 26th, 1843, and died June 1st. The opening in the trachea was made after death. *Post Mortem and Case Book.* 1843. p.111.

73. Larynx of a child showing an opening made during life through the crico-thyroïd membrane to relieve dyspnœa, croupy inspiration, and convulsions, the supposed result of a button inhaled into the windpipe. There was some vascularity of the aryteno-epiglottidean ligaments, but no œdema of this or of any other part of the mucous membrane. The inferior vocal

cords are sharp and well defined, but the mucous membrane below them is roughened by inflammatory exudation. The bronchial tubes were vascular and contained much muco-purulent fluid, and the lungs were partially "hepatized." The blood in the body was in a very fluid state. The specimen was taken from the body of George E., aged 3, who, whilst playing with a button in his mouth, was supposed to have got it into the windpipe. He continued well for three days, and then dyspnœa set in, great lividity of the face, with convulsions, and foaming at the mouth, also croupy inspiration, and hoarseness of the voice. Emetics were resorted to and the child was admitted into the Hospital, March the 21st, 1851. He was put under the action of calomel, etc., as if suffering from laryngitis: no foreign body could be felt about the glottis by the finger. Laryngotomy became necessary, but the trachea was in vain explored for any foreign body. The operation was of but little avail, and after violent and spasmodic inspiration the child died on the day following, March 23rd. *Post Mortem and Case Book.* 1851. p.62.

74. Specimen, showing an opening made in the operation of laryngotomy. There is considerable recent fibrine around and particularly below the wound, covering the mucous membrane. There was also purulent infiltration beneath the tracheal mucous membrane, into the areolar tissues external to the trachea, and beneath the muscles of the neck. The preparation was removed from the body of William S., aged 30, a 'coloured' servant, who had been labouring for fourteen days from aponeurotic rheumatism. He was admitted into the Hospital and became affected more quickly and by a smaller quantity than usual of mercury. Salivation ceased on the medicine being stopped. The salivation which had subsided for many days recurred, owing, as it was thought at the time, to his inhaling the vapour of mercury under the bed clothes. Much pain was also felt in the larynx, the pressure of which caused much irritation. Dyspnœa, almost to suffocation, came on, and laryngotomy was had recourse to. The urgency of the symptoms was at once relieved, but the patient died 48 hours after the operation.

75. Specimen showing an opening made during life, through the crico-thyroïd membrane, and almost dividing the cricoïd cartilage, for the relief of a violent paroxysm of dyspnœa. The glottis, epiglottis and neighbouring parts are seen to be very œdematous owing to the infiltration of fibrine and pus in the subjacent areolar tissue. In the larynx the effusion ceased at the inferior vocal cords, and nothing but mucus existed on the surface of the tracheal mucous membrane. Pus was found in the areolar tissue about the muscles of the neck,

and in the mediastina. The preparation was removed from the body of William S., aged 45, the head porter at the Hospital, who, in an attack of dyspnœa, lost all pulse, and ceased to breathe. Laryngotomy was performed, and followed up by artificial respiration, through the artificial opening. Natural breathing was re-established, but convulsions continued requiring copious venesection. Consciousness returned. In the course of the night he was again nearly suffocated, owing to the tracheal tube having become obstructed, but lived until the middle of the next day, October the 3rd. 1845. *Post Mortem and Case Book.* 1845. p.234.

76. Specimen showing the opening, through the crico-thyroïd membrane, made in the operation of laryngotomy for the relief of dyspnœa, and also the results of ulceration of the lining membrane. The ulceration affects chiefly the anterior part of the left vocal cord, but also, to a slight extent, the mucous membrane just above it.

77. Specimen consisting of the larynx, trachea, and œsophagus from a person who died of diphtheria followed by croupy inflammation of the trachea, in whom the larynx was opened for the relief of dyspnœa ten hours before death. The preparation shows the trachea opened on its front surface, nearly as high as the wound of the operation. The latter divided the cricoïd cartilage and a few rings of the trachea. At the operation the fibrinous cast of the trachea shown in the following preparation (No. 78) was extracted; the broken edge of the diphtheritic membrane at the level of the opening is evident. The cast seems to have extended to the lower end of the trachea. The mucous membrane, however, of the part from which it was removed is seen to be covered with a considerable deposit of lymph, the greater part, at least, of which seems to have been re-produced after the operation. It is far less thick than the layer which extends from the fauces into the larynx.

78. The fibrinous cast from the trachea in the case above referred to. *Post Mortem and Case Book.* 1859. p.92.

79. Portion of a cervical vertebra of a sheep, which a patient, in eating part of a neck of mutton, had got into the larynx, and ultimately lead to the operation of tracheotomy. The piece of bone is nearly half an inch long, and one-third of an inch wide, the outer surface being very rough and irregular. It was removed from a girl aged 12 years, who had been suddenly seized, while taking some soup about eight hours previously, with violent vomiting, and suffocating cough which lasted a short time and was followed by difficult, noisy breathing, and a sense of pain beneath the cricoïd cartilage. When seen, croupy inspiration existed, and tenderness of the larynx, but no dysphagia ; nor was any substance, on examination, discovered in

the œsophagus. There was much redness of the fauces, &c. As no immediate occasion for any operation existed, it was postponed until the next morning, when the noise, both on expiration and inspiration, existed as before, and some slight pain remained in the neighbourhood of the cricoïd cartilage. A small piece of two tracheal rings was removed, and three others also divided, when the foreign substance was felt by the probe above the opening, and extracted, not without some slight force, by aid of the forceps. The breathing immediately became free from sound, and no cough, or any unfavourable symptom, followed the operation. *Presented by* CÆSAR HAWKINS, Esq. *Med. Chir. Trans.*, vol. xxiii. p.97.

80. Specimen, showing considerable dilatation, especially towards their extremities, of the bronchial tubes of the right lung. Much fibrinous material existed on the surface of the mucous membrane. The tissue of the lung, in the immediate neighbourhood of the dilated tubes, is condensed by red hepatization, but at a little distance from them it is healthy. Similar appearances existed in the bronchial tubes of the other lung, but in a less marked degree. The croupy effusion gradually diminished in quantity on proceeding upwards to the larger divisions of the bronchi, and there was scarcely any of it in the trachea, the mucous membrane of which was livid, and slightly thickened, that of the larynx being healthy. The secretion in the affected bronchial tubes was very fœtid. The specimen was removed from the body of Jane G., aged 15, who was admitted into the Hospital May the 9th, 1845, with dyspnœa, cough, and purulent expectoration. She was reported to have had a severe attack of croup when 5 years old, since which time she had been troubled with cough, which for two years past had been accompanied by hæmoptysis. The patient died on the second day after admission. *Post Mortem and Case Book.* 1845. p. 117.

81. Specimen consisting of a portion of lung showing three dilated bronchial tubes, terminating in blind pouches.

82. Specimen showing deposit of calcareous matter in the thyroïd and cricoïd cartilages; this deposit was so extensive as to produce almost an exact mould of these organs, all appearance of cartilage having been removed. *Presented by* CÆSAR HAWKINS, Esq.

83. Specimen showing almost the entire thyroïd, and cricoïd cartilages, as also a large number of the rings of the trachea, occupied by calcareous deposit. The thyro-hyoïd membrane is also slightly occupied in the same manner. *Presented by* CÆSAR HAWKINS, Esq.

84. Specimen consisting of a portion of the larynx and trachea, showing ulceration of the inner part of the left ala of the thyroïd

cartilage, with a cavity which contained pus, between the cartilage and the lining membrane of the larynx. The patient died in the Hospital suffocated by spasmodic attacks, the abscess finding no outlet. *Presented by* CÆSAR HAWKINS, Esq.

85. Specimen, showing partial destruction of the arytenoïd cartilages, which are beginning to exfoliate, along with exposure, from ulceration, of the cornua of the os hyoïdes and of the thyroïd cartilages. The patient, aged 20, died in the Lock Hospital. He underwent a course of mercury for secondary syphilitic symptoms and an ulcer in the throat. The ulceration in the throat spread over the whole pharynx, and then attacked the larynx; and symptoms of phthisis came on, of which the patient died. For further details see a paper in the *Medical and Physical Journal*, vol. xlix. *Presented by* CÆSAR HAWKINS, Esq.

86. Specimen showing ulceration of the bases of the arytenoïd cartilages, the surrounding mucous membrane being thickened and ragged. The cricoïd cartilage in the neighbourhood is also calcified. *Presented by* CÆSAR HAWKINS, Esq.

87. Specimen consisting of portions of the thyroïd cartilage, which, having been greatly calcified, have exfoliated. They came away from the larynx of James L., aged 42, who was admitted into the Hospital June the 16th, 1829, having cut his throat to the extent of 2½ inches in length, the wound being between the hyoïd bone and thyroïd cartilage. Much hæmorrhage took place, and also some bubbling of air at the injured part. The wound sloughed very considerably, and the thyroïd cartilage was denuded June the 23rd. The sloughing was stopped, but returned July the 3rd, when also much mental irritation existed. On July the 31st, the wound was granulating, and on August the 11th, about half of the thyroïd cartilage exfoliated, and came away. The patient was dismissed quite recovered. *Presented by* CÆSAR HAWKINS, Esq.

88. Specimen showing extensive ulceration of the inner surface of the thyroïd cartilage, and two or three of the tracheal rings, along with ulceration of the neighbouring parts of the mucous membrane. Many of the portions of the rings of the trachea, which have escaped ulceration, project into the cavity of the tube, rendering it very irregular. The preparation was removed from the body of George V., aged 35, who was admitted into the Hospital December the 10th, 1845, and died January the 11th, 1846, of phthisis. *Post Mortem and Case Book.* 1846. p. 12.

89. Specimen showing a round, small opening of the size of a large pea, the result of ulceration, through the anterior and middle part of the thyroïd cartilage, and establishing a communication between the cavity of the larynx and the areolar tissue in the front of the neck. Around the opening on the

external surface, the cartilage is deprived of its perichondrium, which is generally thickened; and some small new bony deposits are seen on the outside of the cartilage above the orifice. A quantity of pus existed also on the outer surface of the cartilage, circumscribed by condensed areolar tissue and the muscles of the part. The mucous membrane of the chordæ vocales was slightly ulcerated, and both lungs contained numbers of scrofulous deposits and vomicæ. The preparation was removed from the body of John C., aged 24, who was admitted into the Hospital June the 14th, 1845, and died July the 10th. *Post Mortem and Case Book.* 1845. p. 168.

90. Specimen showing excessive œdema of the lining membrane of the larynx, the epiglottis, and neighbouring parts. This was owing to the effusion of fibrine and pus in the subjacent areolar tissue, which did not proceed below the inferior vocal cords, although the mucous membrane, to some extent down the trachea, was inflamed. Pus was also found in the areolar tissue about the pharyngeal muscles. The specimen was removed from the body of Sarah B., aged 30, who was admitted into the Hospital March the 25th, 1843, suffering from scarlet fever. After recovery from this, she was affected by pain in the throat, and thyroïd region, accompanied by urgent dyspnœa, and dysphagia. The symptoms increased very rapidly, and leeches, &c., were used, but it was obvious that there was no good to be expected from any operation, and the patient died. *Post Mortem and Case Book.* 1843. p. 65. B.

91. Specimen showing considerable œdema of the glottis, epiglottis, and neighbouring parts, with great enlargement of the glands of the tongue. Removed from the body of M'Guire N., aged 31, who was admitted into the Hospital with enlarged cervical glands on both sides of the neck, and constant headache. The tonsils were œdematous, the voice husky, and there was much dysphagia. Some time after admission, the patient was affected by erysipelas of the head and face, with great difficulty in respiration and swallowing; he died shortly after a paroxysm of dyspnœa. *Post Mortem and Case Book.* 1843. p. 33.

The diseased cervical glands are described in a subsequent series.

92. Preparation showing œdema of the glottis and epiglottis of a child, for the symptoms connected with which the operation of tracheotomy was resorted to. The lungs were considerably hepatized. The preparation was removed from the body of Charles J., aged 3 years, who was admitted into the Hospital December the 9th, 1839. He had scalded his throat by drinking boiling water, and the dyspnœa, with partial stupor and collapse, being very urgent, the operation was resorted to

about three hours after the patient's admission. Portions of the tracheal rings were removed, and a temporary relief was obtained. On the 12th, the child seemed cheerful, and took food readily, much mucus, &c., having come away by the wound; but shortly afterwards sudden collapse, with obstructed respiration, came on, and the child died at midnight. *Presented by* CÆSAR HAWKINS, Esq.

93. Preparation showing œdema of the glottis. The ventricle of the larynx is seen to be almost closed, and the right arytenoepiglottidean fold much thickened. The patient had gone to bed quite well on the night before, and woke up in a fit of severe dyspnœa at 4 a.m. He was brought to the Hospital about noon; and, as he appeared in a dying condition, the larynx was opened, though with some difficulty, on account of ossification of the cartilages. This produced temporary and complete relief to the breathing, but he died the next day apparently of asthenia.

Two other somewhat similar cases occurred about the same time in the hospital. Some remarks on them, and on this preparation, will be found in the *Trans. Path. Soc.*, vol. xi. p. 21. *Post Mortem and Case Book.* 1859. p. 207.

94. Specimen showing deposits of soft yellow fibrine on the surface of the tracheal mucous membrane. This is most abundant a short distance below the inferior vocal chords. The specimen was removed from the body of a child who died of croup.

95. Specimen showing the presence of soft yellow fibrine on the mucous membrane of the larynx, trachea and bronchi. Removed from the body of a child who died of croup.

96. Specimen consisting of portions of fibrinous casts from the larger and smaller bronchial tubes.

Microscopical Examination.—After maceration for many years in spirit, the following appearances were observed:—The smallest tubes were found to consist of many delicate fibres, much clear partly refracting granular matter, occasional oval largish opaque bodies, and much smaller indistinct, probably cell, bodies. The larger ones contained very few cell or rounded bodies, but numbers of strong fibres, with firm granular matter, and decidedly fatty material. Much yellowish opaque matter, mixed with other elements, looking like altered epithelium also existed, but no distinct epithelium-cells were anywhere visible. The specimen was brought up in coughing, by a patient of Dr. SEYMOUR's who furnished the following account of it: "A private patient of mine, a publican at Bradford, applied to me for relief. He had been ill a year, and had brought up by coughing, every third or fourth day, a large quantity of plastic lymph, in pipes exactly resembling macaroni, and in their entire shape having the appearance of a mould of the

bronchial ramifications. The patient had taken every rational and irrational medicine." The patient quite recovered, the chief benefit being derived, according to Dr. SEYMOUR, "from the inhalation of the vapour of the pix liquida in boiling water, (three drachms to the pint), for ten minutes, three times a day." *Presented by* Dr. SEYMOUR. *Trans. Path. Soc.* vol.xi. p.23.

97. Specimen showing fibrinous casts of the minuter bronchial ramifications, spat up along with large quantities of tough mucous expectoration. A much larger amount than what is here seen was parted with. *Trans. Path. Soc.* vol.xi. p.23.

98. Specimen showing false membrane in a case of croup. From a patient, George T., aged 3. *Post Mortem and Case Book.* 1858. p.78.

99. Specimen showing extensive ulceration of the mucous membrane of the epiglottis, larynx, and trachea, as also of the right bronchus. Removed from a patient who died of phthisis. *Presented by* Sir BENJAMIN BRODIE, Bart.

100. Specimen showing extensive ulceration of the mucous membrane of the larynx and upper part of the trachea. A lymphatic gland, situated between the bronchi, is seen to be completely occupied by calcareous matter. The preparation was removed from a patient who appears to have died of phthisis. *Presented by* Sir BENJAMIN BRODIE, Bart.

101. Specimen showing extensive ulceration of the mucous membrane lining the larynx and trachea. Removed from a patient who died of phthisis. The points of ulceration are for the most part rounded and even, as if they had been punched out.

102. Specimen showing extensive ulceration of the mucous membrane forming the rima of the glottis and the parts of the larynx above. The preparation was removed from a woman aged 35, who died in the Mary-le-bone Infirmary. The posterior fauces were also ulcerated, but the lungs, which had been supposed to be diseased, were quite natural. For some time before death, she had been suffering from rupia and syphilitic sore throat, which were relieved by mercurial fumigations.

103. Specimen showing extensive ulceration and almost entire destruction of the epiglottis. The mucous membrane of the larynx and trachea are also slightly ulcerated. The preparation was removed from the body of Emma W., aged 24, who was admitted into the Hospital, June the 4th, 1845, with phthisis, and died June the 12th. Scrofulous deposits existed in various parts of the body. *Post Mortem and Case Book.* 1845. p.144.

104. Specimen showing extensive ulceration of the mucous membrane below the true vocal cords, and involving the aryteno-epiglottidean folds. Around the ulcerated parts purulent deposits existed in the sub-mucous tissues. Indications

of pleurisy and lobular pneumonia existed, and also deposits of pus in some of the joints and muscles, and in the testicle, as shown in a later Series. The preparation was removed from the body of Michael H., aged 28, who was admitted into the Hospital August the 6th, 1851. He had been exposed to cold, shortly after which he had great pain in one of the shoulder joints (which was subsequently found to contain pus). Pain in the testicle followed, and the patient was treated with calomel and opium. Rigors with night sweats and abscesses in the integuments of the arms and legs came on ; great dyspnœa and hoarseness of the voice followed ; and then delirium, with intense prostration, and a small jerking pulse. He died August the 23rd. *Post Mortem and Case Book.* 1851. p.173.

105. Specimen showing ulceration of the mucous membrane of the larynx, comprehending the outer portions of the vocal cords and the surface both above and below them, but chiefly the latter. It was removed from a patient who died in a paroxysm of cough, to which he was subject. *Presented by* Cæsar Hawkins, Esq.

106. Specimen showing extensive ulceration of the mucous membane of the upper and posterior parts of the larynx, chiefly affecting the vocal cords and the membrane above them. One or two ulcerated patches of the lining of the trachea also exist. *Presented by* Sir Benjamin Brodie, Bart.

107. Specimen showing extensive ulceration of the mucous membrane covering the vocal cords, as also of that above and below them.

108. Specimen showing extensive ulceration (from secondary syphilis) of the lining membrane of the larynx, and complete destruction of the epiglottis.

109. Specimen showing a large amount of carcinomatous (the encephaloïd variety) growth from the inner wall of the left bronchus, commencing immediately below the bifurcation of the trachea. The pericardium, the substance of both lungs, the bronchial glands, and also the liver, the pancreas and several glands about the smaller omentum, were the seat of similar deposit. The morbid growth in the specimen existed, for the most part in the form of firm and smooth rounded small elevations upon the lining membrane of the bronchus, but in two or three places it was in the form of projecting ragged and rather elongated masses. *Microscopical examination* showed the carcinomatous material to consist chiefly of round nuclear bodies, with but a few of an oval shape, no fibre growth being observed. The preparation was removed from the body of J. H., aged 64, who was admitted into the Hospital September the 27th, with lumbar pains and cough of eighteen weeks' standing, accompanied by occasional anasarca of the feet, and a feeling of tightness across

the abdomen. When admitted, he was expectorating pus, and a large abdominal tumour was detected, apparently connected with the liver. The lungs were full of sonorous and moist sounds. Dyspnœa and emaciation became extreme, and he died October the 22nd. *Post Mortem and Case Book.* 1854. p. 324.

110. Specimen showing epithelial growths or so called excrescences connected chiefly with the inferior vocal chord of each side, but to a slight extent also with the upper chord of the right side. The chink of the glottis was almost entirely blocked up by the growths pressing inwards, and meeting each other; they could, however, easily be separated.

Microscopical Examination.—After immersion in spirit for many years, the growth presented scarcely anything but epithelial scales, all being flattened, but of various shapes; many being like ordinary tesselated scales, whilst others were elongated in various degrees. The mucous membrane of the epiglottis, and adjoining parts, were very œdematous, and that of the bronchi was very congested, and covered by muco-purulent fluid. The lungs were very emphysematous, and in places hepatized. The preparation was removed from the body of John L., aged 4, who for two years previously had suffered from general dyspnœa, with croupy inspiration, especially during sleep; but his general health had been good. He had also suffered from enlarged tonsils. When admitted into the Hospital, October the 6th, 1847, there was constant noisy inspiration, which was performed with a slight effort, and was at times, especially during sleep, highly stridulous. No actual paroxysms of dyspnœa occurred, but on two or three occasions the lips were observed to be bluish. He became gradually weaker until his death, November the 8th, which was unmarked by any symptoms of suffocation. *Post Mortem and Case Book.* 1847. p. 227.

111. Specimen consisting of half a trachea having a number of lymphatic glands connected with its lower part, in a state of chronic enlargement. They form a large nodulated mass, their cut surface exhibiting a glossy grayish semi-transparent aspect, with a varying proportion of black matter.

Microscopical Examination.—They were found to consist of a partly granular and partly homogeneous basis-substance, with scarcely any fibrous elements, containing a multitude of nuclei and pale, round and oval, granular cells. Acetic acid dissolved the basis-substance which, in places, contained oily matter. No fluid or juice could be squeezed out of the mass. The specimen was removed from the body of Thomas M., aged 43, who died in the Hospital October the 17th, 1848, of phthisis.

Crude scrofulous deposits and some vomicæ existed in the lungs. *Post Mortem and Case Book.* 1848. p. 217.

112. Specimen showing a section of enlarged lymphatic glands corresponding to the preceding specimen.

113. Specimen consisting of a portion of lung, showing the bronchial glands, greatly enlarged and affected by the deposition of scrofulous matter. The preparation was removed from the body of Harriett S., aged 2, who died in the Hospital, March 7, 1843, of phthisis and scrofulous deposits within the cranium and in other parts. *Post Mortem and Case Book.* 1843. p. 47.

114. Specimen showing extensive enlargement of the bronchial glands, owing to infiltration by scrofulous deposit. Removed from the body of a child.

115. Preparation showing enlargement of the bronchial glands, owing to the deposition of scrofulous matter, which occurred in a case of laryngismus stridulus. The lower end of the trachea is surrounded, except on the posterior surface, by large glandular masses, which reach to the back of the aorta, and also surround the origin of the bronchial tubes. On the right side, the recurrent laryngeal nerve is placed between two globular masses, but does not appear to have suffered much compression. On the left side the corresponding nerve is seen to be flattened, just beyond the aorta, by a prominent gland, and immediately afterwards is completely lost in its substance. The specimen was taken from a child 9 weeks old. From birth it had had some difficulty of breathing, with a rattling in the throat, and latterly the face was of a bluish tinge, and the lips livid. Twenty-four hours before death, the child began to have attacks of dyspnœa of a spasmodic character. The respiration appeared at times to be suspended for a few seconds, during which the child struggled and became nearly black in the face. This suspension was followed by a prolonged inspiration with a loud croupy sound, which continued, more or less, until the next attack occurred. Chloric ether was given, which seemed to produce a temporary removal of the symptoms ; the paroxysms, however, returned after some hours, and in one of them the child expired. At the post mortem examination a little fluid was found in the cavity of the arachnoïd, and a small patch of red hepatization at the base of the left lung. The other organs were healthy. *Presented by* Mr. Pick.

116. Specimen showing laceration of the root of the lung. This preparation consists of a portion of the left lung, in connection with the heart. It displays a vertical rent along the anterior portion of the root of the lung, which has severed the left bronchus, as well as the pulmonary artery and veins. The position of the severed vessels is indicated by bougies. A por-

tion of the pericardium is left, in connection with the organs. This specimen was obtained from the body of a young woman, who was thrown from a horse, and impaled upon some spikes. The clavicle and several ribs upon the left side were fractured; but none of the fragments had penetrated the pleura. It therefore appeared that the rupture must have been effected by the direct force of the concussion. *Post Mortem and Case Book.* 1861. p.174.

117. Specimen showing a mass of fibrine in the lower part of the left lung, the sequel of pulmonary apoplexy. This is seen to be irregular in shape, and decolorised, and of the size of a large walnut. In the fresh state, a quantity of quite recent coagulum surrounded the block. The fibrinous mass was seen, *under the microscope*, to consist of granular matter with degenerated blood corpuscles, and it was but loosely attached to the cavity in which it lay. The specimen was taken from the body of a man 34 years of age, who died of ascites, connected with cirrhosis of the liver. The right lung contained a certain amount of tubercular deposit ; the left was natural, excepting the mass of recent coagulum, with the fibrinous mass described. The aortic valves were slightly thickened, and there were traces of old pericarditis ; but the heart was not seriously diseased. *Post Mortem and Case Book.* 1861. p.292.

118. Specimen showing a cretaceous deposit in the bronchial glands. The preparation consists of an oblong mass of chalky matter, about two inches long and one in width. This was in the recent state perfectly black on the surface. It occupied the place of one of the bronchial glands, at the bifurcation of the trachea. There were some cretaceous tubercles in the left lung. The specimen was taken from the body of a man, 56 years of age, who died after an operation for strangulated hernia. Nothing was known referring to any pulmonary symptoms. *Post Mortem and Case Book.* 1861. p.216.

119. Specimen showing laceration of one of the subdivisions of the bronchi. *Presented by* CÆSAR HAWKINS, Esq.

120. Specimen showing the cicatrix produced by the operation of tracheotomy many months before death. The patient was a lad, on whom the operation was performed for the relief of laryngismus, which was so severe during the paroxysms of epilepsy from which he suffered, as to endanger life. See *Lancet.* *Presented by* T. HOLMES, Esq., and Dr. JOHN OGLE.

121. Specimen showing epithelial tumour of the larynx, which consisted of a lobulated, warty, or cauliflower-looking growth springing from the whole length of the left vocal cord. About two-thirds of its bulk was above the level of the glottis; about one-third below, and in the trachea. Its size was such as completely to block up the passage: a probe the size

of a crowquill could, however, be passed along the posterior wall. In its largest diameter it measured four-fifths of an inch, and half an inch in breadth, and before the larynx was opened it reached nearly up to the base of the aryteno-epiglottidean folds. On *microscopical examination* the growth was found to consist of a vast number of epithelial cells of various sizes and shapes (some being of the character of so-called mother or parent cells), along with a considerable quantity of fibrous tissue, mostly of a very firm consistence. The preparation was removed from the body of a woman, aged 23, married, who applied for admission to the Brompton Hospital on July 15, 1862. She worked in the fields, and had been subject to cough all her life, but dated her illness from twelve months previously. Her family were phthisical; her father and twelve brothers having died of this complaint. On first application the presence of tubercle at the apex of the right lung was detected, but the most urgent symptoms were attributed to some laryngeal affection, which had appeared four months before; since then there had been complete aphonia, great dyspnœa, especially at night, and uneasiness referred to the larynx. When first seen, the act of inspiration was slow and difficult, there was croupy cough of a particularly shrill and vibratory character. A month later she was admitted into the wards, with no alteration in symptoms. She was very restless, and the act of swallowing caused dyspnœa. Respiration was deficient under the right clavicle, of a tubular character, the resonance on percussion being good and equal on the two sides. The Laryngoscope was not resorted to, from fear of a fatal or dangerous dyspnœa being produced by its use. Two days after admission she died suddenly, with symptoms of asphyxia. These began while she was standing in the ward, by gasping, struggling, and irregular movements of the arms. In a few seconds the face became livid; within a minute she was insensible; motion ceased, and the pupils gradually dilated; pulsation could be distinguished in the heart and carotids for some seconds longer. On post-mortem examination, in addition to the state of the larynx above described, a solid mass of tubercle, very defined, about the size of an orange, was found at the apex of the right lung, and in the centre of it was a small cavity the size of a nut. The rest of the lungs was remarkably free from tubercular deposit; they were emphysematous at the edges, and contained much thin, frothy, serous fluid. *Presented by* DR. STONE. *Path. Soc. Trans.*, vol. xiv.

122. Specimen showing non-malignant ulceration of the œsophagus, communicating by a large opening into the trachea, at a point about 2 inches below the vocal cords. There was much

œdema of the glottis. The bronchial mucous membrane generally was very vascular. The ulceration involved the entire circumference of the œsophagus for about 3½ inches in length. The heart was healthy, excepting slight atheromatous deposit in some parts, as were the lungs and other viscera. The specimen was removed from the body of John R., aged 76, who was brought into the Hospital July 20th, 1853, and who had complained for three months only of dysphagia. At the end of six weeks he could swallow nothing but fluid. On admission, there was also some difficulty in breathing. There was no pain on pressure, and only very slight fulness to be felt externally over the alæ of the thyroïd cartilage. He died, apparently of exhaustion, six days after admission. *Post Mortem and Case Book.* 1853. p. 156.

123. Specimen shewing complete destruction of the epiglottis by ulceration. The specimen was removed from the body of Joseph B., aged 36, who was admitted into the Hospital, January 5th, and died of phthisis, with vomicæ, etc. *Post Mortem and Case Book.* 1853. p. 23.

END OF SERIES VII.

SERIES VIII.

INJURIES AND DISEASES OF THE BRAIN AND SPINAL CORD, WITH THEIR MEMBRANES AND BLOOD VESSELS; ALSO OF THE NERVES.

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1. Specimen showing laceration of some of the convolutions at the base of the left cerebral hemisphere. There was also softening of the fornix, and a small coagulum beneath it; and in the centre of the left cerebellar hemisphere was a clot of blood of considerable size, the surrounding brain not being much affected. This state of the brain was associated with fracture of the base of the skull across the petrous element of the temporal bone and the course of the facial nerve, and also with laceration of the lateral sinus.

   Removed from the body of James M., aged 13, who fell from a scaffold February 18, 1829. Immediately after the accident, there was paralysis of the facial muscles on the left side, with spasm of the muscles of the right arm—dilated but not insensible pupils, and stertorous breathing. On the day following the stertor had ceased, but still the spasm of the arm continued, and there was great moaning and grinding of the teeth. The patient died three days after the accident. *Presented by* CÆSAR HAWKINS, Esq.

2. Specimen showing laceration of the surface of part of the right cerebral hemisphere, and also the remains of a coagulum of blood in the substance of the brain immediately beneath the convolutions There was, moreover, laceration of the right corpus striatum and thalamus opticus, and much coagulated blood was found in the right lateral ventricle.

   The preparation was removed from the body of Richard S., who fell from a hay-rick. The injury was followed by unconsciousness, stertorous breathing, foaming at the mouth, insensibility and for the most part contraction, of the pupils, clonic spasm of the right side of the face and body, and rigidity of the muscles on the left side of the body. The patient died twenty-eight hours after the accident. *Presented by* CÆSAR HAWKINS, Esq.

3. Specimen showing extravasation of blood into the substance of the pons Varolii near the superior surface. Extravasation of blood into the crura of the cerebrum and cerebellum, into the left lateral ventricle and into the arachnoïd cavity on both sides was also found, but not into the hemispheres of the brain, or between the bone and dura mater. Blood was also extravasated under the scalp.

   The specimen was removed from the body of Michael S. aged 30, who was admitted into the Hospital February 22 1841, having fallen from a great height. He was perfectly comatose, and died half an hour after admission. *Presented by* CÆSAR HAWKINS, Esq. *Post Mortem and Case Book.* 1846. p. 38.

4. Specimen showing contusion of the anterior cerebral lobes of both hemispheres on their upper surfaces. Blood was also found

effused under the arachnoïd membrane covering the upper surfaces of both of these lobes, and in addition to the superficial bruising, the substance of the brain was slightly lacerated and the white and grey parts of the brain generally were full of puncta. Blood was also found extravasated in the cerebellum and under its arachnoïd membrane.

The preparation was removed from the body of David R., aged 52, who fell from a great height, pitching on his head. He was picked up unconscious, and two hours after the injury vomited a quantity of blood. He remained insensible until the next day, when he was able to walk across the room and complained of hunger. Soon afterwards, he became restless and slightly delirious, and was freely bled. He was brought into the Hospital October 29, 1842, two days after the accident. He was then in a semi-comatose state, but could be roused to give an answer to questions put to him. There was no want of voluntary power over the muscles of the body, but the breathing was somewhat stertorous, and both pupils insensible to light; the extremities were cold and the pulse very feeble. A blister was applied to the neck, and ice to the head; leeches were also applied to the temples, and the patient treated with calomel and opium. The pulse remaining weak, brandy was given. The muscles of the body became contracted, and subsequently affected spasmodically. The patient died 10 p.m. on the 31st. *Presented by* CÆSAR HAWKINS, Esq. For details see *Post Mortem Case Book.* 1842. p.66a.

5. Specimen showing laceration of the anterior and inferior surface of the left cerebral hemisphere, owing to a blow on the head.
6. Specimen showing laceration of the upper and anterior surface of the left cerebral hemisphere, along with laceration of the corresponding portion of dura mater. The dura mater around the lacerated part has a quantity of fibrinous deposit on its surface. The injury was occasioned by a blow from a brick. No special symptoms arose until twenty-four hours after the accident. There was also fracture, with depression, of the frontal bone, as shown in preparation No. 10. Series I. No history.
7. Specimen showing extensive laceration of the left lobe of the cerebellum, with effusion of blood into its substance and under the cerebellar membranes, the result of an injury.
8. Specimen showing laceration and contusion of the under surface of the middle lobe of the left cerebral hemisphere. There was extensive fracture of the base of the skull, and extravasation of blood into the arachnoïd cavity and sub-arachnoïd tissue, and between the bone and dura mater.

The preparation was removed from the body of Richard P., who was admitted into the Hospital October 7, 1842. He

had fallen from a considerable height, and when admitted, was unconscious: the left pupil acted slightly, the right one not at all, and the right arm and leg were powerless. Convulsions of the left arm and leg came on. The patient was bled twice, but died a few hours after the accident.

The fractured base of the skull exists as preparation No. 24. Series I. For more details see *Post Mortem and Case Book.* 1842-3. p. 52.

9. Specimen showing laceration of the septum lucidum of the brain, and of one of the large veins in the neighbourhood of the corpus striatum, by the rupture of which one of the lateral ventricles was filled with blood. There was also extensive laceration of the surface of the left cerebral hemisphere, and fracture of the skull on the right side, with a small scalp wound.

The preparation was removed from the body of W. W., aged 56, who, having fallen a distance of about 10 feet, was admitted into the Hospital February 4, 1845, in a state of unconsciousness. Repeated convulsions, stertorous breathing and constant moaning existed, and the left pupil was very much contracted. Some time after admission the mouth was drawn to the left; vomiting came on previous to death, which took place February 6th. For particulars see *Post Mortem and Case Book.* 1845. p. 38.

10. Specimen showing laceration of the right lobe of the cerebellum, produced by a chisel which, falling from the height of 80 feet perpendicularly, struck the right side of the head on the occipito-parietal suture, and passed through the bone, posterior lobe of the cerebrum, the tentorium and the cerebellum. In its course, the instrument had laid open the posterior horn of the right ventricle.

The preparation was removed from the body of James C., aged 28, who was admitted into the Hospital July 18, 1845, in a state of collapse, and almost unconscious. On regaining his senses, he vomited, and occasional stertorous breathing set in, with a 'trembling' of both sides of the body: there was also occasional convulsive action of the muscles of the right side of the face. The mouth was slightly drawn to the left side, and there was ptosis of the left eyelid, and slight dilatation of the right pupil, the eye being fixed. After a short time the face was drawn to the right (the opposite) side. There was no paralysis of any of the limbs. Blood was taken from the arm with relief, but delirium supervened, with contracted pupils and ptosis of both eyelids. Eventually the left leg became paralysed, and the patient died comatose July 19th. For preparation of calvaria, see preparation No. 17, Series I. For particulars of case, etc., see *Post Mortem and Case Book* 1845. p. 177.

11. Specimen showing extravasation of blood into the substance of the right optic thalamus. Extravasated blood was also found in the white substance of both cerebral hemispheres, as well as in the arachnoïd cavity, and between the dura mater and calvaria, which was fractured.

The specimen was removed from the body of Francis H., aged 11, who was admitted into the Hospital May 5, 1847, having fallen from a great height, and pitched on his head. He was admitted into the Hospital in a state of collapse, and vomited several times. Insensibility continued, and the pupils were noticed as being at one period dilated, at another contracted: at one time his left arm seemed paralysed, at another it was greatly contracted, whilst the right one was violently extended. The patient was several times very delirious, and once he was said to have been affected by general convulsions. Coma continued until the patient's death, which occurred May 12. For further particulars see *Post Mortem and Case Book.* 1847. p. 112.

12. Specimen showing numerous minute spots of extravasated blood in the cortical and medullary portions of the right cerebral hemisphere in connection with fracture of the skull. Purulent fluid was found on the visceral arachnoïd membrane covering the convex surfaces of both hemispheres, and blood extravasated into the sub-arachnoïd tissue corresponding to the under and lateral surfaces of the posterior one on the right side. Blood and pus were also met with under the arachnoïd, covering certain portions of the cerebellum. On examining the base of the skull, the frontal, nasal, and ethmoïd bones were found to be extensively fractured.

The patient, Edward W., aged 47, who had been trampled on by a horse, was admitted into the Hospital August 19, 1848. The accident was followed by slight collapse, and subsequently by delirium, and by convulsions, affecting mainly the left arm and leg. Coma preceded death, which occurred August 27. Purgatives, venæsection, and the frequent use of calomel, had been resorted to. For further particulars see *Post Mortem and Case Book.* 1848. p. 180.

13. Part of the right side of the face and cranium showing protrusion of a portion of the middle cerebral lobe through an aperture in the middle fossa of the base of the skull. The brain protrudes through a large opening in the dura mater, which was either the result of suppuration or of mechanical injury, appearing externally in front of the mastoïd element of the temporal bone, and behind the temporo-maxillary articulation, and occupying the place of the external auditory foramen. Deficiency of the lower and outer walls of the right orbital cavity, partial separation of the malar from the frontal bone, and a

fracture across the petrous part of the temporal bone, with laceration of the right lateral sinus, may also be seen. The protruded part of the brain was very pulpy and vascular, and the substance of the neighbouring parts of the brain were also vascular, and of a yellowish hue. On the surface of the right cerebral hemisphere, and on the tentorium cerebelli, blood was extravasated, and about the optic commissure recently effused fibrine was found. The veins of the brain were very full. The above described condition was found after death to have been caused by the passage of a pistol bullet, which took the following course. Entering the face below the orbit, it passed through the junction between the right malar and maxillary bones, broke up the floor of the orbit, leaving the eyeball uninjured, passed through the external pterygoïd muscle, denuding the surfaces which form the temporo-maxillary articulation, of their cartilages, and finally broke up the inner part of the middle fossa of the skull where it was found lodged, and greatly flattened. A fracture had also been caused across the petrous part of the temporal bone, by which that portion which contains the glenoïd cavity and external auditory foramen was detached. The carotid artery and jugular vein were uninjured.

The preparation was removed from the body of William P., aged 11, who accidentally shot himself May 3, 1822. From the opening made by the bullet below the orbit, much hæmorrhage took place, and subsequently, when much suppuration occurred at this part, a probe, if passed down the wound, as well as down the external auditory meatus, reached a number of splinters of bone, and also the bullet itself. For some time after the collapse following the accident, the patient remained quiet and rational, all the senses being entire ; but subsequently the sight of the right eye became gradually lost. Suppuration of a healthy nature went on until May 9, when the discharge became thin and bloody, and the pulse quick ; and restlessness, with stiffness of the neck and back, came on. Delirium and extreme irritability set in, and on the same day blood was discharged, and portions of brain forming a fungus-like growth protruded through the wound and external ear; there was also great prominence of the eyeball. The patient became insensible, and died about 30 hours after the commencement of these symptoms. *Presented by* Cæsar Hawkins, Esq.

4. Specimen showing extravasation of blood into the lateral ventricles of the brain, and into the substance of the left optic thalamus. The other parts of the brain, and the membranes, etc., were quite healthy, as well as the large vessels at

the base of the brain, but diseased kidneys and hypertrophy of the walls of the left ventricle of the heart were found.

The preparation was removed from the body of Joseph H., a patient of Dr. Bence Jones, who was admitted into the Hospital December 24, 1851, with anasarca of the limbs, ascites, dyspnœa, and palpitation of the heart; he had never suffered from any severe illness. Moist râles were heard in various parts of the chest; and increased impetus of the heart, but without any unnatural sounds, existed. The urine was albuminous. Under the use of diuretics and purgatives, the anasarca diminished, but during the night of December 31, whilst asleep, the patient was seized with convulsions and unconsciousness, the mouth being drawn to one side. He died a few hours after admission. For further details see *Post Mortem and Case Book.* 1852.

15. Specimen showing extravasation of blood into the structure of the pons Varolii, as well as into the superficial part of the cerebellum, and slightly into the areolar tissue beneath the cerebellar membranes. In addition to the above condition, the dura mater generally was much thickened, specially at the lateral parts of the skull; the cerebral convolutions were much flattened, and blood was found extravasated into the sub-arachnoïd areolar tissue over a great portion of the brain. The central white parts of the brain were much softened, and the ventricles were dilated with bloody fluid, and a mass of coagulated blood was seen projecting into the right lateral ventricle from an aperture in its posterior wall. The parietes of the left ventricle of the heart were greatly hypertrophied, old pleural adhesions existed, and the kidneys were fatty.

The preparation was removed from the body of Thomas M., aged 65, who was found by the police in a state of coma, about 8 a.m., November 4, 1852, and was supposed to be drunk. He was brought into the Hospital shortly afterwards, with a full labouring pulse, contracted pupils, and paralysis of the left arm and leg. He died but a few hours after his admission. For further details, see *Post Mortem and Case Book.* 1852. p. 220; also *Path. Soc. Trans.* 1852-3. p. 15.

16. Specimen showing extravasation of blood into the substance of the left optic thalamus and corpus striatum. In addition to extensive breaking down of the above structures, considerable softening of the corpus callosum, fornix, and of the structures bounding the lateral ventricles, was found. These ventricles were full of partially coagulated blood, and the substance of the brain generally was of rather diminished consistence. There

was, moreover, a thin coat of extravasated blood under the arachnoïd membrane covering the upper and outer side of the right cerebral hemisphere, as well as the base of the brain and the entire cerebellum. The dura mater was firmly adherent to the calvaria in various places.

On *microscopical examination* of the minute blood vessels of the brain and membranes, they were seen to have quantities of fatty matter adherent to them, (specially those of the pia mater), as well as numbers of red, and reddish brown coloured bodies of various sizes and forms, having much the appearance of being calcareous. The walls of the heart were hypertrophied, and its fibres were in a slightly fatty condition. There was also a fatty state of the kidneys, and an atheromatous condition of the coronary arteries and abdominal aorta.

The specimen was removed from the body of James G., aged 69, who was brought into the Hospital February 12, 1853. He had been the subject of two previous attacks of apoplexy. Whilst at work early one morning, he seems to have fallen down suddenly, and about 9 o'clock he was found by the police quite insensible. The stomach was emptied by the stomach-pump, and its contents were found to contain ardent spirits of some kind. When brought into the Hospital very shortly afterwards he was quite comatose, and had stertorous breathing and hemiplegia of the right side of the body. There was no clonic convulsive action of any kind, but the right arm was quite contracted and rigid, and remained so until his death, which took place February 13, about 29 hours after admission into Hospital. He was treated by turpentine injections and Croton oil, and by counter-irritation. For further details, see *Post Mortem and Case Book.* 1853. p. 36 ; also *Path. Soc. Trans.* 1852-3. p. 22.

17. Portion of the cerebral hemisphere showing one or two deposits within its substance, formed most probably of blood coagula greatly altered in colour and general character. The deposit is surrounded by a covering or membrane, as it were, which is, with great difficulty, separable from the contained deposit, but easily so from the surrounding brain; and this membrane has the appearance in one part of being split so as to enclose, besides the large mass of deposit, two other and smaller ones. One of these smaller ones (like the largest one) is of a light yellowish colour, very like the white matter of the brain, but soft, and as it were rather œdematous. The other, the smaller one, is of a mixed dark brown and light colour and streaked; but very firm and solid in consistence, a small portion being quite white and opalescent. This deposit is seen to extend as far as the grey matter at the opposite or uncut surface of the brain. A portion of the

latter has been removed, and the former is seen coated with a yellowish red-coloured substance. The entire thickness of the deposit, is of an uniform colour and character. The convolutions, immediately covering the deposit, are firm, but the white brain-substance surrounding part of it, as seen on the sectional surface, is softened; and in the same substance near the deposit may be seen a small cavity equal in capacity to a pea, empty, and having an uniformly smooth lining.

Microscopical Examination.—After maceration for many years in spirit, the following appearances were found:—The largest and the smallest deposits, which were of the same colour as the yellowish brain structure around, were seen to present the same minute characteristics as prevailed universally. They consisted entirely of quantities of semi-transparent and refracting granular matter, clustering around delicate and scanty fibrillated tissue. The mass of the dark firm streaked deposit, which was isolated from the other two, was found to contain a certain amount of granular and fibrillated matter like the other parts, but contained also a very large amount of opaque amorphous dark substance; and in some places fibres existed, to which was added a large quantity of material having a beautiful reticulated appearance, the meshes being chiefly polygonal and tolerably uniform in size. In the very firm pearly white-coloured part before alluded to, nothing but dense firm fibres was met with. The investing capsule contained a large amount of fibrous tissue, as well as granular matter, having in places aggregations of opaque blood-coloured deposits amongst it. Part of the capsule, where thickest and of darkest colour, contained numbers of blood vessels, many of which had numerous collections of fatty matter around or within them, and many irregularly-shaped bodies of a bright reddish-yellow colour. In one place, in addition to the above, numerous rounded and oval cells of rather irregular outline, and containing bright red and rounded bodies like nuclei within them were found. Several small bodies, not to be distinguished from pus globules, were also seen. Nothing like cell-formation of any kind was visible within the deposits themselves.

18. Portion of the left corpus striatum, discoloured, and containing two small cysts, the result of old extravasation of blood. The cysts were bounded by brownish yellow parietes, and on the surface of the corpus striatum were two depressions correspondent with the cysts. The parietes were distinctly fibrous, as seen under the *microscope*. A recent extravasation of blood existed in the medullary substance of the left cerebral hemisphere, as seen in the next preparation. Nothing of the history of the

patient, showing the effects of the 'old extravasation,' was ascertainable. The patient died affected by hemiplegia following a fit. For details, see *Post Mortem and Case Book*, 1855. p. 52., also description of next specimen—No. 19.

19. Specimen showing recently extravasated blood in the left cerebral hemisphere, from the same patient as the above specimen. The part of the hemisphere affected was situated above and internal to the posterior part of the left ventricle, the surrounding brain-tissue being of a chocolate hue, but somewhat firm. Remains of old extravasation were found (see preparation above—No. 18) in the left corpus striatum; and the cerebral ventricles were much dilated. Hepatization of the lungs, and diseased kidneys, were also found.

The specimen was removed from the body of Thomas M., aged 54 years, who was admitted into the Hospital January 31st, 1855, having had a fit on the previous day. Nothing more was known of him. He was hemiplegic on the right side. After admission he had a long continued 'epileptic attack,' during which the pupils were contracted. Speech was incoherent; and all evacuations passed involuntarily. Stertor and stupor came on in spite of purgatives, cupping to the nape, and stimulants, and he died comatose February 15th. For details, see *Post Mortem and Case Book*. 1855. p. 52.

20. Specimen showing extravasation of blood into the substance of the pons Varolii and medulla oblongata. These parts were much softened throughout their structure, and on section presented many spots of extravasated blood. In two places, the ecchymoses amounted to complete clots of effused blood, viz.: at the upper part posteriorly, and to the '*left*' of the median line, attaining completely the floor of the fourth ventricle, at its posterior part; and also anteriorly, on the '*right*' side of the median line, at the lower part of the organ. These parts were not the seats of any special deposit. The cerebral membranes were generally healthy, but at one part covering the outer and back part of the left cerebral hemisphere, the dura mater was found lined, to a short extent, by a thick tough piece of fibrous membrane, by which it was firmly adherent to the surface of the cerebral convolutions. At this exact spot a rounded, firm, whitish-red mass of the size of a pigeon's egg, was found, imbedded in the brain-structure, and projecting as far as the surface, being intimately connected with the dura mater and the firm membrane above alluded to. The brain-tissue beneath and internal to the tumour, was softened, and of a cream-like colour, and the septum and inner surfaces of the ventricles were softened. The cranial bones, and the spine and spinal marrow, were healthy. The right lung was at one part in a state of pneumonia.

Microscopical Examination. — The tumour was found to contain great numbers of small nucleated cells, with, here and there, larger cells of irregular shape, admixed, along with much granular and amorphous and fatty material. The softened pons Varolii and medulla oblongata were in many places found to be quite destroyed as to their texture, minute examination showing the presence of much granular and refracting material, along with many fat drops, occasional round leucocyte-like bodies, and a considerable number of large round and oval granular corpuscles, with but little of the ordinary histological elements of the parts.

The specimen was removed from the body of a woman, aged 48, who had been the subject of insanity and epilepsy, for (as it was thought) two years, and who died in the Somerset Lunatic Asylum, under DR. BOYD, into which place she was admitted suffering from great drowsiness, which was constant, but from which she could be roused. She took food well, and sensation and powers of motion seemed perfect. Shortly after admission she had two apoplectic attacks, separated by an interval of three days; subsequently 'giddiness' came on, which became so extreme, as to oblige her to keep her bed. After being comatose for three days, she died (three weeks after admission). See *Path. Soc. Trans.* Vol. xi. p. 11. *Presented by* Dr. JOHN OGLE.

21. Specimen showing extravasation of blood into the pons Varolii, on the right side. There was also extravasation of blood into the right crus cerebri, and the neighbouring parts of the brain were softened, the lateral ventricles being distended by clear serum.

Microscopical Examination showed the vessels of the parts where ecchymoses existed, to be healthy. No granular corpuscles were seen, but there were a number of hæmatine crystals. The cerebral convolutions were flattened, and the corpus callosum and fornix were much softened. Great thickening also of the sub-arachnoïd tissues about the crus cerebri and optic tracts existed. Excepting congestion and enlargement of Peyer's patches in the bowels, the various other organs were natural.

The preparation was removed from the body of E. C., aged 17 years, who was admitted into the Hospital April 15th, 1861, and who had been attacked with pain in the forehead one week before her admission. Her aspect was at that time depressed and she was feverish. After a few days she ceased to sleep at night, talking much; but during the day she slept, and her mind was clear. She occasionally vomited. On the 22nd an eruption appeared on the skin, but nothing like fever spots were ever found. The restlessness and delirium increased until death, which occurred April 27th. Before death, she was for some hours quite unable to swallow. *Post Mortem and Case Book.* 1861. p. 118.

22. Specimen showing abscess in the superficial part of the brain, connected with exfoliation of the parietal bone, the result of a burn. *Presented by* CÆSAR HAWKINS, Esq.

23. Specimen showing an extensive abscess in the substance of the right cerebral hemisphere, near the surface of the convolutions, which are greatly flattened. When recently examined, the cavity was empty, and its walls were vascular, and comparatively dry, its evacuation having taken place by reason of ulcerative perforation of the dura mater and sphenoïd bone, near the optic foramen. The dura mater around the opening was intimately adherent to the bone, and the brain in the neighbourhood of the abscess was vascular and dark-coloured. The outer parts of the brain were healthy. The ulceration above alluded to was in connection with carcinomatous ulceration of the integuments, and bones of the face, and of the lower and outer walls of the right orbit.

The specimen was removed from the body of William S., aged 79, who died November 22, 1834, and in whose body several deposits of carcinomatous matter had taken place. The history of the case presented no symptoms referable to the brain; the cerebral functions being unimpaired to the last. All particulars are detailed in the *Trans. of the Royal Med. Chir. Soc.*, vol. xxi., p. 69. *Presented by* CÆSAR HAWKINS, Esq.

24. Specimen showing a cyst in one of the cerebellar lobes, which, when recent, contained flaky pus. The cavity is lined by a delicate fragile membrane. There was a large quantity of fluid in the lateral ventricles.

The preparation was removed from the body of a young girl who died in the Hospital with hydrocephalus.

25. Specimen showing part of the walls of an abscess in the posterior lobe of a cerebral hemisphere. The abscess was probably of a scrofulous nature.

26. Specimen showing the parietes of an abscess situated in the substance of the brain. They have been partially detached from the neighbouring structure.

27. Specimen showing an abscess in the substance of a cerebellar hemisphere.

28. Sections of a portion of the posterior part of the left cerebral hemisphere, showing the situation and extent of an abscess which followed a scalp wound (without fracture), the result of a blow on the head. The walls of the abscess were firm and distinct, but the substance of the brain around it was quite pulpy, and, to a great extent, of a lemon colour. Through an opening in the skull, made by a trephine, a portion of brain with its investing dura mater projected, and in this was a sloughy aperture, which led down into the abscess

above described. The projecting portion of brain may be seen in the upper part of the preparation.

The specimen was removed from the body of Philip B., aged 25, who had been struck by a shovel on the left side of the head. No symptoms of any injury followed the blow immediately, but about three weeks after the accident, severe headache, followed by rigors and sweating, came on; articulation became affected, and slight paralysis of the muscles, on the right side of the body, supervened. The patient was brought into the Hospital November 24th, 1847, when a sinuous opening in the scalp, leading down to exposed bone, was found to exist. By the use of active purging his symptoms were relieved, but again became severe, complete paralysis of the right side coming on. The cicatrix of the wound was laid open, and three circles of bone removed by the trephine, allowing a quantity of foul pus to escape through an ulcerated sloughy opening in the dura mater. No benefit however resulted from the operation, and the patient died December 7th. For further details see *Post Mortem and Case Book.* 1847. p. 244.

29. Specimen showing the walls of an abscess, which occupied the greater part of the middle lobe of the left cerebral hemisphere, and was connected with disease of the internal ear. These walls were very firm and tough, and were lined by a dark-coloured, sloughy membrane. The cavity contained about six ounces of very fœtid pus, and communicated with the internal ear, by means of an ulcerated opening in the dura mater, and caries of the temporal bone. The preparation shows a piece of glass passed through the aperture in the abscess, by which the communication took place. The substance of the brain generally was vascular, and in the neighbourhood of the abscess it was much softened. The lateral ventricles were filled with limpid serum, and the convolutions of the left ventricle were flattened. The other parts of the body were quite healthy.

The preparation was removed from the body of John W., aged 8, who was admitted into the Hospital August 19th, 1846. From early childhood, he had had slight purulent discharge from the left ear, and at times had complained of some pain in that ear, and deafness, but in other respects had enjoyed good health. About eight weeks before admission, he had suffered from vomiting, which lasted for some time, and about six weeks before, he was seized with an epileptic attack, which lasted about four hours. For some hours after the fit he was very drowsy, but, excepting occasional vomiting, he remained well for a week. At that time he was the subject of another convulsive attack, which lasted almost continuously for about twenty-four hours. After this he only gradually recovered from

unconsciousness, the evacuations being passed involuntarily. Although greatly improved, his mind continued affected, and he seemed in a 'half silly' state. On admission, there was ptosis of the left eyelid, and dilatation of both pupils, more particularly of the left one, which was almost insensible to light. Articulation was imperfect, and there was general weakness of the limbs, without any particular paralysis. The only pain complained of, was pain in the left ear, coming on in 'twinges'; the purulent discharge continuing. He was put under the influence of mercury; he soon afterwards became comatose, was affected by convulsive attacks, and died August 25th. For further details see *Post Mortem and Case Book.* 1846. p. 189.

30. Specimen showing an abscess in the left cerebral hemisphere. It was removed in its present condition, and with very little effort, from amidst the surrounding tissue. The lining surface was formed by a distinct capsule of firm structure; and the surrounding shreddy substance with innumerable small blood vessels hanging loosely down, indicates the softened condition of neighbouring parts. In addition to a large collection of purulent matter in the left hemisphere of the brain, there was considerable adhesion of the dura mater to the calvaria on both sides, and ulceration of that portion which covers the anterior surface of the left temporal bone, connected with the caries at the middle part of this surface. The margins of the ulcerated dura mater were most closely adherent to the margins of the carious bone. The lateral ventricles contained purulent fluid, and their parietes were much softened, the septum being broken down; the vessels of the pia mater were also greatly engorged. The disease appeared to be connected with inflammation of the mucous membrane of the throat, which, travelling up the Eustachian tube, had eventually reached the internal ear, giving origin to ulceration of the membrana tympani, and of the substance of the temporal bone. No other parts of the body presented indications of disease.

The specimen was removed from the body of J. C., aged 51, who was admitted into the Hospital, May 7th, with a discharge from the ear, and symptoms referable to rheumatism and bronchitis; he was dismissed May 20th, slight discharge from the ear still remaining, but returned to the Hospital on the succeeding day, having had 'a fit,' and speaking very incoherently, but not devoid of consciousness. He died in a comatose condition, June 29th, 1851, having slept much, but not suffered pain or delirium; the discharge from the ear having almost ceased. For further details see *Post Mortem and Case Book.* 1851. p. 139; also, *Path. Soc. Trans.* 1851-2, p. 241.

31. Specimen showing softening of, and purulent deposit within, the

posterior and upper part of the left optic thalamus, which, to the extent of about the size of a threepenny piece, is of a light ochery colour. Much of the left corpus striatum, and also of the neighbouring parts of the brain, was extensively softened. The general consistence of the entire hemisphere was diminished, and the fornix and septum lucidum especially. The lateral ventricles were large and full of limpid fluid. The thoracic organs were natural. The kidneys were diseased, and one of them contained a mass of fibrine in its substance. The appendix of the cœcum was thickened, and ulcerated, and behind the cœcum was a large quantity of green fœtid pus.

The preparation was removed from the body of M. B., aged 53, who was admitted into the Hospital, August 21st, 1854, with scirrhus of the left breast. This was removed; and after going on well for two weeks, the wound became phagedænic. The patient was seized, September 8th, with an 'apoplectic fit,' followed by loss of power of the leg and arm, of the RIGHT side of the body, and of the LEFT side of the face. She partially recovered power in the affected muscles; but bed sores came on, and she sank and died, December 1st, apparently from exhaustion. *Post Mortem and Case Book.* 1854. p. 369.

32. Part of the cerebellum showing a scrofulous tumour appearing at the surface of the posterior portion of the left lobe.

Microscopical Examination.—After maceration in spirit for some time, the tumour presented the following histological appearance:—It showed a large amount of clear, refracting granular matter, and great numbers of small cells, chiefly of a rounded or irregularly oval form, though some were more elongated. These cells contained much dark granular matter, but nothing like distinct nuclei. The addition of acetic acid rendered the cells larger, but did not bring any nuclei to light. The patient died of hydrocephalus.

33. Specimen showing a scrofulous tumour in the upper part of the cerebellum, containing a certain amount of calcareous matter. The *Microscopical appearances*, after maceration for a long time in spirit, were the same as in the above preparation, No. 32.

The specimen was removed from a child who was subject to epileptic attacks.

34. Section of the upper portion of the right cerebral hemisphere, in which exists a part of a large deposit of scrofulous matter. Small bristles have been passed between the brain and the edge of the deposit at different points. Similar deposits existed in the other cerebral hemisphere, and in both cerebellar hemispheres; but in no instance was the structure of the brain, surrounding these deposits, in any way diseased; there was, however,

softening of the walls of the lateral ventricles, which were distended by serous fluid, having their septum broken down. The lungs contained much scrofulous matter, and the mesenteric glands were enlarged.

The specimen was removed from the body of T. H., aged 19, who, for scrofulous disease of the tarsus, was admitted into the Hospital, July 22nd, 1846, having suffered from pain in the head, sickness and restlessness. The foot was amputated, and after the operation, the headache and sickness increased, the speech and sight became affected, and eventually, coma and delirium came on. These symptoms did not follow the operation immediately. The patient died August 25th. For further details see *Post Mortem and Case Book.* 1846. p. 190.

35. Portion of cerebellum showing a scrofulous tumour in the inferior vermiform process, the surrounding brain substance being unaffected. Softening of the fornix and of the walls of the ventricles existed, and the so-called "exudation corpuscles" were found coating the blood vessels of these parts, and of the cerebral hemispheres.

The specimen was removed from the body of a child, aged 3 years, who had fallen into a cachectic state owing apparently to living in an unhealthy district. He was recovering, by means of change of air, etc., when he returned to the same locality, and shortly after this he became suddenly affected with symptoms of hydrocephalus of which he died.

36. Portions of the cerebral convolutions, with the membranes covering the same, showing scrofulous deposit in the superficial parts of the brain, at a point opposite the left parietal eminence of the skull. The dura mater is thickened and somewhat roughened externally, and at one part firmly united, along with the other membranes, to the surface of the brain, by a yellowish straw-coloured substance existing in the convolutions. The surrounding brain substance, as well as the central white parts of the brain, were much softened, but not at all discoloured. The membranes generally were congested. Much sub-arachnoïdean fluid existed, and there was a certain amount of reddish and rather turbid fluid in the ventricles.

The specimen was removed from the body of Thomas S., aged 27, who was brought into the Hospital April 30th, 1851. He had been, for the space of six months, the subject of epileptic attacks; but during the three months immediately preceding admission, he had been free from them. He was admitted into the Hospital for pains in all his limbs, which were a fortnight's duration, and for an eruption on the skin, like urticaria, which was of two days' duration. The bowels were

confined, the pulse rather rapid, and the tongue furred. Convulsive attacks speedily recurred with vigour and frequency, during which his face was exceedingly dark from congestion. Coma preceded death, which took place May 12th. For further details see *Post Mortem and Case Book*, 1851. p. 100.

37. Specimen showing two scrofulous tumours in the inferior vermiform process of the cerebellum. Scrofulous deposit existed also in the meshes of the pia mater of the cerebellum, and in the arachnoïd membrane covering the right cerebrum; and the central white parts of the brain were softened, and of a slightly pinkish hue. The ventricles, and also the sub-arachnoïdean tissue, contained much limpid fluid. Scrofulous deposits existed in the lungs, intestinal glands, kidneys, spleen, etc.

The preparation was removed from the body of Francis D., aged 36, who was admitted into the Hospital July 23rd, 1851. He had been more or less ill for six weeks, when he was suddenly affected by insensibility, which continued, along with delirium, until he was admitted into the Hospital. At that time he was unconscious, his pupils were dilated and unaffected by light, and he moaned greatly on being touched. No nourishment could be given, and he died July 25th. For further details see *Post Mortem and Case Book*. 1851. p. 158.

38. Specimen showing scrofulous deposit in the substance of the right cerebellar hemisphere. Other deposits also existed in the superficial part of the cerebellum, and in the substance of the right cerebral hemisphere. The brain substance in the neighbourhood was quite healthy. The membranes generally were greatly congested, and much clear fluid existed in the lateral ventricles and sub-arachnoïdean tissue. Scrofulous deposit also existed in the lungs.

The specimen was removed from the body of J. S., aged 15, who was admitted into the Hospital April 1st, 1851, having seven days previously fallen from a horse, and struck his head against the ground. For two days he remained insensible, but after that time regained consciousness, though subject to drowsiness and pain in the head. When admitted, he was very listless, and averse to being disturbed; his face was pale, the pupils were dilated but responsive to light, and the pulse 56 and very labouring. The head was shaven, cold applied to it, and he was purged. He became very talkative and delirious; blood was then taken from the temples, and he was put under the influence of mercury. The pulse rose greatly, but insensibility, varying in degree, and strabismus, came on, and spasm of the muscles of the legs and arms, with fixedness of the jaw.

After an attack of vomiting, he became livid in the face, and died April 11th. For further details, see *Post Mortem and Case Book.* 1851. p. 76.

39. Part of the anterior and upper surface of both hemispheres of the brain, containing scrofulous deposit, with a portion of the membranes attached to it. The deposit which was infiltrated into the grey cerebral matter, was about equal to a walnut in size, the neighbouring brain-substance being much softened as far back as the anterior cornu of the lateral ventricle, on the '*right*' side. The lining surfaces of the ventricles, the fornix, the septum lucidum, and other central white portions, were also much softened. No discoloration existed in any part, nor was there any other deposit in the brain. The vessels of the membranes were highly congested. The other parts of the body were healthy.

The specimen was removed from the body of J. W., aged 25, who was brought into the Hospital January 17th, 1851. She had been suffering for some time from pain in the head and vomiting, and for three days before admission had been delirious and had screamed much. When admitted, the mouth was drawn to the '*right*' side, the pupils were contracted, but the right one unequally so; the pulse 72, firm, but irregular. Purgative injections were given, cold applied to the head, and a blister to the nape of the neck. Shortly afterwards, convulsions come on with dilatation of the pupils, the delirium continuing. Eventually the '*left*' arm became paralysed, and coma preceded death, which occurred January 21. For further details, see *Post Mortem and Case Book*, 1851. p. 13.

40. The base of the brain, showing a scrofulous tumour involving the right optic thalamus and crus cerebri, and appearing at the floor of the third ventricle. The corpora albicantia are completely pushed to the left side by the tumour, and also the optic commissure to a slight extent. There was a considerable amount of fluid in the ventricles and sub-arachnoïdean tissue, and the consistence of the brain generally was diminished; and, owing to the number of injected vessels, was rather of a pink hue. Scrofulous caries of the bones forming the right shoulder-joint existed, and there was scrofulous deposit in the lungs, with adhesions of the pericardium.

The specimen was removed from the body of S. P., aged 22, who was admitted into the Hospital February 25th, 1852, During the year 1851, she had been in the Hospital once or twice on account of an abscess at the upper part of the arm. At one time she was the subject of severe rigors, perspiration, and yellowness of the skin. These symptoms passed away, and subsequently she was affected for some length of time, but after that for shorter periods, by loss of consciousness, and by stra-

bismus, with distortion of the face; involuntary evacuations were passed, the discharge from the above-mentioned abscess going on, and causing great debility. Often times she had most excruciating pain in the head, which, along with some strabismus, would last after the features had regained their condition. After leaving the Hospital, nothing was heard of the patient until February 25th, when she returned with cerebral symptoms more severe, ptosis of the left eye-lid, and loss of power in the muscles of the left side of the face. She lay in a semi-comatose state, but on being roused, answered to the purpose, complaining not of any pain, but of pricking sensations in the arms. She moaned greatly, and the evacuations were passed involuntarily. The pulse was weak, and the bowels costive. Coma became more decided, and death took place March 11th. For further details, see *Post Mortem and Case Book*, 1852, p. 60, and *Path. Soc. Trans.* 1852-3, p. 23. The carious shoulder-joint is shown as preparation No. 92, in Series III.

41. Scrofulous deposit within the medulla oblongata and pons Varolii. It is in the form of two masses of the size of a hazel nut, round in shape, firm and concrete, and of a yellowish-white colour. They occupied—one the central, upper, and right portion of the medulla, about $\frac{1}{8}$th of an inch in thickness only of its anterior surface being left entire; the other, the anterior or lower and right part of the pons Varolii, projecting into the fourth ventricle. Decided softening of the posterior part of the crura cerebri existed, and smaller scrofulous deposits were found in the cerebral hemispheres also, as well as in the lungs and several of the viscera.

The preparation was removed from the body of S. H., who was admitted into the Hospital April 1st, 1853, with head-ache, abdominal pain and diarrhœa, frequent pulse, and a peculiar oscillating motion of both eye-balls, especially of the right one. Numbness and coldness of the left upper extremity existed. The latter symptom had been complained of for about a year, the others for two or three years. Difficulty in moving the head, dysphagia, and indistinct articulation preceded death, which occurred about six weeks after her admission. For details, see *Post Mortem and Case Book*, 1853, p. 113, and *Path. Soc. Trans.* Vol. vi. p. 40; also *Brit. and For. Med. Chir. Review*, No. xlviii. Oct. 1859, p.508.

42. Specimen showing a cyst of about the size of a pigeon's egg, formed by the softening of scrofulous deposit, in the substance of the right portion of the pons Varolii. This cyst whose walls are very thin, was, when recently examined, full of a yellow, glairy fluid, containing a quantity of albuminous material, and was lined by a delicate but firm membrane.

It extended outwards to the extent of about three quarters of an inch; also forwards and backwards so as to indent the right lobe of the cerebellum, and the under surface of the middle lobe of the right cerebral hemisphere, interfering, by pressure, with the fourth, fifth, sixth, and seventh pairs of cranial nerves on the right side. The arachnoïd tissue around the cyst is thickened and opaque, and the lateral cerebral ventricles distended with clear fluid. In other respects the brain, etc., is natural. The specimen was removed from the body of M. P., aged 18, who was admitted into the Hospital, March 16th, 1853, with facial paralysis on the *right* side, and loss of power in the *left* arm and leg, with numbness of the whole of the *left* side of the body as high as the middle of the neck, and also numbness of the skin of the *right* temple and right side of the face. There was convergent strabismus of the right eye, and its pupil was rather contracted. There was also a degree of dysphagia. She attributed her illness to a "cold," which was followed by "double vision." After admission, vomiting came on, and the mouth became more drawn to the left side. After a "fainting fit," she became insensible; lividity of the face and foaming at the mouth came on, and she quickly died. For further details see *Post Mortem and Case Book.* 1853, p. 101; also, *Path. Soc. Trans.* Vol. v. p. 26; also, *Brit. and For. Med. Chir. Review,* Oct. 1859, No. xlviii. p. 505.

43. The right lobe of the cerebellum, containing a growth of carcinomatous substance (encephaloïd variety), projecting into a cyst in its interior. When recent, the tumour was of a very dark colour, and one portion of it was visible on the exterior of the cerebellum. The cyst, which contained about two ounces of yellowish transparent fluid, projected also, so as to be partly seen through the cerebellar membranes, and was divided into two cavities by a thin layer of the cerebellar hemisphere. The cortical part of the cerebrum was more than usually vascular, and the ventricles were distended, and contained about half a pint of clear fluid.

Microscopical Examination. The tumour, when examined many years after its preparation, was found to consist of much granular matter, the *débris*, as it were, of cell structure, and of a great amount of cell growth. The cells were, mostly, of an indistinct character, containing granular matter, rendered clear by the addition of acetic acid, but not exhibiting nuclei. A few round cells, containing yellow granular matter, and of a very large size, were also seen. No other tissue presented a similar deposit.

The specimen was removed from the body of Captain W., who, about one year and a half before death, had served in

the Burmese war, in good health. It was stated, that his mother and sister died with tumours in the brain. *Presented by* CÆSAR HAWKINS, Esq.

44. Portion of the base of the brain, including the hinder part of the anterior lobes, and the structures posterior, as far as the fore part of the pons Varolii, occupied by carcinomatous deposit (encephaloïd form). The growth, which was very soft in character, was intimately connected with the left optic nerve. The right optic nerve was much flattened and displaced by the tumour, down the side of which, and winding round the crus cerebri, it may be traced. Cerebral congestion and slight serous effusion into the lateral ventricles existed.

Microscopical Examination. The growth was found to have the following appearances:—It consisted entirely of cells, no fibres being seen; and the cells were, some of an oval shape, some round, and some triangular. Many of the oval ones had nuclei, and a few had slight elongations from their extremities. Many round ones also had nuclei, and some were very large, with granular or highly refracting clear contents. Moreover, some cells were simple nuclear bodies.

The preparation was removed from the body of Charlotte M., aged 16, who was admitted into the Hospital December 8th, 1841, for "Fungus Hæmatodes" of the left eyeball: this was extirpated, and the patient left the Hospital relieved, but returned April 3rd, 1842, complaining of pain in the head, and loss of vision in the right eye. Vomiting, at first after meals, but subsequently at other times came on, which, along with the pain in the head, increased, until the patient died June 19th, 1842.

The diseased eyeball will be described as a preparation in a future Series.

45. Portion of the "left" cerebral hemisphere, containing two masses of carcinomatous material (encephaloïd and melanotic form), each being of about the size of a bantam's egg, and situated so as to appear on the surface of the organ. One was placed at the anterior extremity, and the other at the posterior and upper part of the hemisphere. The adjacent arachnoïd and dura mater were somewhat thickened and opaque. The surrounding brain-substance was somewhat softened, and the morbid deposit was so circumscribed, that it could easily be enucleated: it will be seen that this has been done in the case of the upper mass of the growth. Masses of carcinomatous material were also found in many other parts of the body, and especially in the lymphatic glands and the heart, etc.

Microscopical Examination. The carcinomatous material from various parts of the body showed, in all cases, much the same histological appearances, the general elements, in addition to

those proper to the organs containing the growth, being oval, elongated, nucleated cells, containing more or less pigment. In some parts, which were of a lighter colour (as may be seen in the specimen), the nucleated cells were found to be unoccupied by colouring matter. Moreover, in places, a reddish colour was produced by the admixture of what proved to be blood corpuscles.

The specimen was removed from the body of George K., aged 35, admitted into the Hospital July 14th, 1856, from whom Mr. PRESCOTT HEWETT had previously removed some glands in the right groin, affected by melanosis. Moreover, Mr. LAWRENCE, some years before, had removed "a tumour" from the hypochondriac region. Since the operation by Mr. HEWETT, several tumours, chiefly of a dark colour, had appeared in many parts of the body (evidently diseased lymphatic glands). On admission into the Hospital, there was diminished power in moving the "right" arm, and complete loss of power over the "right" leg, with diminished sensibility of the skin (to pinching or pricking), but the temperature of the right arm was considerably higher than that of the opposite one. There was also partial facial paralysis on the right side, and occasional "double ptosis" and strabismus. The speech was slow, and answers to questions uncertain. Occasional vomiting existed, and extreme pain in the head. The patient died July 28th, after a severe attack of dyspnœa. For details see *Post Mortem and Case Book.* 1846. p. 17, and *Path. Soc. Trans.*, vol. ix. p. 20.

46. Specimen showing extensive deposit of calcareous matter in the cortical substance of a '*right*' cerebral hemisphere. The central part of the same hemisphere is extensively softened. Calcareous matter was also found in the cortical part of the base of the same hemisphere, and on the surface of the right corpus striatum. There was a slight amount of opaque serum in the sub-arachnoïdean areolar tissue, but otherwise the cranial contents presented nothing remarkable. The lungs were congested, and slightly hepatized, and a considerable amount of fibrinous deposit was attached to the margins of the mitral valve flaps. The spleen had a large mass of soft fibrine extravasated into its substance.

The preparation was removed from the body of H. A., aged 28, who was admitted into the Hospital October 13th, 1847, suffering from pains in the loins, and sickness, and having blood in the urine. Treatment was chiefly addressed to the state of the urine, and a few days after admission the patient was afflicted with rigors and pains in the arms and legs, which, subsequently were mainly restricted to the left side. Suddenly she was seized with total loss of sensation and power

of motion of the '*left*' side, but without anything like a fit. The pupils became dilated and unaffected by light, and semi-coma supervened, the evacuations being passed involuntarily. Under the use of stimulants and abstraction of blood from the temples, sensation and the power of motion in the limbs were partially, and consciousness entirely, recovered. Some days afterwards the patient had three epileptic attacks, attended by complete paralysis of the limbs on the left side, and a fixedness of the eye-balls. She died shortly after the last fit, November 26th, never having complained of any pain in the head during the whole of her illness. It appeared that for about five months before admission the patient had had pains in the loins, vomiting, and anasarca. For further details, see *Post Mortem and Case Book*, 1847. p. 239; also BEALE'S *Archives of Medicine*. Vol. i. p. 187.

47. Specimen showing calcareous deposit in the substance of the brain. This deposit was intimately connected with adhesions and fibrous material uniting the dura mater with the upper and outer part of the left cerebral hemisphere. It had much the appearance of a cicatrix, penetrating the substance of the brain to the depth of about an inch, and on attempting to remove it, much of the brain-substance was torn away, showing great softening of the surrounding brain-tissue. The calvaria was remarkable as being unusually thinned, and had many bony projections on its inner surface, especially along the sutures, and at the summit of the bony ridges between the depressions corresponding to the cerebral convolutions. Much scrofulous deposit in the lungs and caries of several ribs were also found. *Microscopical Examination.*—A large amount of fatty matter was found occupying the brain-cells and capillaries, and the proper nerve tissue around the deposit was extensively occupied by a delicate fibrous material, perhaps an increase of the matrix of the organ. The calcareous deposit itself was found to consist of carbonate and phosphate of lime, and the fibrous tissue in which it was imbedded presented the ordinary characters of fibrous tissue and cholestearine crystals.

The specimen was removed from the body of F. G., aged 30, who was brought into the Hospital September 19th, 1854. He was the subject of epileptic attacks, partial paralysis, a peculiar stammering and other affections of the speech, mental delusion, etc., and died January 23rd, in a convulsive attack. For further details, see *Post Mortem and Case Book*, 1856, p. 148; also BEALE'S *Archives of Medicine*, Vol. 1, p. 81.

48. Specimen showing a growth occupying the right optic thalamus, which is very greatly enlarged. When recent, this body was equal to a small hen's egg in size, and of a lightish yellow colour. Its surface was much softened, and gave to the

touch the idea of fluctuation. On section the whole growth was found to be of the consistence of firm putty, and of a light fawn colour, but without cyst or fluid.

On *Microscopical Examination* it presented vast numbers of very fine delicate fibres containing small oval nuclei, and occasional largish cells, with one, two, or three nuclei of large size within. The right optic thalamus showed under the microscope also much granular matter. The other parts of the brain were natural.

The specimen was removed from the body of M. D., aged 19, who was brought into the Hospital March 14th, 1856, with sickness, head-ache, weak pulse, etc. of only three or four days' standing. The vomiting and pain in the head became aggravated, and drowsiness followed. She varied much, eventually became imbecile, and died comatose April 13th. For further details, see *Post Mortem and Case Book*, 1856, p. 84; and *Path. Soc. Trans.* Vol. vii. p. 12.

49. Specimen showing a large cyst in the left corpus striatum, in connexion with atrophy and partial paralysis of the right arm, and also partial paralysis without atrophy, of the right leg. The margins of the cyst are for the most part gradually bevelled off from the surrounding surfaces, but in places are abrupt and rugged; and the lining membrane of the ventricles, which is thickened, is preserved over the cavity, which is traversed by fibrous processes, and originally contained a clearish pale fluid. Where the outer parts of the striated body are wanting, the white nervous fibres passing outwards and forwards beneath the ganglion, are plainly displayed. In other respects the brain was natural.

On *Microscopical Examination* of the fluid within the cyst, granular albuminous fluid and a few amyloïd bodies were seen, but nothing more.

The preparation was removed from the body of a man aged 62, who was said to have been partially paralysed on his right side ever since he was two years of age. He was to a certain extent of weak mind, and was admitted into the Hospital December 20th, 1855, with retention of urine. He slightly dragged the right leg, and had lost some power of moving the right arm, and all power of moving the right wrist and fingers. The right fore-arm was greatly atrophied, and was generally flexed upon the arm. Spasmodic stricture, with an ammoniacal state of the urine came on, and the patient died January 9th, 1856. For further particulars, see *Post Mortem and Case Book*, 1856, p. 8; and *Path. Soc. Trans.* Vol. vii. p. 8.

50. Specimen showing softening of the 'septum lucidum,' and perforation following.

51. Specimen showing softening of a portion of the right cerebral

hemisphere. The greater part (*i.e.*, the middle and posterior lobes) of the left hemisphere of the brain, and the left optic thalamus, were also much softened. The softened parts were of a dirty white colour, and almost diffluent. The other parts of the brain were natural, except that the convolutions were flattened, owing to the ventricles being distended by clear fluid.

Microscopical Examination showed the presence, in the softened parts, of a large number of 'granular corpuscles.'

The lungs showed one or two patches of so-called 'lobular pneumonia,' much resembling 'secondary deposits.' The heart was weak and flabby. The other organs were natural.

The preparation was removed from the body of a carpenter, who was admitted into the Hospital, Nov. 30, 1859, and who had enjoyed good health until two weeks before admission, when the *right* foot became numb and powerless. The paralysis slowly, as it were, crept up the limb in the course of three days, and then the right shoulder became similarly affected; shortly after, the whole of the right arm was affected by the paralysis. He had no giddiness or pain in the head. On admission, there was complete loss of power and deficient sensibility of the skin of the right arm, which was not in any way rigid. There was no facial paralysis, and the pupils were unaffected. The tongue, however, was protruded somewhat towards the right side. The mind was unaffected, and the articulation natural. On the day after admission, the urine had to be drawn off, and was found to be free from albumen. After a time the evacuations were passed unconsciously, and there was a little slowness of speech. The pulse remained of good strength, and about 80 to 84 per minute. Bed sores came on; the articulation became very indistinct, and, at last, impossible; the pupils widely dilated; the pulse very feeble. He appeared quite sensible to the last, gradually sank, and died Jan. 17, 1860. *Post Mortem and Case Book.* 1860. p. 14.

52. Specimen showing softening of the cortical portion of the left cerebral hemisphere. The part affected was at the base near the fissure of Sylvius. The fornix was also much softened. This was in connexion with obstruction by fibrinous plug of the middle cerebral artery in the fissure of Sylvius, near the 'locus perforatus anticus' on the left side. There was much old thickening in the sub-arachnoïd tissue and adhesion of the arachnoïd and pia mater, and the arteries at the base of the brain generally were atheromatous. In this case the cerebral organs only could be examined.

The preparation was removed from the body of E. S., aged 34, who was admitted into the Hospital, Dec. 21, 1859. In the previous July, he had had a blow over the left eye, since which time it had remained partially closed. Six weeks before ad-

mission, the patient complained of acute pain in the lower part of the dorsal region, and two weeks afterwards he had numbness of the lower limbs, but he followed his work until two days before admission, when he walked very awkwardly, and had a sense of numbness, but no very marked want of sensibility in the legs. There was pain in the lower part of the dorsal region of the spine, and some difficulty in passing and in 'holding' the urine. Under the use of large doses of potass. iod. and tincture of cantharides and bark, he regained power so as to walk much better; but on the 9th of January he was suddenly attacked with giddiness, and on the 12th became delirious. The speech became indistinct, and vomiting followed, the pupils remaining natural. He became violent, and passed the evacuations in bed, and afterwards was quite insensible. Ptosis of the right eye then showed itself, and the left eye, which was closed when he was admitted, became quite open. Before death, which occurred Feb. 12th, the ptosis on the *right* side disappeared. *Post Mortem and Case Book.* 1860. p. 37.

53. Section of the brain showing softening and extensive discoloration of both optic thalami, and, to a slight extent also, of the corpora striata. These parts, when recent, were of a reddish yellow colour. The brain was removed from a woman who died comatose, having previously been subjected to a surgical operation in connexion with some affection of the uterus.

54. Specimen showing softening of the pons Varolii and medulla oblongata with redness and extravasation of blood into their substance. *Microscopical Examination.* Much granular and light-refracting material was found, along with many fat drops, and occasional round nucleated corpuscles like the ordinary white blood corpuscles, as well as many large round and oval granular corpuscles. But little of the ordinary natural elements of the nervous tissue was met with in the softened parts.

The specimen was removed from the same patient as the cellular tumour connected with the dura mater described as No. 87, in the present Series along with the description of which the life symptoms are given. See *Path. Soc. Trans.* Vol. xi. p. 11.

55. Preparation showing softening of the centre of the pons Varolii, the veins of which are dilated to a considerable extent. There was also a large clot of extravasated blood in the right cerebral hemisphere (corpus striatum), and much blood in all the ventricles of the brain. The arteries at the base of the brain were very atheromatous, and the kidneys were extensively diseased.

The specimen was removed from the body of a man, W. R., aged 49 or 50 years, who was a plumber, and had been the subject of colic and 'lead palsy.' He had also (12 years before his final illness,) had 'a fit,' losing consciousness for 24 hours.

He was seen to fall down, and was found insensible immediately before he was brought into the Hospital, when it was noticed that he was affected by repeated attacks of 'tetanic spasm' affecting the whole frame, the arms and legs being with difficulty flexed in the interval. The pupil of the '*right*' eye was dilated, the facial muscles on the '*right*' side were partially paralysed, and a difficulty was found in producing reflex action by tickling the '*right*' foot. For details see *Post Mortem and Case Book.* 1860. p. 149; and *Path. Soc. Trans.* Vol. xii. p. 2.

56. Specimen showing atrophic softening of the pons Varolii in connexion with 'embolism' of one of the cerebellar arterial branches. Much sub-arachnoïd fluid existed, but the brain was not otherwise diseased. Excepting slight atheroma of the aortic valve-flaps, the heart was natural. The kidneys were congested.

The specimen was removed from the body of a man, J. A., aged 50 years, who had had 'a fit,' and subsequently became hemiplegic on the 'left' side. When admitted into the Hospital, he was unable to articulate, but could understand what was said to him. Before death he became comatose. For details see *Post Mortem and Case Book.* 1860. p. 304; also *Path. Soc. Trans.* Vol. xii. p. 4.

57. Part of a cerebral hemisphere, showing a deficiency of several convolutions, the loss being, in the recent state, supplied by areolar tissue, and the brain around the cavity being hardened.

The specimen was removed from a girl, aged 18, who died in St. James' workhouse, after an attack of fever. The girl had been idiotic since her birth, and the arm on the side opposite to the cerebral defect was paralysed. The entire body was weak and imperfectly developed. *Presented by* CÆSAR HAWKINS, ESQ.

58. Section of the right hemisphere of the brain, showing a portion of the surface which, during life, protruded through an opening in the scalp and cranium. It will be seen that there is a cavity in the substance of the brain above the lateral ventricle, into which an incision has been made. This contained much purulent fluid.

The preparation was removed from the body of C. L., aged 32, who was admitted into the Hospital, Feb. 2, 1832. At the time of admission, a pulsating tumour, with a well-marked boundary, soft and elastic but not tender to the touch, was noticed at the upper and posterior part of the right parietal region. It was about six inches in diameter. From the centre of the tumour projected a round fungoïd growth of the size of a small walnut, having more pulsation than the rest of the tumour, the apex of which had the appearance of coagulated blood. At

an almost corresponding point on the left side of the head was a depression of about three inches in diameter, soft, and elastic to the touch. General soreness of the head, with occasional pains, which became severe after taking any stimulants, were complained of; as also pain in the tumour itself during coughing or stooping. The pulsation in the tumour, which was synchronous with the systole of the heart, always became extreme on the patient's assuming the recumbent posture. There was occasional confusion of ideas, and giddiness on mental exertion, but no interference with the general powers of sensation or motion. It seemed that the patient, whose general health had always been good, had, however, had rheumatism and syphilis, and had been out to the East and West Indies. About two and a-half years before the above affections came on, whilst sleeping in the sun, he was affected by acute pain in the head, which continued several days: some time after this he perceived a depression in his scalp capable of admitting the end of the little finger, in the situation afterwards occupied by the tumour. After making its appearance, the tumour increased for the space of six months, often being exceedingly painful. Pulsation in the tumour was detected by a medical man, and it was opened by the lancet, when a small quantity of blood escaped: the wound healed subsequently. The patient returned to work; but the tumour again increased, and was again opened. Excepting occasional head-ache, the patient went on well, the tumour not further increasing, until about eight months before his admission into Hospital, when he was attacked by giddiness and partial unconsciousness, with acute pain in the head. For these symptoms he was bled locally and generally, and the tumour was again opened. After this, the growth before mentioned sprang up through the opening made with the lancet and gradually increased. Six days after this, the patient was brought into the hospital, and a double ligature was applied to the tumour, and shortly afterwards another ligature, yet no hæmorrhage occurred. The tumour sloughed, but nevertheless increased, and cerebral symptoms set in. Drowsiness and paralysis of the left side of the face, left arm, and leg, with numbness came on, and there was general formication of the skin. Subsequently there was dysphagia and paralysis of the sphincters, and the patient died March 20th. For preparations of the cranial bones, see Series II. *Med. Chir. Soc. Trans.* Vol. xxxix. p. 289.

59. Specimen showing hernia of the brain through an opening in the dura mater.

60. Specimen showing extravasation of blood into the sub-arachnoïdean areolar tissue at the base of brain. The entire surface of the

brain, but the base more especially, was more or less covered with extravasated blood; there was also a similar state of the sub-arachnoïdean tissue investing the spinal cord. The vessels of the brain contained much blood, and a sectional surface of the brain presented numerous 'puncta,' the grey matter being very dark, but the brain was not diminished in consistence. The ventricles were filled with a reddish fluid, and their walls were softened. A highly congested state of the lungs and kidneys was found, and also hypertrophy, with dilatation, of the heart.

The preparation was removed from the body of M. S., aged 54, who was admitted into the Hospital in a semi-comatose condition, with pupils somewhat dilated, but acting freely, pallid contenance, and an exceedingly weak and rapid pulse. There was œdema of the lower extremities, and increased impulse of the heart; also loud crepitations throughout the entire lungs. Stimulating injections and diffusible stimulants were given in vain, and the patient died on the day after admission, no fresh symptoms having originated. The history of the patient previous to admission could not be ascertained. *Post Mortem and Case Book.* 1846. p. 238.

61. Portion of the dura mater, showing a layer of extravasated blood on its external surface, and soft yellow fibrine on its inner surface. The venous sinuses contain fibrinous clots somewhat discoloured.

62. Specimen showing extravasation of blood on the outer surface of the dura mater, covering the left cerebral hemisphere. There was rupture of a branch of the middle meningeal artery, and considerable fracture of the calvaria and base of the cranium, but no lesion of the dura mater itself. There was also purulent effusion into the sub-arachnoïdean tissue.

The preparation was removed from the body of Napoleon B., aged 5, who, having fallen down a flight of stairs, was admitted into the Hospital August 3rd, 1849. The patient went on well for some time, singing and amusing himself at times, until the nurse observed what she called a tremor, which was followed by vomiting and febrile symptoms. He became very quiet, lying with his eyes half open, and was afterwards very restless and whining. Unconsciousness, with fixation of the pupils, attended by twitchings of the right arm, supervened, and the patient died comatose August 10th. For further details see *Post Mortem and Case Book.* 1849. p. 159.

63. Portion of the dura mater, showing the presence of extravasated blood on its outer as well as on its inner surface. Laceration of the membrane, to the extent of half an inch, and also of one of the branches of the middle meningeal artery, may be seen. This was in connexion with extensive

fracture of the base of the skull, and extravasation of blood into the upper and posterior part of the left cerebral hemisphere, as well as into the left middle lobe at the base of the brain.

The preparation was removed from the body of George F., aged 35, who was admitted into the Hospital March 5th, 1852, having been thrown from a horse. He was sufficiently sensible to give his name, but could not be made to protrude his tongue. The pulse was laboured, irregular, and 60 in the minute, and the pupils were dilated and insensible to light. The arms and legs became convulsed, and he was bled with relief. Subsequently, he became worse, and very violent when disturbed. The breathing became slow and noisy, the pupils contracted, and vomiting and coma preceded death, which occurred March 7th. Preparation 24. Series I. is from the same patient. For further details see *Post Mortem and Case Book.* 1852. p. 57.

64. Portion of the dura mater covering both cerebral hemispheres, and showing extravasated blood on both sides, but chiefly on the right, attached to its inner or arachnoïd surface. This has become discoloured to a great extent, and begun to assume a membranous form. The dura mater itself, and the superior longitudinal sinus, are natural.

The preparation was removed from the body of a gentleman who for some days laboured under symptoms of compression of the brain.

65. Portion of the dura mater removed from the left cerebral hemisphere, and lined by coagulated blood, which, as may be seen at the upper part of the preparation, where it has been removed, had begun to assume a membranous character. On the arachnoïd surface, from which it has been detached, numerous minute newly-formed vessels, producing, in various parts, a beautiful network, were originally seen. The blood had been extravasated in connexion with laceration of the surface of the left cerebral hemisphere, attended by extensive fracture of the skull.

The preparation was removed from the body of Elizabeth B., aged 60, who, on the day previous, having fallen down from a height of eight feet, was brought into the Hospital January 2nd, 1845. Immediately after the accident, the patient was taken up in a state of unconsciousness, with bleeding from the nose and mouth. When brought to the Hospital she was quite unconscious, with pupils dilated, but answering to light, and with great restlessness. The evacuations became involuntary, and subsequently convulsions of the right side of the body, which afterwards was quite paralysed, came on, and the patient died January 25th. For further details see *Post Mortem and Case Book.* 1845. p. 30.

66. Specimen showing laceration of the dura mater, corresponding to fracture, with depression, of a part of the left parietal bone. It may be seen, that a portion of depressed bone has been removed, but that some fragments are still depressed: and the dura mater at this part, owing to its exposure in consequence of trephining, may be seen to be covered with recent fibrine, as well as lacerated. The arachnoïd surface of the membrane also is covered with similar recent fibrine. At the time of the *post mortem* examination, a very sloughy state of the external parts around the wound existed, and on removing the calvaria along with the dura mater, about four ounces of fœtid pus escaped. This had covered a great part of the upper and lateral portion of the left cerebral hemisphere, but had not extended to the base; and stopped short of the falx. Corresponding to the rent in the membrane was a cavity in the cerebrum with soft shreddy parietes, the surrounding brain-tissue being dark and blood tinged, but not softened.

The preparation was removed from the body of James P., aged 40, who, having fallen from a height of eight feet, and struck his head against a brick, was brought into the Hospital August 16th, 1851. A portion of the brick had remained in the wound, and was forced within the cranium. After trephining had been resorted to, and a piece of bone elevated, a rent in the dura mater, having portions of lacerated brain around it, was seen. The patient went on well for four days, and he was then removed into another ward, to avoid the noise. Shortly after this, he was found to have lost his speech, but he retained his mental powers, the wound looking healthy all the time. The pulse was 70 in the minute, and jerky, and he was greatly inclined to sleep. He was bled, and placed under the action of mercury. On the least exertion, as when he was touched or spoken to, convulsions came on, the muscles of the lower jaw being specially affected, and the face being slightly drawn to the left side. The convulsions continued, but became milder for a time, and afterwards increased in frequency and violence. The patient died comatose August 24th. For further details see *Post Mortem and Case Book.* 1851. p. 175.

67. Portion of the dura mater, showing laceration and subsequent sloughing from depressed bone. One aperture in the membrane may be seen still to contain a spiculum of bone, and an incision through it which was made during life for the exit of purulent fluid, is visible. Moreover, in the neighbourhood of the injury, the remains of purulent matter and effused fibrine exist on both sides of the membrane. The wound corresponded to a comminuted fracture of the

frontal bone, produced by the recoil of a pistol barrel, and, when recent, several pieces of bone were found adherent to the membrane. Besides extensive accumulation of pus in the left arachnoïd cavity, there was much pus in the sub-arachnoïdean tissue on the left as well as on the right side, at the base, and there was great bruising of the anterior part of the left cerebral hemisphere, near the surface, with blood extravasated deeper in the substance. Slight bruising also of the surface of the right cerebral hemisphere existed.

The preparation was removed from the body of Frederick H., aged 14, who was admitted into the Hospital July 13th, 1846. He was brought in shortly after the accident, perfectly sensible, with a good pulse, and with a piece of the skin of the forehead torn up, displaying an extensively comminuted fracture of the frontal bone, and a rent in the dura mater. This membrane was also partially detached from the inner surface of the calvaria, and had several loose portions of bone indented into it, which were all removed, except the one seen in the preparation. Water dressing was applied, and the patient went on well, suffering only from slight drowsiness, the pulsation of the brain, owing to the removal of bone, being visible. The pulse rose, but was kept down by aperients and venæsection, and on the second day after admission slight head-ache was felt. On the fourth day the wound had a fœtid odour, and the dura mater appeared as if about to slough. A little later, intense headache came on, and his drowsiness became much greater, and subsequently the evacuations were passed involuntarily. Calomel was given at intervals, and as febrile symptoms became more urgent venæsection was resorted to. Insensibility increased, and rigors came on; the denuded dura mater was laid open, and much purulent fluid escaped. The brain soon protruded, and gradually sloughed away. Slight dysphagia was observed July 22nd, and on the 23rd convulsive action of the right side of the face, with paralysis of the left side of the face and body, and some œdema and redness of the left eyelid and circumference of the orbit came on. After a while, the whole body was affected by convulsive action, but specially the paralysed side, and there was œdema and redness of the whole of the upper part of the face. The patient died July 25th. For further details see *Post Mortem and Case Book.* 1846. p. 168.

68. Portion of a calvaria, with corresponding dura mater, showing the presence of concrete purulent fluid and effused fibrine between them. One of the veins in the membrane leading into the superior longitudinal sinus contains similar material, and the arachnoïd surface of the membrane presents a slight amount of the same. The bone is partly deprived of its periosteum.

69. Portion of dura mater, which covered the posterior and upper parts of the right cerebral hemisphere, showing the remains of concrete pus and effused fibrine, which were found on its outer surface. This corresponded with compound fracture of the skull and depression of bone. The dura mater was itself healthy, as were also the brain and other parts of the body, excepting the right hip joint, in which much purulent fluid was found.

The preparation was removed from the body of William H., aged 12, who was admitted into the Hospital March 11th, 1842. Portions of depressed bone were removed, and the wound subsequently sloughed to a great extent. The patient died of pyæmia fourteen days after the accident. The injured bone exists as Preparation No. 69, Series I. For further details see *Post Mortem and Case Book.* 1841-2. p. 254.

70. Portion of the upper and middle part of a left cerebral hemisphere, showing extensive indentation of the convolutions by accumulations of purulent matter within the arachnoïd cavity. In addition, also, to these indentations, extensive deposit of fibrinous and purulent material exists beneath the arachnoïd membrane covering the convolutions. The collection of pus was limited to a space rather larger than a crown-piece, by fibrine effused in all directions excepting towards the longitudinal fissure, and in this the pus had extensively accumulated, indenting also the convolutions there.

The specimen was removed from the body of T. M., aged 35, who was admitted into the Hospital, March 23rd, 1855, with scalp wounds and injury to the cranium owing to a kick. The patient died of pyæmia and lobular pneumonia, March 30th. Purulent matter was found in the lateral sinus and in the veins of the diploë of the injured part of the bone, and also ulceration, with perforation of the dura mater, corresponding to the accumulations of pus beneath it as above described. For details, see *Post Mortem and Case Book.* 1855. p. 100.

71. Portion of dura mater covering the left cerebral hemisphere, and showing a quantity of recent but firm fibrine, along with purulent fluid upon its arachnoïd surface. The superior longitudinal sinus also contains firm, dark coloured and somewhat adherent coagulum. Much purulent fluid was found, between the dura mater and bone, as well as between the periosteum and the bones of the orbital fossa. The visceral arachnoïd was greatly thickened, and much pus and recent soft fibrine existed in the subjacent areolar tissue. The above description applies merely to the left side of the head. On the right side there was a slight amount of turbid fluid in the sub-arachnoïd tissue, but nothing more. The entire brain

was slightly softened, and contained many bloody puncta. Pleurisy and secondary lobular pneumonia were found to have existed.

The specimen was removed from the body of Robert W., aged 37, who was admitted into the Hospital, September 14th, 1850. He was a great drunkard, and the subject of delirium tremens. Whilst in a brawl, he had received a scalp wound on the anterior and upper part of the head, and had come to the Hospital as an out-patient. There was plentiful bleeding from the wound; but the bone was not exposed. The wound was strapped, and the patient did not make his re-appearance as desired, for three or four days. He then presented himself as an in-patient, with the wound in a sloughy condition, and was very restless, having slept but little. Under the influence of opium and tonics, with generous diet, the wound and the general health of the patient improved. On the 29th September, pain in the head and chest came on, and for this he was purged, but without relief. Symptoms of compression set in, October 3rd, and he became, for the most part, unconscious, but still capable of being roused. The sphincters became paralysed, and the tongue was protruded to the right side; but the facial muscles were not affected. On the 5th, the operation of trephining was resorted to, and on reaching the diploë, the veins thereof were found to be full of pus. On the circle of bone being completely removed, a large amount of pus issued from between the bone and dura mater. The patient was however not relieved, and died October 6th. For further details, see *Post Mortem and Case Book.* 1851. p.199 (*a*).

72. Specimen showing the presence of recently formed fibrine among the sub-arachnoïdean tissues. The arachnoïd membrane is also very opaque, and somewhat thickened.

73. Portion of the visceral arachnoïd and pia mater subjacent, showing their opacity and thickening, owing to the presence of recently effused fibrine between them ; several of the veins of the membranes are full of blood.

74. Section of a portion of the right cerebral hemisphere with the corresponding portion of dura mater and arachnoïd, showing a membrane in the arachnoïd cavity formed by extravasated blood. The parietal arachnoïd is lined by a thin layer of a rusty coloured substance of about the thickness of cartridge paper, which was rather firmly adherent to the membrane. This false membrane, which existed on both sides of the falx cerebri, presented a distinctly fibrous structure, something similar to the wavy fibres of white fibrous tissue, but was not found out to be vascular. At a point corresponding to the upper and front part of the anterior cerebral lobe, it was also rather closely adherent to the visceral layer of the arachnoïd. Extravasated

blood, of a dark colour, was found in the arachnoïd cavity on both sides of the brain, and also within the meshes of the pia mater covering the outer part of the right cerebral hemisphere, and a small quantity of semi-purulent fluid existed in the sub-arachnoïdean spaces at the base of the brain. The dura mater was very vascular, and the substance of the brain dripping with serum.

The preparation was removed from the body of John H., aged 41, who was admitted into the Hospital, June 22nd, 1849, in a state of insensibility, which was unaccompanied either by paralysis or coma, and having great numbers of petechiæ on his body. Previous to admission, the patient had had an epileptic seizure, in which he lost his consciousness, and he had been under treatment for cough and hæmoptysis. After admission, coma, with stertor came on, and cupping on the temples was resorted to. The patient died on the day after admission. For further details see *Post Mortem and Case Book.* 1849. p. 125; also, BEALE'S *Archives of Medicine.* vol. i. p. 281.

75. Specimen showing false membrane attached to the inner surface of the dura mater on both sides of the falx cerebri, and produced by decolourized fibrine. The membrane originally was, for the most part, three lines in thickness, and completely covered the cerebral surface of the dura mater excepting only at a short space around the optic nerves. Between the false membrane and the visceral layer of the arachnoïd, about half a pint of serum was contained, and between the latter, which was slightly firmer and thicker than usual, and the pia mater, some fluid also existed. On the left side, the membrane was separable into layers. The outer layer, that nearest to the dura mater, which had a natural character, is very thin, and almost translucent, and the innermost one is of a similar character, but rusty brown in colour at the upper part, where also it is thicker, and presents rather a rough surface. The middle one is very thick like parchment, and also of a rusty brown colour. Both the latter have small round opaque elevations on them, indicating, probably, the passage of vessels through them, around which fibrine had accumulated. On either side of the falx may be seen, also, a thick pedicle cut abruptly across, and of the same character as the thick membrane, presenting two or three openings, through one of which a bristle is passed, finding its way into the superior longitudinal sinus. These pedicles, doubtless, consist of veins clustered and matted together by fibrine, and the veins, as well as the sinus, contained some loose fibrine clot. The pia mater was very vascular generally. The cerebrum was harder, and its convolutions wider than natural,

and the medullary portion was of a yellowish tint. Posterior to the lateral ventricles, the substance of the brain was softened. The cerebellum was indurated; but the dura mater covering it was natural.

The preparation was removed from the body of George M., aged 2¼. Until ten months old, the child was in good health; at that time, slight fever, as of dentition, set in, which increased, and he became affected by fits, which recurred during the remainder of his life. Five months after the attack commenced, the child became unconscious, and insensible to the calls of nature, excepting to hunger, for he took food very freely when placed in his mouth. He could move his limbs, but not stand. For some time before death the pupils were dilated, and insensible to light. There was strabismus, the eyes rolling in every direction, particularly from above inwards; there were frequent convulsions; and the breathing was natural. For ten days before death there were frequent twitchings of the left leg. *Presented by* CÆSAR HAWKINS, Esq. See BEALE'S *Archives of Medicine*, No. vi. p. 90.

76. Specimen of almost decolourised fibrine, forming a thick layer of false membrane, attached to the inner surface of the dura mater on both sides of the falx cerebri.

It was removed from a man of whom nothing more is known than that he suffered from symptoms of compression of the brain. *Presented by* Sir B. BRODIE.

77. Specimen of a 'false membrane,' lining the smooth surface of the dura mater, covering the right cerebral hemisphere, most probably the result of extravasation of blood from an injury. It was quite smooth and glossy on its inner surface, and firmly adherent to the dura mater. It could be split into two or three laminæ, and here and there dark red patches of coagulated blood exist between its subdivisions.

Microscopical Examination.—The membrane was found not to be covered by any epithelium, and to consist of numbers of delicate fibres interwoven and mixed with a homogeneous substance, in which many nuclear bodies, but no distinct blood vessels, were seen. The patches of coagulated blood showed, under the microscope, numbers of old blood cells, many of them greatly shrivelled but very distinct, with a small amount of fibrillated matter mixed with them. The visceral arachnoïd was quite natural. The small blood vessels between the surfaces of the convolutions were, in places, highly diseased, and quite brittle and hard.

The specimen was removed from the body of John G., aged 37, who was brought into the Hospital, October 11th, 1854, with headache, epistaxis, indistinct vision and epileptic attacks, the urine being highly albuminous. He was intemperate, and

about nine months previously he had had a blow on the right side of the head from a fall, since which time he had been subject to frequent head-aches. The death of the patient seemed to be the result of poisoned blood, in connexion with disease of the kidneys. For details, see *Post Mortem and Case Book.* 1854, p. 321, and also *Path. Soc. Trans.* vol. vi. p. 5.

78. Portion of the dura mater showing a double layer of thin false membrane on its inner surface, which originally formed a cyst containing coagulated blood. The membrane has been divided in two or three places so as to exhibit clearly a large portion of the clot, which is mostly, but not entirely, discoloured. The false membrane at the upper part may be seen to be reddened by the presence of red puncta, obviously owing to small blood accumulations beneath it.

Microscopical Examination.—Several years after maceration in spirit, the following appearances were observed: The thin lamina was entirely composed of delicate fibrous structure, the fibres being for the most part very wavy, and containing among them, though in few numbers, smallish oval and rounded cells;—*no blood-vessels were observed in it.* The clot presented the ordinary appearance of old coagulated blood. In one or two places the opposite walls of the membranous bag are firmly adherent by means of dense fibrous tissue, and in other places the adhesion having been broken through, remnants of the intervening tissue are seen pendant from the surface.

79. Section of the right half of the dura mater, from the upper surface of the cranium, showing the formation of a large cyst, owing to blood extravasated within the arachnoïd cavity, which contained bloody fluid and coagulum. The inner surface of the dura mater, was lined for nearly the entire length of the cerebral hemisphere by the cyst, which was connected by short adhesions, and that very intimately, to the membrane. The cyst had about four ounces of contents, the coagula being of various colours, portions being very dark, some of a rusty, and others of a yellow-ochery colour. The inner surface of the cyst is quite smooth, excepting at a few points where some fibrinous coagula are adhering to it, and the margins of the membrane which extends far beyond the cavity of the cyst, presented, at their union with the so-called parietal arachnoïd, a network of vessels most beautifully injected, proceeding in countless numbers towards the cyst. The corresponding visceral arachnoïd was healthy throughout, and unconnected with the cyst. The brain presented a deep cup-like surface, corresponding to the cyst, and was, along with its investing membranes, of a deep yellow colour. In the

preparation the cavity of the cyst has been entirely laid open, to show its interior, and at the upper part the false membrane has been slightly detached to show that the whole of it might be removed from the dura mater.

The specimen was removed from the body of Edward W., aged 51, who was admitted into the Hospital March 16th, 1844, in a state of partial insensibility, with low muttering delirium. Both the inferior extremities were to a certain degree paralysed, the right one more so than the left; and the right superior extremity was similarly affected, the hand also being blue and swollen. The pulse was remarkably slow and weak, the tongue white, and the bowels open. There was no distension of the bladder. It was stated by the daughter of the patient, that he had been complaining for two years of pain in the head, and for a short time had been subject to great anxiety. About six days before his admission to the Hospital (at which time he was pursuing his occupation as a carrier), he was taken ill whilst on his way from Cromer. After being in the Hospital for a few days, he rallied so far as to be able to answer all questions put to him, but his intellectual faculties still remained weak and his memory defective. He also regained some power over his legs, which he was able to draw up in bed. His symptoms fluctuated much, and difficulty of speech and paralysis of the bladder came on. Towards the latter part of his life, the symptoms assumed a typhoïd character, and so remained until his death, which occurred a month after his admission into the Hospital. On the day before he died, he rallied so as to be able to recognize his daughter. For further details, see *Post Mortem and Case Book*, 1844, and *Med. Chir. Trans.* v. 28, p. 61.

80. Section of the dura mater from the left cerebral hemisphere of the same patient as the preceding preparation, and showing a similar formation. The cyst is much smaller, but its walls are much thicker, than the one described above. It has been partially detached from the dura mater which it lined, and has a piece of whale-bone passed behind it to show that it might be altogether removed. For the history, see the details of the former preparation.

81. Cyst removed from the arachnoïd cavity, which originated in the effusion of blood consequent upon an injury received many years before death. On removing the dura mater, the cyst fell from the surface of the parietal arachnoïd membrane, covering the upper part of the right cerebral hemisphere, which it had somewhat indented. It is about six inches long and three inches broad at its greatest width. It bears no appearances of having been attached to the brain or its membranes. Its walls are dense and fibrous, and the contents (about $1\frac{1}{2}$ oz.)

were a grumous semi-fluid material, of a reddish-yellow colour, containing several small fibrinous clots. The *microscope* traced only the altered remains of a blood-clot within the fluid. For details, see *Path. Soc. Trans.*, vol. vi., p. 8.

The specimen was removed from the body of a man, aged 58, who died eventually of rupture of the left ventricle of the heart, but who had been subject for some years to fits, following an injury to the head, by which he was rendered insensible.

82. A specimen of meningocele, or watery tumour of the membranes of the brain. It is said in the original description, that the tumour communicated with the cerebellum, but as the brain has not been preserved, nothing further appears than that the cyst communicated with the arachnoïd cavity. The hole by which this communication has taken place is of about the diameter of half an inch. It is situated in the expanded portion of the occipital bone, considerably below its centre, and is separated from the foramen magnum, through which the incision has been made in removing the parts, by a bridge of membrane ; so that, if the bones were denuded of soft parts the occipital bone would be seen to present a large cleft, widening below into the foramen magnum. The falx cerebri bifurcates at the upper angle of the lambdoïdal suture, and in each of its branches, which appear to run into the jugular foramen on each side, a large sinus is to be seen. There is no trace of a falx cerebelli. The cyst, which is of large size, is very thin, but appears to have been perfect, as no trace of a rent is to be seen. The interior shows a smooth shining surface, continuous through the opening with the parietal arachnoïd.— *Presented by* T. A. STONE, Esq.

83. Portion of dura mater which covered the right lobe of the cerebellum, having two scrofulous tumours, attached to its under surface. These tumours are rounded and somewhat lobulated, but on the whole tolerably smooth. Floating from their surface, are portions of thin membranous substance, which are most probably remnants of the arachnoïd membrane.

Microscopical Examination.—Some time after their maceration in spirit, these bodies were found to present the following appearances : They contained numbers of small cells, chiefly round or oval, having within them granular matter, but no nuclei ; also occasional club-shaped and one or two large fusiform cells with granular contents, and these were interspersed amidst granular amorphous matter. The whole was rendered very faint by the application of acetic acid. No fibres were discovered in the structure. Three other and similar tumours were found within the cranium, two of which

were embedded in the brain substance itself. Of these, one was in the substance of the posterior cerebral lobe on the left side, another in the right cerebellar lobe, and another in the right middle lobe of the cerebrum. There were also found vascularity of the dura mater generally, flattening of the cerebral convolutions, increased serous effusion within the ventricles, and a thinning of the cranial bones; and also scrofulous deposits on the peritoneal and pleural serous membranes, and within the uterus and ovaries.

The preparation was removed from the body of Mary B., aged 21, who was admitted into the Hospital April 11th, 1831. Two years before admission, she had suffered severe pain on the right side of the head, and had also permanently lost the power of vision in the right eye. When admitted, she was complaining of head-ache and vertigo, with costiveness, and fixed pain in the abdomen, increased by pressure. The pupil of the left eye was contracted. About a month after her admission, the pain in the head became more intense, and vomiting after meals came on. An attack of an epileptic character supervened, followed by delirium, and was succeeded by another, which left the pupils dilated. The patient died soon afterwards, May 27th. For further details, see the *Old Museum Case Book*, p. 21.

84. Specimen showing carcinomatous tumours (the encephaloïd form). in connection with the inner surface of the dura mater at the right boundary of the great occipital foramen. There is also a small growth of a like nature connected with the dura mater at the opposite side of this foramen, but less firm in consistence, and having a lobulated surface. These tumours were very vascular, and covered by the parietal layer of the arachnoïd membrane. The medulla oblongata and the upper part of the spinal cord were considerably pushed over to the left side by the larger tumour, and were contained in a triangular space formed by the tumour, and the margins of the occipital foramen. Moreover, the under surface of the cerebellum was greatly indented by the growth, but no structural change was occasioned therein. On the right side, the seventh and eighth pairs of nerves were pushed upwards by the large tumour, so that they wound round, but were not adherent to it. In addition to these tumours were two other vascular encephaloïd ones connected with the dura mater, one being attached to the right surface of the falx cerebri, indenting the opposite corresponding surface of the anterior lobe of the brain; and another situated on the olivary process of the sphenoïd bone, raising, in some degree, the optic commissure. The brain was firm and dry in character, the superficial convolutions were

flattened, and the ventricles contained much clear fluid. The upper part of the spinal cord was softened and diffluent. No other parts of the body contained growths like the above.

The specimen was removed from the body of Jane B., aged 49, who was brought into the Hospital, December 19th, 1849. It appeared that when first taken ill, she had an attack of coma, which lasted for some hours, and left her paralysed on the left side. After a time, the limbs on the left side were, to a great extent, restored as to powers of motion, etc., and then the limbs on the right side failed her. When admitted, the patient complained of the following symptoms. There was numbness of all the extremities, with tingling, but sensation still existed to a certain extent. The muscles of the legs and arms could all be moved, though imperfectly and slowly, as if something hindered their responding to the will; and this was also the case with regard to the muscles of speech; but still articulation was distinct. At first, there was suspicion of hysteria; but loss of power increased until the woman was quite unable to feed herself, and incontinence of the evacuations came on. After suffering great pain in the abdomen, and great distress from the sensations of faintness and sinking, the patient died, June 8th, 1850. For further details see *Post Mortem and Case Book.* 1850, p. 10; also the *British and Foreign Med. Chir. Review.* for October, 1859, p. 503.

85. Specimen showing growths of a fungoïd (the encepheloïd form) carcinomatous character, in connection with the dura mater investing the posterior portions of the cerebral hemispheres. The external surface of the dura mater covering the right hemisphere presents the largest amount of carcinomatous mass, which, from its having been torn away from the bone, presents a rough shreddy surface. On the left side, the dura mater is similarly affected, but to a very slight extent. On the right side, also, the cerebral surface of the dura mater presents several rounded and flattened growths of a similar carcinomatous structure, but quite smooth and unbroken; and correspondently, the surface of the brain is considerably indented by the growths. The larger growth was most intimately connected, through the occipito-parietal suture, with a mass of broken down fungus, mixed with purulent fluid, under the scalp, (See Preparation No. 228 in Series II.,) and during life, was supposed to be a sebaceous tumour. The small growth connected with the dura mater on the left side, was only very slightly adherent to the bone, and easily separable. The brain was itself quite healthy, but other parts of the body, as the kidney, pancreas (see Preparation in a subsequent Series,) and

visceral pleura, were affected by a like deposit; and the preparation 4, Series viii., shows a large mass of fungoïd substance in connection both with the anterior and posterior surfaces of the sacrum, so pressing on the sacral plexus as to produce paralysis of the left leg, and interfering mechanically with the bladder.

The specimen was removed from the body of Anne B., aged 30, who was admitted into the Hospital, January 3rd, 1852, suffering from general debility, along with pain in the left leg and abdomen, which had been gradually increasing for 1½ years. The urine, which had to be drawn away by the catheter, was highly alkaline and fœtid; and on vaginal examination, a tumour was discovered posterior to that passage; but its character was not clearly made out. Subsequently a tumour at the right side of the head was shown by the patient, which, she said, had gradually increased for some time, but had never given any inconvenience. The patient became weaker, and her countenance assumed a very contracted appearance. She died apparently from asthenia, without manifesting any cerebral symptoms. For further details see *Post Mortem and Case Book.* 1852, p. 13; also, *Path. Soc. Trans.* 1851-2, p. 226.

86. Specimen showing a large mass of dark coloured carcinomatous growth connected with the dura mater, and indenting the brain's surface considerably, although the cerebral convolutions did not appear to be altered structurally. The mass is of about the circumference of a shilling, and about a quarter of an inch in thickness.

Microscopical Examination.—The juice which could be expressed, contained vast numbers of rounded oval cells, having within them one or two nuclei and granular matter. These were, generally, about twice the size of pus globules. Very rarely they were fusiform, or elongated, or caudate. The dark colour was seen to be owing to pigmentary matter, which existed in many of the cells. The tougher parts of the morbid growth contained much fibrous stroma, but no particular relation existed between it and the cells. Besides the deposit connected with the dura mater, smaller but similar ones existed in connection with the lining of the right lateral ventricle (the lower part of the septum) and some of the cranial nerves (as described in another part of this Series), also in the heart, the lymphatic glands, and other parts.

The specimen was removed from the body of James H., aged 27, who was admitted into the Hospital, February 20th, 1856, with apparently malignant tumours beneath the skin, over various parts of the body, and with much protrusion of the eyeballs. Epileptic attacks, and also slight obscurity

of the perceptive powers came on, and the patient died, apparently from exhaustion, retaining his consciousness until his death, May 3rd. For details see *Post Mortem and Case Book.* 1856, p. 100; also *Path. Soc. Trans.* vol. ii. p. 5.

87. Specimen showing carcinomatous material connected with the cerebral dura mater corresponding to the outer and back part of the left cerebral hemisphere. The membrane is lined to a certain extent by a thick tough piece of fibrous structure, and at this spot a rounded, firm, whitish-red mass of the size of a pigeon's egg is attached to the membrane, and projects into the brain structure. The neighbouring part of the brain is softened; as were also the septum and inner surface of the ventricles. This was also the case with the medulla oblongata and pons Varolii, in which, moreover, blood was ecchymosed. (See No. 54 in the present Series.)

Microscopical Examination.—The substance of the tumour was found to contain a great number of small nucleated cells, with here and there larger irregularly-shaped cells, along with much granular and amorphous and fatty material.

The specimen was removed from the body of a woman, aged 48, who had been the subject of epilepsy and insanity for about two years. She was admitted into the Somerset Lunatic Asylum, suffering from drowsiness, but without any interference with sensibility or powers of motion. Two apoplectic attacks, followed by giddiness, came on, and coma set in, which preceded death.

The specimen was sent to Dr. OGLE by Dr. BOYD, of the Asylum above mentioned, to be exhibited to the Pathological Society (see Vol. xi. p. 11 of the Transactions of the Society), and by him procured for this Museum.

88. Large fibrous tumour, which was attached by means of a pedicle, to the under surface of the tentorium cerebelli, causing, by its pressure, a certain amount of softening of the right cerebellar lobe. The cerebral membranes were found thickened, and there was considerable serous effusion within the ventricles and beneath the investing arachnoïd membrane. No other part of the body presented morbid appearances.

The preparation was removed from the body of Anne J., aged 66, who was admitted into the Hospital October 28th, 1840. On admission, the patient was complaining of giddiness and pain in the head, which was generally intensified after eating, although the appetite remained good. These symptoms increased, and in December shivering, followed by great heat of the body, set in. Leeches were applied to the temples, but on the day following, erysipelatous inflammation attacked the leech-bites, and spread over the head, neck, and back. Of this attack the patient died, December 14th, 1840.

Microscopical Examination.—After long maceration in spirit, the tumour was found to consist almost entirely of distinct fibrous tissue, the fibres being rendered very faint by the addition of acetic acid, and in some cases almost invisible. Mixed with the fibres were numbers of elongated fusiform cells, showing, in some cases, delicate nuclei.

9. Portion of the dura mater covering the posterior part of the right cerebral hemisphere, showing the growth of a fibrous structure from its outer surface. In the centre of the growth a small part of the dura mater is seen to be unoccupied by it, and the inner surface of the membrane at a corresponding part is depressed, and somewhat wrinkled. The dura mater generally is quite natural. This growth was intimately connected with the calvarium covering it, and has one or two small particles of bone imbedded in its surface, which, doubtless, were detached from the calvarium during its removal. Moreover, through an ulcerated perforation in the bone, of large size, the growth was continuous with a tumour beneath the scalp, in which cysts of considerable dimensions were found. This tumour under the scalp, and the bone, are described in the Series devoted to Diseases of the Bones.

Microscopical Examination.—Many years after maceration in spirit, the growth was found to present chiefly small cells, elongated and fusiform, and club-shaped and oval, most of them containing nuclei, very clear, and brightly refracting the light. Many cells were passing into fibres, and many were arranged side by side in a regular order, the thicker extremity of one being in close connexion with the finer one of the other. There were also seen several round and oval cells, very large in size, and containing granular matter and a nucleus.

The preparation was removed from the body of Anne C., aged 55, who was admitted into the Hospital for a tumour of the thyroïd body, under the care of Mr. Rose.* A tumour, equal in size to half an orange, was also noticed, opposite the posterior part of the right parietal bone: this fluctuated considerably, though not exactly as if its contents were entirely fluid, and about three weeks previously, had been punctured. When the patient was admitted, a probe was passed into the tumour through the punctured opening, and a quantity of serum and blood escaped. On the day following, rigors and nausea set in, followed by head-ache and confusion of thought. A bloody discharge took place from the tumour, which became painful and surrounded by great œdema and redness, and there was great restlessness. The pulse became small and weak, and difficulty in swallowing ensued. The patient passed into a semi-comatose state, and

* The tumour in the neck will be found catalogued in a subsequent ries.

so died on the third day after admission into the Hospital. *Presented by* Sir B. C. BRODIE.

90. Specimen consisting of part of the right cerebral hemisphere, having a piece of the dura mater attached by means of an intervening growth of the size of a walnut, which considerably indents the cerebral convolutions. The growth is of a reddish-brown colour, and firm and close in texture, having a kind of seam or cicatrix-like part in its centre, firmer than the surrounding parts of the tumour. The under surface of the growth was smooth when separated from the brain, and covered by fine blood-vessels. The brain was otherwise healthy.

Microscopical Examination.—This showed the tumour to consist of a large quantity of fibrous tissue, in which great numbers of cell-forms and blood-vessels existed. The cells were of various sizes and shapes, being, however, mostly large, and of a round and oval form. Several small ones contained semi-opaque material, with highly refracting bodies, like nucleoli; others again contained one or two large nuclei with granular contents. The larger ones, for the most part nucleated, were collected into groups of two or three, and surrounded by laminated epithelium-like cells forming a capsule, or by oat-shaped cells. Moreover, cells of irregular shape, with nuclei, were here and there found.

The specimen was removed from the body of E. M., aged 70, who died in the Hospital March 6th, 1855, of pneumonia and diseased heart and kidneys. No cerebral symptoms existed. For details, see *Post Mortem and Case Book*, 1855, p. 22; also *Path. Soc. Trans.* vol. viii. p. 13.

91. Fibro-cellular tumour, of the size of a small orange, originally connected with the cerebral dura mater. The growth is of a rounded form, with an irregular surface, and when in sitû, was almost entirely embedded in the brain-substance, which, in the neighbourhood, was much softened. On section it had a reddish appearance, and was very vascular, being in certain parts firmer and paler than in others.

Microscopical Examination.—The growth was composed of fibrous tissue in various stages of development, of occasional granular and fatty particles, with an abundance of cells of various sizes and forms, some being small and rounded, or oval, with elongated single nuclei, others very large containing numbers of nuclei: others again had a peculiar appearance, one part of their circumference being much thicker than other parts, and containing a nucleus, giving the appearance as if they were originally formed of elongated, curled, or semi-annular cellules, whose arcs had been filled up by blastematous material.

The specimen was removed from the body of a gentleman

who had suffered from a fall, which rendered him insensible for a few minutes, but on recovery he did not complain of pain. Two years afterwards his tongue was noticed as being protruded to the left, and he suffered from constipation. Under treatment, the tongue lost this direction when protruded, and for two years longer he remained well. Head-ache then became frequent, of a 'bumping kind,' and chiefly coming on at night. Drowsiness, irritability of temper, and difficulty in expressing thought, supervened. The memory failed, occasional squinting with both eyes, and great muscular debility came on, and one day he fell in the garden, but did not appear to have had a fit. Vomiting and coma preceded death. For details, see *Path. Soc. Trans.*, vol. vii. p. 21.

92. Specimen showing a bone-like deposit attached to the dura mater of a sheep. *Presented by* CÆSAR HAWKINS, Esq.

93. Specimen showing a bone-like deposit in the structure of the lower part of the falx cerebri.

The preparation was removed from the body of an adult who died in the Hospital. No symptoms were known to have existed during life in connexion with the deposit. *Presented by* CÆSAR HAWKINS, Esq.

94. Specimen showing the deposition of calcareous matter in the substance of the dura mater.

95. Specimen showing calcareous deposits in the substance of the falx cerebri.

96. Specimen showing extensive deposit of bone-like calcareous matter in the substance of the falx cerebri.

The preparation was removed from the body of a middle-aged man who died in the Hospital of fever. For two years previous to his death he had been subject to excruciating pain in the head, but had had no other cerebral symptom.

97. Specimen showing extensive bony deposit in the substance of the falx cerebri. The surface of the deposit is marked by elevations and depressions corresponding to cerebral convolutions, and on *Microscopical Examination*, the growth was found to contain true bone structure.

The preparation was removed from a person who died of some disease of the chest, and in whom it was unexpectedly found.

98. Specimen showing a cyst about equal in capacity to a small walnut, connected with the arachnoïd membrane, covering the under surface of the left cerebellar hemisphere. The cyst appears to have been formed by thickening of the arachnoïd and pia mater, enclosing some serous exudation, and to a considerable extent encroaches upon the surface of the cerebellum. The walls of the cyst are of opaque tough membrane, and at one

part, where originally adherent to the dura mater, they are deficient.

The preparation was removed from the body of William B., aged 32, who was admitted into the Hospital March 6th, 1854, with disease of the heart and lungs, of which he died March 16th. Nothing in his symptoms or history existed having any reference to the presence of the cyst in question, which was obviously of old standing. Deposits of pus were found in connexion with other parts of the cerebral membranes, of rather recent origin, but apparently quite irrespective of the specimen. For details, see *Post Mortem and Case Book*, 1854, p. 71, and also *Path. Soc. Trans.*, 1854—55, p. 20.

99. Specimen of a cyst formed amidst the meshes of the pia mater of the brain, which produced absorption of the convolutions of the surface. The convolutions are absent to the extent of about half-a-crown piece, and the cavity thereby produced is about a quarter of an inch in depth, and lined by a rather tough membrane, easily separable from the subjacent textures. Originally, the membrane formed a cyst equal in size to a walnut, containing limpid fluid, and when examined *microscopically*, many blood-vessels along with much fibrillated structure and granular matter were found in its structure. The surrounding arachnoïd membrane was thickened, and also in places more distant was opaque, containing millet-shaped deposits of light coloured material with occasional portions of calcareous matter. The brain forming the base of the cyst, was softened, and its tissue when examined by the *microscope* was found to consist of granular matter, with numbers of oval irregularly-shaped nucleus-like bodies, also globules like pus globules, wasted nerve tubes, and star-shaped caudate bodies with dark margins and a calcareous appearance.

The preparation was removed from the body of Elizabeth S., aged 34, who was brought into the Hospital December 21st, 1853, having, for several months, been subject to fits. After being in the Hospital some time, she had an attack which seemed to the nurse to be of an hysterical nature. On the following day a shower-bath was given, which was followed by a regular epileptic attack, continuing for two-and-a-half hours. This was followed by stertor and coma and death, December 27th. For details, see *Post Mortem and Case Book*, 1853, p. 270, and also *Path. Soc. Trans.*, vol. v., p. 1.

100. Portion of the dura mater removed from the inner surface of the occiput, showing a cyst formed within its structure, containing hairs and epidermal epithelial-cells. The projection formed by the cyst and its contents, was about 1½ inches in length and 1 inch in

breadth, and besides its encroaching upon the brain, was received into a depression in the occipital bone, the lower part of which was very shallow and corresponded to the torcular Herophili, whilst the upper part was very deep with abrupt margins. The whole depression was rather more than an inch long, and had quite a vertical direction, so that the lower part of the groove for the superior longitudinal sinus was deflected considerably to the left side of the median line. The bone forming the hollow was remarkably thin, and at the upper extremity thereof was pierced by a foramen, admitting a probe, which made its appearance on the external surface of the skull, having an oblique upward direction, and bevelled off at its upper margin. There was no want of union, etc., as to the parts of the bones. See preparation No. 249 in Series II. The cyst was formed in that part of the dura mater which, being nearest the bone, was posterior to the sinuses terminating at the torcular, and is pierced by a hole, through which one or two hairs project, which corresponded to the foramen in the occipital bone before mentioned. By means of the cyst, the lower part of the superior longitudinal sinus and the torcular are pushed much to the left side. The termination of the right lateral sinus was also greatly pushed forwards and to the left side, as may be seen by the portion of glass which is passed through its communication with the other sinuses at the common junction. This lateral sinus also is seen to contain a projection inwards, of a part of the dura mater, forming an empty cavity of the size of a large mustard-seed. On examining the cyst and its contents, after maceration for some years in spirit, it was found to present the following appearances:—There was nothing like a membrane or capsule between its contents and the dura mater which composed it, but externally, it had one or two thin pale yellow flakes of fibrine attached to it. The interior of the cyst was occupied by a quantity of opaque white matter, disposed in laminæ, as regards the outermost portions, but more irregular and somewhat broken up in the central parts, though not changed in colour. This matter in one or two places had a nacreous glistening look, but only to a slight extent, and in many parts had numbers of fine soft hairs mixed with it. These hairs, some of which were seen by the *microscope* to possess bulbs or roots, were very abundant indeed in the central portions, and collected together into a lock, being curled up and about an inch in length.

Microscopical Examination.—The pearly contents were seen to contain nothing like crystals of cholestearine or fatty matter, but to consist almost entirely of epithelial-cells of various forms. These were nearly all perfectly translucent, when seen singly, but

when arranged in layers had a yellowish opaque character; a few of them, when seen alone, contained rather granular opaque matter. The epithelial-cells, towards the central parts of the cyst, were chiefly oval and rounded, and were devoid of nuclei, whilst those in the outermost parts were larger and more angular and contained small nuclei, which were rendered very evident by the addition of acetic acid. Amongst the outermost epithelial-cells, collections of refracting fatty particles also existed. Besides the above-mentioned cells, etc., in one or two places a quantity of very delicate fine fibrous tissue was contained in the cyst. When examined immediately after removal from the body, purulent matter was mixed with the other contents.

The base of the brain corresponding to the cornua of the ventricles, was softened and infiltrated by purulent matter, and the lateral ventricles contained much turbid fluid and flakey pus. The arachnoïd cavity about the cyst and cerebellum and sella turcica contained purulent fluid and soft yellow fibrine. The various sinuses were free from any fibrinous clots, etc.

The specimen was removed from the body of Daniel N., aged 2½ years, who was admitted into the Hospital March 19th, 1839. For six months the patient had not been well, and about twelve days before admission had fallen from a chair. The day after the fall, it was observed that he squinted, that there was rolling of the eyes, and some convulsive movement of the arms, and that the neck was tetanically drawn to the left side. There was no insensibility or paralysis. The child was admitted with the above symptoms, and for a time improved under care. On the 22nd general convulsions of the limbs and body came on, and death followed in a few minutes. For details, see *Path. Soc. Trans.*, vol. vi., p. 12. *Presented by* CÆSAR HAWKINS, Esq.

101. Specimen of a growth of an uncertain nature from the inner surface of the dura mater. The convolutions of the brain were considerably indented by the growth, but no symptom had existed during the life of the patient pointing to its presence, or to any interference with the functions of the brain. The visceral arachnoïd, as well as the indented portion of brain in the neighbourhood of the growth, were quite natural in structure, etc.

Microscopical Examimation.—After slight maceration of the specimen in distilled water, much thick white fluid could be scraped off it, which was found to consist of granular matter, mixed with an abundance of single nuclei, and smallish cells of various sizes containing nuclei, some being oval and some round. The surface of the growth was

flocculent, and its substance was found mainly to consist of tubes containing numbers of small nuclei, some oval and elongated and others rounded. Some of these tubes were quite opaque with yellowish contents, and nearly all were rendered very transparent by the addition of acetic acid. In some cases the tubes appeared to end in a cul-de-sac, and some which were filled with semi-opaque matter, were so convoluted as at first sight to give the appearance of the formation of cysts or vesicles. *Presented by* SIR B. C. BRODIE.

102. Specimen of a growth of an uncertain nature from both surfaces of the dura mater, and involving about the area of a shilling piece in size. The growth on the outer surface of the membrane is seen to be less prominent and smoother than the one on the opposite surface. The affected portion of the dura mater corresponded to the anterior inferior angle of the right parietal bone. Much serous fluid was also found in the lateral ventricles, and a slight amount of purulent matter mixed with fluid in the arachnoïd cavity.

Microscopical Examination.—After maceration in spirit for some years, the growth presented the following appearances:—A very large amount of granular matter, containing numbers of rounded small transparent nuclear bodies, and also a few narrow elongated, but short ones, were seen. A few bodies also existed of the size and form of pus globules, and a few very large granular ones; moreover, some large-sized blood-vessels, though scanty in number, were visible.

The preparation was removed from the body of a boy, aged 6, who, during a severe attack of hooping cough, became affected with 'fits' and lost the use of his right side. Subsequently, his head became very large, and symptoms of inflammation of the brain set in, of which he died.

103. Choroïd plexuses of the left ventricles of the brain, fringed and partly covered with a yellowish-coloured soft fibrinous substance. There was also found an increased amount of limpid fluid in the sub-arachnoïdean tissue, and a rather large quantity of turbid fluid in the ventricles, but the brain was, in structure, etc., quite natural. The kidneys were very much diseased.

Microscopical Examination.—After some years' maceration in spirit, the yellow fringes were found to consist of a quantity of semi-opaque amorphous matter, only partially rendered transparent by the addition of acetic acid, amidst which, in places, traces of the previous formation of cells existed, but these were very obscure. Nothing like nuclei were seen within them. There appeared to be some traces of epithelia with the other materials.

The preparation was removed from the body of Julia T.,

aged 15, who was admitted into the Hospital October 4, 1848, and died November 28, afflicted with facial paralysis, and having an albuminous state of the urine.

104. Choroïd plexuses, having attached to them small bodies of about the size of a large pea, consisting of cells, and of calculous matter somewhat resembling cells. The masses were of a yellow colour, and tolerably firm as to consistence.

Microscopical Examination.—Rounded cells of various sizes were seen, some containing granular and others quite limpid contents, the latter being of small size. Others were very large and opaque, and presented a fissured or cleft condition, and were proved to be of a calcareous nature.

The preparation was removed from a patient who died of peritonitis. *Post Mortem and Case Book.* 1851. p. 214.

105. Specimen showing thickening of the choroïd plexus, owing to the deposition of a yellow coloured albumino-fibrinous substance within and about it. *Presented by* CÆSAR HAWKINS, Esq.

106. Specimen showing a deposit of carcinomatous material of about the size of a small pea, connected with the lining of a lateral ventricle (the lower part of the septum).

It was removed from the body of James H., aged 27 years, who died May 3rd, 1856, with carcinoma of the cerebral dura mater, and of the cranial nerves and heart, etc. See Preparations No. 38, Series vi., also No. 159 in the present Series. For details as to the history, see the descriptions of those preparations; also *Post Mortem and Case Book.* 1860. p. 100.

107. Specimen showing extensive dilatation of the fourth ventricle, owing, as it would appear, to fluid effused under inflammatory action, and so retained by means of surrounding thickened and adherent membranes as to constitute a cyst of the capacity of about six ounces. The lateral ventricles were very large, containing about a pint of clear straw-coloured fluid; the cerebral convolutions were flattened.

The specimen was removed from the body of Margaret L., aged 8 years, who was admitted into the Hospital December 14, 1853, having, it was said, had an attack of acute hydrocephalus three years previously, when convulsions and delirium came on, and total blindness, which lasted for nine months. Stupor and weakness of the limbs existed when she was admitted. After improvement she relapsed, and stupor with convulsions came on, with occasional head-ache. The sphincters became paralysed, and vomiting and severe convulsions preceded death, March 15th, 1854. For details see *Post Mortem and Case Book.* 1854. p. 77; also *Path. Soc. Trans.* Vol. vii. p. 34.

108. Specimen showing extensive dilatation of the lateral ventricles of the brain, by exceedingly limpid fluid. The choroïd plexus

and the whole texture of the brain were pale. The latter was quite firm in all its parts, but the surface of the right corpus striatum was discoloured, and indented at one spot, as if from old-standing ecchymosis of blood. The heart and kidneys were extensively diseased.

The specimen was removed from the body of William H., aged 40 years, who was admitted into the Hospital May 11, 1853, in a state of great confusion of mind, with tremulous movements of the limbs, and a puffy appearance of the face. When undisturbed, he relapsed into a semi-stupor, with stertorous breathing. Coma, with a fixed and unequal condition of the pupils, came on. The urine was albuminous. He gradually became cold, and died on the day following admission. No account of his symptoms before he came into the Hospital could be obtained. For details see *Post Mortem and Case Book.* 1853. p. 104.

109. Specimen showing the presence of calcareous matter within the parietes of some of the arteries at the base of the brain.

The preparation was from a person affected by paralysis of some kind or other, but no history of the case exists. *Presented by* CÆSAR HAWKINS, Esq.

110. Specimen showing extensive calcareous deposit in the walls of some of the arteries at the base of the brain.

111. Specimen showing aneurysm of the commencement of the left anterior cerebral artery. The walls of the aneurysmal sac were very thin and transparent, and its cavity, which contained some coagulum, communicated freely with the trunk of the main branch of the artery. The aneurysm had pressed upon and flattened the left optic tract, and had also produced a depression in the anterior portion of the middle cerebral lobe, the boundaries of which were softer and darker than the rest of the brain, which was unusually firm. The sub-arachnoïdean tissue covering the brain and spinal cord contained a quantity of semi-solid substance, having a gelatinous look; and the cerebral ventricles and spinal arachnoïd cavity contained a large amount of serum. The spinal arachnoïd membrane, moreover, had several patches of cartilage-like deposit in its structure: (see Preparation No. 144 in this Series). The kidneys and bladder were found to have suffered from inflammation, which had gone on to suppuration, but all the other organs were natural.

The specimen was removed from the body of a gentleman, who, for twelve years, had suffered from paraplegia, with loss of power over the sphincters. For four years the patient had had amaurosis, and for a considerable time had been in a state of fatuity. He died February 3rd, 1828. *Presented by* CÆSAR HAWKINS, Esq.

112. Specimen showing aneurysm of the left middle cerebral artery.

The entire aneurysm was of the size of a small walnut, and the surface of the base of the brain around was indented by it, though not softened, but the aneurysm had burst through the outer wall of the left ventricle, and both lateral ventricles were full of fluid and coagulated blood, the septum being broken through. The aneurysm was of a peculiar white colour on its lower surface, and divided into two lobules, as if by the pressure of one of the branches of the artery. The other structures, vessels of the brain, etc., were natural. The kidneys were diseased, and the heart fatty, as were also the muscles in the orbit, and arcus senilis of the corneæ very well marked.

The specimen was removed from the body of a man of middle age, who was brought into the Hospital quite insensible, but free from stertor, spasm, or vomiting. The pupils were highly contracted. It seemed that he had been for some time subject to 'fits.' He died shortly after a severe convulsive attack. For details see *Post Mortem and Case Book.* 1856. p. 46; also *Path. Soc. Trans.* Vol. vii. p. 127.

113. Specimen of aneurysm of the anterior cerebellar artery on the left side, compressing the left crus cerebelli, and slightly also the contiguous parts of the pons Varolii, cerebellum, and apparent root of the fifth cranial nerve. The aneurysm was of about the size of a small nutmeg, and was irregular and nodulated in appearance, its surface being very adherent to the corresponding part of the dura mater. When cut into, it was found to be quite solid and party-coloured, and to be surrounded by a distinct resisting membrane, evidently the thickened coat of the blood-vessel.

The specimen was removed from the body of Mrs. S., aged 46 years, who had been the subject of epilepsy, and had completely lost her sight for five years. Impairment of the senses of smell and taste on the 'left' side came on, with partial loss of muscular power on the 'left' side: also contactile hyperæsthesia of the skin of the 'left' side of the face and head. She died directly after an aggravated convulsive attack, in which the 'left' side of the body was especially affected. For details see *Royal Med. and Chir. Soc. Trans.*, Vol. xlii. p. 403, where it is related in connection with observations upon 'induced cerebral paralysis.' *Presented by* Dr. JOHN W. OGLE.

114. Aneurysm of the left internal carotid artery, in the cavernous sinus, which had caused ptosis, and other symptoms, by its pressure on the third nerve, and on the ophthalmic division of the fifth.

The aneurysm is round, situated close to the sphenoïdal fissure, and partly full of laminated fibrine. The third nerve, somewhat dry and shrivelled, is seen hanging down, and much

compressed by the aneurysmal tumour, which projects into the foramen sphenoïdale. The fourth nerve seemed to run round the outer side of the tumour, but had either been atrophied by pressure, or broken in removing the bone. The first division of the fifth nerve lay in close proximity to the lower part of the tumour. The rest of the artery, and all the other large vessels examined, were healthy. There was fibrinous deposit on the mitral valve, and lining membrane of the auricle, and fibrinous blocks in the spleen and kidneys. The patient, a boy aged 16, had long suffered from symptoms of disease of the heart. On August 24th, 1860, he was seized with giddiness; next day there was a tendency to ptosis on the left side, and the movements of the eyeball were rather uncertain. By September 11th, the ptosis had become complete, the eyeball was motionless, the left pupil dilated and fixed, the sight nearly gone, the left side of the forehead numb, in the part supplied by the supra-orbital nerve, and there was considerable lacrymation. The giddiness had now disappeared. In November, the ptosis had much diminished, and the sight of the eye had returned, but its movements were imperfect, and he saw double. The symptoms referable to the disease of the heart had much increased, and he died from the effects of dropsy, cough, and dyspnœa, on November 8th. *Post Mortem and Case Book.* 1860. p. 296; and *Path. Soc. Trans.*, Vol. xii. p. 61.

115. Specimen shewing partial obliteration of the carotid arteries within the cranium, by the presence of fibrine. These arteries on both sides of the head, are exposed along their passage into the cavity of the cranium by removal of parts of the surrounding bone. They may be seen to contain fibrinous coagula, of a more or less dark colour, and firmly adherent to the parieties of the vessels, which tend to occlude the tubes. In some parts, the coagulum is disposed in such a way as to form a kind of lining to the arteries, whilst in others it is in masses, more or less blocking up their calibre. The artery on the left side is the most affected, and, as is shown by a section, scarcely permits of the passage of a pig's bristle through it, whilst, on the other hand, the right one is much more free, the coagula only existing in the neighbourhood of the cavernous sinus. Similar coagula were found also in the basilar and in the anterior middle and posterior cerebral arteries, although in the other portions of the carotids but very slender coagula existed, and they only in near proximity to the base of the cranium. The white parts of both cerebral hemispheres were very vascular, the puncta being generally numerous, but in the neighbourhood of the lateral ventricles the white matter

was of a pink hue, and in the left hemisphere it gradually became soft, and at last diffluent, both above and beneath the ventricles. The grey matter in the brain was but slightly affected. The cerebellum and pons Varolii were unaffected. There was also found much sub-arachnoïdean fluid, and the meningeal veins were greatly congested. The abdominal and thoracic viscera presented nothing worthy of note.

The preparation was removed from the body of Richard C., aged 45, a patient of Dr. Bence Jones, who was admitted into the Hospital, in October, 1850. It was stated that about two weeks previously he had tooth-ache, for which two teeth were extracted. Shortly after this, loss of power in moving either the right arm or leg came on; but there was no loss of consciousness. On admission, there was complete hemiplegia of the right side of the body; the face was drawn to the left side, the tongue being protruded to the right. Sensation, as well as all mental and intellectual powers, were intact, but the power of articulating clearly was lost. No pain was complained of, and the pulse, the cardiac sounds, and the urine were natural; the patient also slept well; the pupils were greatly dilated. A blister was applied to the back of the neck, and strongish purgatives were resorted to. There was an improvement as to the powers of speech and use of the limbs, but pain in the head afterwards came on. He became delirious one night, and relapsed into his former helpless condition, but was relieved by the application of another blister. About December, he seemed to improve in power, but not in speech, and he was placed under the influence of liquor potassæ and tincture of cantharides. Mental imbecility came on with loss of power over the evacuations. He again improved, however, under counter irritation, and was treated by strychnia. About the beginning of February, 1851, he became more feeble, and subsequently convulsions, chiefly affecting the right side, and much rigidity of the muscles of the right arm, came on. He died with intense dyspnœa and lividity of the face. For further details see *Post Mortem and Case Book.* 1851. p.29; also *Path. Soc. Trans.* 1850-51. p.40.

116. Specimen showing the presence of coagulated fibrine in the left lateral, petrosal, and cavernous sinuses, and also the left ophthalmic vein. The deposit was very firmly adherent to the vessels, and in places had begun to soften. There was found much disease of the tympanic cavity and destruction of its 'membrane;' but the internal ear was unaffected. The brain, on section, presented many bloody puncta, and in the substance of the right cerebral hemisphere, a little above the level of the corpus callosum, and about one inch from the external surface was an oval patch of pinkish coloured softened brain. The

ventricles contained much limpid fluid. At the vertex, the dura mater covering the left cerebral hemisphere was, to some extent, adherent to the bone, and the sub-arachnoïdean tissue correspondent contained much blood-stained fluid. The tentorium cerebelli was firmly adherent on the left side to the cerebellum, and at the base of the brain the arachnoïd cavity contained some soft recent yellow fibrine. Within the orbit, and at the posterior part of it, was a quantity of purulent fluid pushing forwards the eyeball. The lungs were hepatized in places, and recent fibrine was found in the pleural sacs.

The specimen was removed from the body of Mary A. P., aged 22, who was admitted into the Hospital, Oct. 20th, 1851, with the following history. She had been twice married, and had one child, and on several occasions had given evidence of being, at any rate temporally, of unsound mind. Since her second marriage, she had had severe epileptic attacks, and had complained of pain in the left ear, and head-ache. She was brought into the Hospital in a state of delirium, and there was ptosis of the left eyelid, the eyeball being protruded, and drawn inward; but it could be moved in all directions. The pupil of this eye was slightly dilated, but answered to the light. The right pupil was dilated, and only imperfectly answered to light, but its movements were perfect. The sight of the left eye was the best. The pulse was 150, and regular, and the respiration 68 per minute. The tongue and lips were very dry and dark coloured. The delirium increased, and was followed by coma, and the patient died but a few hours after admission. For further details, see *Post Mortem and Case Book*, 1852, p. 204; also *Path. Soc. Trans.* 1852-3, p. 25.

117. Portion of the dura mater and part of the left lateral sinus, showing a coagulum of blood in the sinus with laceration of its walls. It will be seen that one small opening exists in the inner part, and two on the outer part of its walls beneath the tentorium cerebelli. These were the result of ulceration. When recently examined, the lateral sinus contained purulent matter as well as fibrine and coagulated blood, and through the opening in its inner wall before mentioned, pus had so escaped as to cover both surfaces of the tentorium and the upper surface of the cerebellum, to a slight extent. Effused fibrine controlled the outpouring of pus on the surface of the cerebellum, and also around the openings in the external walls of the sinus the pus was so limited that it only found its way through a fracture in the petrous part of the temporal bone mentioned below into the cavity of the tympanum and external auditory meatus. It will be seen by the circular deposit of fibrine on the outside of the dura mater, that the trephine had been applied to the cranium. There was also

found fracture commencing in the left parietal bone and extending across the mastoïd portion, and in the tympanic cavity of the temporal.

The specimen was removed from the body of Philip B., aged 37, who was admitted into the Hospital, July 27, 1835, with a scalp wound, denuding the bone, which had been followed by an epileptiform attack. About five weeks after the accident, the patient was trephined over the exposed bone, owing to purulent discharge from the ear, rigors and delirium: three days after this he died. *Presented by* CÆSAR HAWKINS, Esq.

118. Specimen showing blood-stained coagulated fibrine, blocking up the left lateral sinus, the inferior longitudinal sinus, the straight sinus, the left petrosal sinus, the veins of Galen, and several veins tributary to the various sinuses from the sides and base of the cerebral and cerebellar hemisphere. The veins between the cerebral convolutions, and also the jugular veins, etc., were quite free from the deposit. Much fluid existed in the ventricles and sub-arachnoïd tissues, but the brain and its membranes were natural. There was much serous fluid in the mastoïd cells and in the tympanic cavity on the left side.

The specimen was removed from the body of Mary H., who was admitted into the Hospital, Oct. 20th, 1854, for long continued disease of the rectum. She died of asthenia, having also lost her speech for some time before death, Oct. 26th. For details see *Post Mortem and Case Book.* 1854. p. 325; also *Path. Soc. Trans.* Vol. vi. p. 31.

119. Specimen showing the small veins on the surface of the cerebral convolutions full of blood-stained coagulum. From the same patient as the preceding preparation.

120. Specimen showing a large quantity of dark brownish-red fibrinous material within the lateral, petrosal, and cavernous sinuses of the left side of the cranium. These were plugged up as far as the commencement of the internal jugular vein. Similar coagulum, but in all cases quite entire, and not softened, was found in several small tributary veins. The left arachnoïd cavity also contained much yellowish puriform fluid. The sub-arachnoïd tissues were natural, and so was the brain-texture generally, except at the inferior and posterior part of the middle lobe of the left hemisphere where it was slightly softened, and at about the depth of one-third of an inch from the surface, contained a collection of purulent fluid of the size of a hazel nut, surrounded by a layer of soft fibrinous material. Much turbid fluid and many flocculent masses existed in the lateral ventricles.

The specimen was removed from the body of Robert S., aged 26, who was admitted into the Hospital, August 13, 1856,

with well-marked pneumonia of the left side. On recovering from pneumonia he had pain in the head, especially at the back, and afterwards at the left temple. He was suddenly affected with total insensibility and loss of power to move the left arm and left leg. He died three days afterwards, September 23rd. For details see *Post Mortem and Case Book.* 1856. p. 222; also *Path. Soc. Trans.* Vol. x. p. 30.

121. Specimen showing a large laminated fibrinous coagulum within the 'right' lateral sinus, not unlike that often seen in aneurysms. In one spot, this coagulum was converted into a lightish green fluid, having bright red clot mixed with it, Purulent and fibrinous material existed in the arachnoïd cavity on the same side, and a portion of the middle lobe of the cerebral hemisphere on the corresponding side contained a collection of purulent matter; the other parts were healthy.

The specimen was removed from the body of C. B., aged 22, who was admitted into the Hospital, with febrile symptoms, albuminous urine, and sharp pain in the right ear, from which there was much purulent discharge, which she had had since an attack of scarlet fever some years previously. The pain had only existed ten days. In two weeks' time, she was seized with a violent convulsive attack, which left her with the face drawn to the 'left' side. She died about two weeks after admission into the Hospital. For details see *Path. Soc. Trans.* Vol. x. p. 28.

122. Specimen showing the left lateral sinus of the brain, which has been laid open by an extensive wound at about the anterior portion of its middle third, as also a comminuted fracture of the bones of the cranium. A portion of bone at the injured spot is somewhat everted, and the wound presents a highly sloughy condition. A considerable sloughy opening in the dura mater, above the lateral sinus, exists, in addition to the opening in the outer wall of the sinus, both corresponding to the large outer injury. The sinus contained a small amount of bloody coagulum. Corresponding with the injured portion of bone, the cerebral surface presented a small, almost circular, patch, with well defined margins, in a sloughy condition, and of a palish blue colour. Beyond the outline of this part, the brain was in all respects natural.

The preparation was removed from the body of Charles F., aged 51, who was admitted into the Hospital, August 21, 1847, having fallen from a great height and struck his head against a railing. Extensive hæmorrhage took place both at the time of the accident and subsequently, and much suppuration of the wound came on. Nothing like brain symptoms of a special character supervened, but the patient sank and became

collapsed. He died Sept. 26. For further details see *Post Mortem and Case Book.* 1847. p. 198.

123. Specimen showing laceration of the torcular Herophili in connection with a compound fracture of the occipital and neighbouring bones. A small projection from the internal table has perforated the torcular Herophili (in the situation shown by the black bristle): and a very large clot of blood was found between the bone and dura mater. The brain was lacerated. The inner coats of the axillary artery were also lacerated. See Series vi. No. 95.

The patient was thrown from his horse, which was said to have kicked him on the head, but this seemed doubtful. There were two small scalp wounds on the back of the head leading to a fracture, without depression. On admission, he could walk, though unsteadily; but coma and paralysis soon came on, and he died in less than four hours. For details see *Post Mortem and Case Book.* 1860. p. 298; also *Path. Soc. Trans.* Vol. xii. p. 167.

124. Laceration of the outer part of the great longitudinal sinus in connection with fracture of the posterior parts of the skull. The parietal bones had been torn asunder at the suture, the dura mater lacerated along the median line, and the bones on the hinder part of the skull much fractured. There was extensive laceration of the brain, with much effusion of blood in the subarachnoïd spaces, and also outside the skull. Portions of brain protruded between the separated parietal bones.

The preparation was removed from the body of a man, who was thrown from a ladder, and fell to the ground, a height of about 40 feet. For further details see *Post Mortem and Case Book.* 1861. No. 298.

125. Specimen showing extensive compression or trapping of the entire thickness of the spinal cord, the result of fracture, with displacement of the last dorsal vertebra. The various parts of the comminuted bone are most firmly united to each other, and were so wedged back, that it was impossible to saw accurately into the canal. A highly inflamed condition of the bladder, which, moreover, was perforated by an ulcerated opening, communicating with a collection of purulent fluid among the tissues of the pelvis, was discovered; and recent fibrine in the pleural sacs, with much thick mucus in the bronchial tubes, was found.

The preparation was removed from the body of Thomas M., aged 42, who was admitted into the Hospital May 6, 1852, having fallen from a high scaffold the same day. At the time of the accident, the patient lost all sensation and motility in

the lower extremities; on admission, however, no irregularity of the spinous process was found. On the day after the accident, the patient could not void urine, and was unconscious of the passage of the catheter. No priapism existed. Bronchitis came on, and two days after the accident, the bowels were opened involuntarily, and for the first time the urine was noticed as being ammoniacal. Good diet and nitric acid were given, and subsequently calomel and opium. No excito-motary action was ever produced in the lower extremities, and there was no recovery of sensation or motility. About fourteen days after the accident, the spinous process of the last dorsal vertebra was found to be prominent, and the covering integument inflamed from pressure. The bowels from time to time were relieved by injections, and the bladder by the catheter. The patient gradually got weaker, the mental powers remaining entire throughout the whole time, excepting a few hours before death, which took place June 23rd. For details see *Post Mortem and Case Book.* 1852, p. 139½; also, *Path. Soc. Trans.* Vol. iv. p. 1.

126. Specimen showing softening of the dorsal portion of the spinal cord. The softened part corresponded to fracture of the body of the fourth dorsal vertebra, and may be recognized as being somewhat shrunk and slightly separated from the neighbouring structure. When recent, this part was somewhat of an ashen colour. Great congestion of the pia mater in the neighbourhood, as well as effusion of blood and fibrine between the bony canal and the dura mater, existed, and also much serous effusion into the arachnoïd cavity. There was, moreover, some thickening of the membranes covering the brain, with serous effusion into the ventricles.

The specimen was removed from the body of William B., aged 45, who, having fallen from a scaffold, was brought into the Hospital January 29th, 1825. Fracture of the spine was readily detected, and sensation as well as power of voluntary motion below the injured part were lost. Extreme priapism existed. The patient was bled and purged, and lingered until he died, nine weeks and two days after the injury. The fractured vertebra is shown as preparation No. 47, in Series I.

127. Portion of the spinal cord, with its membranes attached, showing extensive softening of the lower part of the dorsal region, in connection with the fracture of a vertebra. A great part has been washed away by maceration. When recent, the central part of the spinal cord was extremely softened and ulcerated, and was, to the extent of about half an inch, of an ashen colour; in the arachnoïd cavity of the lower part of the cord there was about half an ounce of bloody serum. The body of the left dorsal vertebra was broken, and there was so much

displacement that an angular projection of bone existed, encroaching upon the anterior part of the spinal canal, and probably also pressing on the cord itself. No appearance of union between the broken pieces of bone existed; there was also fracture of one of the clavicles, where firm union had already taken place.

The specimen was removed from the body of Dennis B., aged 55, who, having fallen from a great height, was brought into the Hospital May 20th, 1825. There was very imperfect sensation and motility in the lower limbs; also great tympanitis, and at the same time absence of any abdominal respiration; and there was excessive priapism. Perfect loss of power over the sphincters, and sloughy ulcers on the back came on, and the patient sank in a hectic condition, July 21st.

128. Specimen showing extensive softening, with destruction of the dorsal part of the spinal cord, the result of mechanical injury.

129. Specimen showing softening, with discolouration, of about half an inch in length of the entire calibre of the cervical part of the spinal cord, caused by the pressure of the fifth and sixth cervical vertebræ, which were dislocated. The membranes of the cord were natural, as well as the remaining part of the cord. Much blood was found in the lungs, the posterior parts of which sank in water, and there was fracture of the sternum.

The preparation was removed from the body of Henry B., aged 24, who, having fallen from a great height, on his knees and shoulders, about 5 a.m., January 23rd, 1842, was brought on the same day into the Hospital. There was great want of power of motion in both arms, but much more so in the left than the right arm. Sensation was complete in the right arm, but it was slightly, though not greatly, diminished in the left one, which was, moreover, greatly numbed. There was loss of power in the lower extremities, and in the sphincters, as well as in the abdominal and intercostal muscles; and the integuments of the entire body below a line drawn across the mammæ, were devoid of sensation. There was pain, and stiffness of the muscles between the scapulæ, but no bruising. Respiration was entirely performed by the diaphragm, and there was priapism. The skin was cold and pale, and the pulse 56; shortly after it fell to 44 per minute. The urine, when drawn off, was acid, and it was seen to be expelled by the action of the diaphragm. The temperature was,—at the mouth, 98°; at the axilla, 97°; and at the rectum, 100°. Æther mixture was administered. On the following day, the pulse was fuller, and the temperature of the body about 97° in all places; the respiration was thirteen per minute, and bronchial râles were

very conspicuous. The left arm had also lost more power, and the muscles of the right one were affected by tonic spasm. Distinct reflex action was obtained. The respiration rose to 18°, and the temperature in the mouth to 99°, and in the rectum to 100°. Subsequently, the temperature rose to 103° in the rectum, the respiration became 20 a minute, and frequent attempts to cough took place; no pain was complained of. The temperature in the rectum rose to 106°. The urine remained acid until the morning of the 26th; but in the afternoon of that day it became alkaline and contained blood and mucus, about eighty-one hours after the accident. The temperature in the mouth became 104°, and in the rectum 108°. The patient died at 1 a.m. on the 27th. *Presented by* CÆSAR HAWKINS, Esq.

130. Specimen showing extensive laceration of the upper part of the spinal cord, at a point opposite the 5th and 6th cervical vertebræ. This was produced by fracture and dislocation of these vertebræ, with extensive encroachment of the same upon the spinal canal. It will be seen that the cord is all but completely divided, and the upper and lower segments mainly held together by undivided pia mater, at the posterior part of the cord. Owing to the angular shape of the projecting fractured bone, the anterior surface of the cord is much more disorganised than the posterior; the anterior part of the theca vertebralis at this part was completely destroyed.

The preparation was removed from the body of Elizabeth G., aged 22, who was admitted into the Hospital July 25th, 1848, having fallen from the top of a waggon nineteen days previously. When raised from the ground, she was found to have lost all sensation and motility in the lower limbs, and she ceased to have any power over the sphincters. When brought to the Hospital she suffered great pain in the upper dorsal and lower cervical regions, specially on movement or pressure. The lower limbs were devoid of all sensation or power of movement, and the arms only enjoyed partial sensation as low down as the wrists, the right arm merely having a very slight power of motion, which was quite wanting in the left one. Common sensation remained entire on the surface of the body as low down as a line on the level with the ensiform cartilage. The temperature of the lower limbs was below that of the natural standard, and several degrees lower than that of the anus. 'Jerking sensations' were complained of in the legs. Respiration was rather slower than in health, and expiration somewhat difficult, the abdominal muscles being paralysed. The abdomen was tympanitic, and the bowels had been confined for four days, the urine, which was highly alkaline, dribbling away from the distended bladder. There were also bed sores on the nates. Under nourishing diet, etc. she improved, more power in the

right arm was gained, and the tympanitis was less. Distinct and forcible reflex action was obtained by tickling the soles, and the temperature of the feet and legs was as high as the rest of the body. About the 10th of August, much pain of a burning character was complained of over the entire body, and great pain in the arms when they were moved. The health failed; delirium came on, followed by rigors and vomiting, and the patient died October 15th. For further details, see *Post Mortem and Case Book*, 1848. p. 212.

131. Specimen showing extensive laceration of the cervical region of the spinal cord, opposite the 4th and 5th cervical vertebræ. It will be seen that the left portion of the substance of the cord is chiefly affected, and that the anterior root of one of the nerves is completely torn from the cord, excepting one or two of the lower fibres, at a point corresponding to a vertical rupture of the arachnoïd membrane. This membrane is, moreover, greatly lacerated at the left margin of the cord. When recently examined, the outer surface of the affected part of the cord was but little injured, yet the more central parts of the cord were very softened, and infiltrated with blood. This lesion was produced by dislocation of the vertebræ, owing to a fall.

The preparation was removed from the body of Thomas W., aged 28, who, when riding, was knocked down by a cart running against him, and pitched upon his head, which was bent forwards. The accident occurred at 8 p.m. August 27th, 1830, and the patient was brought into the Hospital an hour afterwards, perfectly sensible, but with a cold surface, and only breathing by the diaphragm. At first, he could move his legs, but not the arms; and two hours after admission he lost the power also of moving his legs. On the day after admission, rigors came on, and the lower part of the trunk of the body, and the legs, as also the lower part of the right arm, as far as the elbow, were found to have completely lost all sensation; but the upper part of the right arm, as low as the elbow, and the front part of the chest, as low as the 5th rib, still retained sensation. The legs and arms had lost all power of voluntary motion, and the triceps muscle of the left arm was at times involuntarily contracted. Priapism also existed. Febrile symptoms, with great pain and tenderness in the neck, were set up. After a time the priapism ceased, and the patient remained in the same state until death, which occurred seventy-two hours after the injury. *Presented by* CÆSAR HAWKINS, Esq.

132. Portion of the spinal cord removed from the lower part of the dorsal region, showing the walls of an abscess which existed opposite the 8th and 9th dorsal vertebræ, and had followed fracture of those bones. The fractured portions of bone were firmly

united; but one portion, which was greatly displaced, had been forced backwards so as to press on the substance of the cord. It will be seen that the dura mater about the injured part is greatly thickened, and for about the space of an inch firmly adherent to the cord. It was, moreover, adherent by means of effused fibrine, to the bony parietes of the spinal canal in this region. The abscess was found to occupy the entire diameter of the cord for about the distance of three inches, so that none of the healthy structure remained; and both above and below this part the cord was softened, though to a short extent.

The specimen was removed from the body of Ellen M., aged 40, who was admitted into the Hospital January 2nd, 1847, having slipped off a ladder, and fallen 40 feet. She was, on admission, quite paralysed as to her lower extremities, and complaining of 'great tightness across the chest,' and much pain in the lower dorsal region, where decided prominence of one of the vertebræ was noticed. Shortly after admission, all power over the sphincters of the anus and bladder was lost, but the urine was acid, and so continued until January 5th, when it was found to be alkaline. On the 7th, reflex actions were for the first time observed on tickling the feet, and these movements became more evident in the course of a few days. Bed sores formed, and at times the tightness across the chest became very painful, especially after eating. The patient died March 22nd. For further details, see *Post Mortem and Case Book.* 1847. p. 83.

133. Specimen showing the cavity of a small abscess in the substance of the cervical region of the spinal cord. It will be seen that the central and anterior part of the cord was the seat of the abscess, and that the surface of the cord at this part is, to some extent, constricted. Moreover, the pia mater on the anterior surface is somewhat thickened, part of it having been entirely removed. The abscess was the result of some injury to the cord.

134. Specimen showing extravasation of blood into the substance of the dorsal region of the spinal cord, the consequence of some mechanical injury. The nervous substance in the neighbourhood of the extravasation is discoloured, and the surface of the cord in this part is somewhat constricted, as if some amount of softening had taken place.

135. Specimen showing extravasation of blood into the substance of the spinal cord, in the dorsal region, the result of mechanical injury.

136. Specimen showing extravasation of blood into the dorsal region of the spinal cord. Slightly diminished consistence of the entire cord was found, and in the central part of the medulla oblongata, on the left side, another quantity of blood was also found extravasated.

On *Microscopical Examination*, the structure of the cord presented nothing worthy of note, excepting in connection with the clot itself. The cranial contents were, in all respects, natural. The vertebral arteries were atheromatous. Besides congestion of most of the viscera, and effusion of fluid into the pleural and pericardial sacs, the bladder was found to be ulcerated as to its inner surface, upon which, moreover, a quantity of recent fibrine was situated.

The specimen was removed from the body of Moses L., aged 39, who was admitted into the Hospital January 3rd, 1852, having only been seriously ill for about ten days. Previously he had for some weeks complained of great head-ache, and at the above date he had suddenly and entirely lost the use of his legs, and become unable to pass his urine. He also became afflicted with great pain in the back on the 21st of December. The above symptoms became more fixed previous to admission into the Hospital, when he was totally unable to move either of the legs, of which the left one had completely lost sensation, while the right one had partially lost it. The urine, when drawn off, was found to be highly alkaline and offensive, and mixed with pus. A few days afterwards, the entire body, as high as the loins on both sides, became gradually wanting in sensation; and pain at the region of the stomach came on, with long-drawn inspirations or sighing. The difficulty in breathing and of voiding the bladder increased, and the patient died January 10th, retaining his mental powers. For further details, see *Post Mortem and Case Book*, 1852. p. 12; also *Path. Soc. Trans.* 1852-3. p. 13.

137. Specimen showing extensive softening, without discoloration, of the entire calibre of the spinal cord (in the dorsal region), to the extent of several inches. The whole cord was more or less softened, but especially the middle portion of the cervical and the lower part of the dorsal regions. There was no discolouration of the substance of the cord, nor any microscopical evidences of inflammation. The cranial contents were in all respects quite healthy. The lungs were infiltrated by frothy fluid, and portions were in a softened friable state.

The specimen was removed from the body of Elizabeth C., aged 27, who was brought into the Hospital February 13th, 1852. For three months before admission she had had pain at the middle part of the abdomen, around the umbilicus, simulating colic, which continued, with intervals of intermission, until three weeks before she came into the Hospital, when she became affected by extreme and general weakness, which continued to increase. She was not able to move herself in bed, and her limbs lay wherever they were placed, but she had no pain. She suddenly experienced an increased loss of power, and

more severe pain at the abdomen, with febrile symptoms, set in. On the 21st, she became occasionally delirious, tossing her arms in bed, and her face distorted, apparently from pain rather than convulsive action. She preserved her mental powers, and died February 22nd from asthenia. For further details, see *Post Mortem and Case Book.* 1852. p. 44; also *Path. Soc. Trans.* 1853-4. p. 29.

138. Specimen showing atrophy of the entire diameter of the spinal cord, owing to the pressure of a carcinomatous tumour. The malignant growth existed at about the middle of the dorsal region, and was connected with the bodies of the vertebræ. The portion of spinal cord subjected to pressure was not at all softened, nor affected by any signs of inflammation, but was almost transparent, owing to deficiency of nervous structure. Many other parts of the body were affected by malignant deposits.

The preparation was removed from the body of Jane H., aged 55, who was admitted into the Hospital November 28th, 1838. About eight months previously pain in the back had come on, which was followed by numbness, and this by want of power in the lower extremities, which symptoms had gradually increased ever since. When admitted, there was perfect loss of sensation and power of motion in the lower limbs, which were, moreover, very painful. The sphincters were also paralysed. The temperature of the paralysed part was three or four degrees higher than that of the upper part of the body. The abdomen also was very painful, and its walls, as well as the muscles of the legs, were frequently affected by spasm. Distinct reflex action could be produced in the legs by tickling the soles of the feet. The urine was alkaline. Sloughing bed sores set in, of which the patient died June 17th, 1839. *Presented by* CÆSAR HAWKINS, Esq.

139. Specimen showing infiltration (and consequent thickening) of the lower part of the cervical region of the spinal cord with scrofulous matter. The membranes corresponding to the affected part are seen to be thickened and adherent to it. When recently examined, the deposit was found to give a very solid character to the cord, and was of a light yellow colour. Above the deposit, the spinal cord was vascular and softened, but in other places it was healthy. A large collection of scrofulous deposit was found in the optic thalami, and a small cretaceous deposit in one of the lungs, but none in any other organ.

The specimen was removed from the body of Michael K., aged 13, who was brought into the Hospital May 2nd, 1849. For some weeks he had suffered from gradual loss of power in the arms and legs, and when admitted, he had lost all power

over the sphincters of the anus and bladder. There was much pain in the neck, when the patient was admitted, and this was found to be increased on pressure, and also on moving the head backwards; and there was slight priapism. The arms became permanently crossed on the breast, and any attempt to remove them caused great pain. Subsequently, rigidity of the right sterno-cleido mastoid muscle came on. For some time before death, bed sores appeared; and the patient died September 10th. The chief remedy resorted to was counter-irritation to the nape of the neck. For further details, see *Post Mortem and Case Book*, 1849. p. 186; also *Beale's Archives*, Vol. iv.

140. Specimen showing scrofulous deposit within the substance of the spinal cord, at a point opposite the eleventh dorsal vertebra. The right half of the cord was more occupied than the left, but at no place was the deposit visible on the external surface of the cord. The nervous structure in the neighbourhood of the deposit was somewhat softened.

The preparation was removed from the body of Elizabeth D., aged 60, who was admitted into the Hospital August 3rd, 1831. About eight weeks before admission, she had complained of pain in the back, numbness of the legs, and dribbling away of the urine. A few days after this there was paralysis of the right leg, which was followed by paralysis of the left one. Loss of power over the sphincters of the anus, and sloughing of the integuments followed, and the patient sank, and died August 21st. Before admission into the Hospital, the patient had been cupped and blistered, and placed under the action of strychnia, which produced a pricking sensation and spasmodic twitchings in the limbs, but afforded no relief. *Presented by* CÆSAR HAWKINS, Esq. See *Beale's Archives*, Vol. iv.

141. Portion of the cervical part of the spinal cord, with its corresponding membranes, showing a mass of scrofulous deposit adherent to the external surface of the dura mater. The deposit, which was quite firm, and produced pressure upon the spinal cord, corresponded to the bodies of the 2nd, 3rd, and 4th dorsal vertebræ, but the spinal cord itself was not at all softened. The scrofulous matter was continued up through the foramen magnum into the cranial cavity, and there was much caries of several of the vertebræ, and of the bones at the base of the skull. The other viscera of the body were healthy.

The specimen was removed from the body of George S., aged 15, who was admitted into the Hospital December 18th, 1842, complaining of pain at the back part of the neck, which increased on motion, and was accompanied by numbness of the fingers. He was always in the habit of supporting his head with his hands when moving it. The numbness of the fingers increased, and the upper extremities soon became paralysed,

the lower extremities becoming gradually affected in the same way, and incontinence of urine coming on. In this condition he lingered for some time, the skin giving way wherever pressure existed, notwithstanding his being placed on a water bed. A short time before his death he had great difficulty in articulation, followed by dysphagia. He died October 14th, 1843. For further details, see *Post Mortem and Case Book*, 1843. p. 43; also *Beale's Archives*, Vol. iv.

142. Portion of the dorsal region of the spinal cord, with the corresponding membranes, showing a quantity of concrete scrofulous matter adherent to the outer surface of the latter. The spinal cord was somewhat compressed and softened by the deposit, which was continuous through one or two intervertebral foramina with similar scrofulous deposit in the muscles of the back and around the vertebræ, and the ribs, etc. which were carious. The other parts of the spine were healthy; and, excepting the bronchial glands, no other organs of the body presented any scrofulous deposit. Extensive grey hepatization of part of the left lung, and much thick mucus in the bronchial tubes, were also found after death.

The specimen was removed from the body of George P., aged 21, who was admitted into the Hospital April 1st, 1846, with almost entire loss of sensation and power of motion in the lower limbs, attended by a sense of coldness and numbness, and by occasional twitchings in them. This had been gradually coming on for about two months, commencing with a feeling of constriction across the chest. His general health was unimpaired, but he complained of pain on percussion between the shoulders, although nothing about the spine was evident to the eye. The patient had no head-ache, and never had a fit of any kind. The bowels were much confined, and the motions and urine, which was not albuminous, were passed with difficulty. After a little time, all the symptoms increased in intensity, and the arms by degrees lost sensation and power of motion, though not entirely so. Intense difficulty of breathing, and expectoration of purulent matter came on, and bed sores formed. The patient died July 2nd. For further details, see *Post Mortem and Case Book*, 1846. p. 150; also *Beale's Archives*, Vol. iv.

143. Part of a spinal cord, with its investing membranes, showing the deposit of whitish-coloured semi-opaque material in the form of laminæ, on the arachnoïd membrane and in the subjacent tissue. *Microscopical Examination.*—After maceration in spirit for some time, the deposit was found to consist chiefly of dense, but very fine, filamentous structure, along with occasional yellow patches of more opaque substance, which was greatly cleared on the addition of diluted hydrochloric acid, no effer-

vescence taking place. A quantity of amorphous granular matter was also mixed with the other elements. No kind of cell-structure was visible.

Excepting these deposits, the membranes are entirely healthy.

The preparation was removed from the body of Isaac E., aged 45, who, having fallen out of a cart, was brought into the Hospital October 21st, 1849, and died two days after the accident, with displacement of certain vertebræ and compression of the spinal cord. Symptoms of disorganization of the cord were produced. For further details, see *Post Mortem and Case Book*, 1849. p. 219.

144. Portion of a spinal cord and investing membranes showing the presence of semi-opaque deposit, in a laminated form, in the arachnoïd membrane and subjacent tissue, this membrane in other respects being healthy.

Microscopical Examination.—After maceration for some time in spirit, this deposit was found to consist of indistinct granular matter, having numbers of delicate fibres and small nuclear bodies mixed with it. It was greatly cleared on the addition of acetic acid. Much yellow fluid of a gelatinous consistence was also found in the sub-arachnoïdean areolar tissue both of the spinal cord and brain, and also softening of some of the cerebral convolutions, in connexion with an aneurysm of one of the cerebral arteries, see No. 111 in the present series. The patient died paraplegic, and in a state of fatuity, February 3rd, 1828. *Presented by* CÆSAR HAWKINS, Esq.

145. Specimen showing extensive deposit, of an uncertain character, within and external to the 'theca vertebralis' of the lower part of the spinal cord, involving also several of the nerves of the 'cauda equina.' After several years of maceration in spirit, the deposit was found to be white and very firm, so that it could be easily sliced by the knife.

Microscopical Examination.—The deposit was found to consist of a vast number of cell-bodies, for the most part rounded, and somewhat less than a blood globule in size, some of them being much larger. Most of them reflected light to a great extent, and evidently contained dark granular matter, but, on the application of acetic acid, displayed no other contents. In many places nothing but amorphous granular structure existed around these cell-bodies, whilst in other parts delicate fibrous tissue was found.

146. Specimen showing a large growth of uncertain character, between the bone and dura mater, at a point corresponding to the fifth and sixth cervical vertebræ, pressing inwards upon the spinal cord, and also to a considerable extent outwards, so as to cause great absorption of the substance of the vertebræ. In

the recent state, before the removal of bone for its more perfect exposure, the mass was seen to project from within the vertebral canal, through the intervertebral foramen on the right side, between the fifth and sixth cervical vertebræ. The transverse process and pedicle of the sixth vertebra, as also the lamina of this bone on the right side, were much absorbed, so that the opening for the exit of the growth was greatly enlarged, and the vertebral artery obliterated. The spinal cord, which was much compressed, being pushed over to the left side by the tumour, had a somewhat twisted position, the right side of the cord being placed posteriorly in the median line. This growth was in no way connected with the cord itself, but was external to the dura mater, as shown by portions of bristle which have been introduced between the growth and the dura mater, as also between the dura mater and the arachnoïd membrane. Moreover, the growth is invested by a covering of condensed areolar tissue, which, on its inner side, was firmly adherent to the dura mater, though in part it has been separated from it by the knife.

Microscopical Examination.—The growth was seen to consist of cells of various sizes and shapes, being chiefly rounded and fusiform. For the most part these cells contained three, four, or five nuclei, with no particular arrangement, packed in a homogeneous matrix. The cells were very pale, and besides the nuclei, most of them contained much granular matter. In one or two places, a few fibres were observed.

Excepting sloughing sores from pressure, nothing unnatural was observed in any parts of the body, beyond the above-mentioned growth.

The specimen was removed from the body of Ellen S., aged 22, who was admitted into the Hospital January 29th, 1851, suffering from partial loss of muscular power in all the extremities, but specially in those on the left side, and having a tumour at the lower part of the right side of the neck. She was treated by means of counter irritation and the use of iodide of potassium and small doses of mercury. Bed sores set in, and the patient died exhausted, August 17th, the paralysis remaining much the same. For further details see *Post Mortem and Case Book.* 1851, p. 171; also *Path. Soc. Trans.*, vol. vii. p. 40.

47. Cyst which originally contained limpid fluid, situated externally to the spinal dura mater in the dorsal region, and connected with the pia mater and arachnoïd by blood-vessels, which pass through an opening in the membrane. The cyst is equal in size to a large pea, and is attached to a pedicle consisting of firm fibrous tissue and blood-vessels, which pierced the dura mater, passing through a rounded aperture. The blood-vessels,

after passing through, diverged and passed inwards to the margin of the spinal cord, enclosed in a fold of transparent membrane, having very much the physical character of arachnoïd. In this way a festooned or fan-like appearance was produced, the base of the fan being attached to the arachnoïd and pia mater, and the apex being continuous with the pedicle which pierced the dura mater. No thickening or opacity of any of the membranes in the immediate neighbourhood existed, and the spinal cord itself was healthy. The walls of the cyst consisted of delicate fibrous tissue, with a few nuclei dispersed through it, and with numerous blood-vessels ramifying in it. The contained fluid held numbers of small cell bodies, containing nuclei within them, and also free nuclei.

The specimen was removed from the body of Elizabeth D., aged 20, who was admitted into the Hospital January 20th, 1855, and who died of phthisis and scrofulous meningitis. Recent inflammation of the spinal membranes in the cervical region was traced, but no symptom during life existed in connexion with the long-standing cyst in question. For details see *Post Mortem and Case Book.* 1855. p. 40; also *Path. Soc. Trans.*, vol. vi. p. 48.

148. Specimen showing the spinal dura mater thickened, perforated by ulceration, and covered externally by recent fibrine. This is seen at the upper part of the specimen, which corresponded to the fourth and fifth cervical vertebræ. At this point, the dura mater was adherent to the posterior surface of the vertebræ, as well as to the spinal cord, and the ulcerated perforation corresponded to one of a similar nature in the cartilage between the same vertebræ, passing right through from behind the œsophagus to the spinal canal. The greater part of the spinal cord was somewhat softened, but this was especially so at a point opposite the above-mentioned vertebræ, where it was of a pink hue. The central white parts of the brain were also softened, and the ventricles contained much blood-stained serum. Much purulent fluid existed in the tissues behind the œsophagus, which was extremely constricted at a point about three inches from the pharynx, the mucous membrane forming a kind of circular valve or flap.

The preparation was removed from the body of Alfred W., aged 50, who was admitted into the Hospital, January 14th, 1852. He had suffered from cough, with purulent expectoration, following the removal of a large bone which had got impacted in the gullet. When admitted, he had febrile symptoms, and the same expectoration, and complained greatly of pain, increased on pressure or motion at the back of the neck. About ten days after admission, he was affected by vomiting, followed by rigors and increased pain in

the neck. A blister was applied to the neck, and ammoniated salines with laudanum given, under which great improvement took place. Suddenly, the patient lost power in the arms, and eventually in all the extremities, but for some time sensation still existed in the parts. At last this failed him, his mind remaining quite entire all the while. He died February 16th, apparently from exhaustion. The diseased intervertebral cartilage and œsophagus are shown in the Series devoted to those parts. For further details see *Post Mortem and Case Book.* 1852. p. 36; also *Path. Soc. Trans.*, Vol. iv. p. 27.

149. Specimen showing the optic commissure and part of the optic nerves, one of which is greatly atrophied.

The specimen was removed from a man who for several years had been blind of one eye.

150. Specimen showing atrophy of the left optic nerve and right optic tract, removed from the body of a man, aged 56, who lost the sight of the left eye when a boy.

Microscopical Examination.—The atrophied nerve was found to consist almost entirely of areolar tissue, with scarcely a trace of nerve fibre.

The patient died of some disease quite irrespective of the above defect.

151. Specimen showing atrophy of the left optic nerve. The optic commissure and optic tracts on both sides do not appear to be at all altered.

The specimen was removed from a patient who, from some cause or other, had been blind for a length of time.

152. Portion of a nerve having a small transparent cyst connected with its surface. This seems to have been formed by the accumulation of fluid beneath part of the neurilemma of the nerve. See *Beale's Archives*, Vol. iv.

153. Specimen of a cyst removed from the median nerve. It contained clear fluid when recent, and had one or two filaments of nerve tissue expanded over its surface, which were removed along with it by the knife. It was taken from a patient, a young man, who for some time had suffered excruciating pain in the neighbourhood of the affected nerve. Relief was afforded by the operation.

The specimen was removed and *Presented by* SIR B. C. BRODIE. See *Beale's Archives*, Vol. iv.

154. Specimen of a tumour which was in connexion with a nerve of the skin above the patella. It occasioned considerable pain, and was removed by SIR B. BRODIE. On examination *microscopically*, it was found to present the ordinary elements of white fibrous tissue. See *Beale's Archives*, Vol. iv.

155. Specimen showing a phrenic nerve split, as it were, into two, by the enlargement of a bronchial gland, which had been con-

verted into a dense irregular mass, containing much calcareous and carbonaceous matter. This concretion, which is the uppermost in the preparation, quite surrounds the nerve; in connection also with the nerve, towards its periphery, where it enters the diaphragm, and situated under the pleura, an enlarged but quite softened absorbent gland is seen, through which the nervous filaments take their course. The nerve itself was not enlarged or otherwise altered.

The specimen was found in the dissecting-room, and no history is known in connexion with it. *Presented by* CÆSAR HAWKINS, Esq.

156. Portion of an enlargement of the sciatic nerve, of about the size of a pigeon's egg. This was the largest of all the tumours met with, but similar ones were found connected with many of the nerves of the arms and legs, and with both the pneumogastrics; and many nerves in the body which were free from actual nodules or tumours were indurated and irregular in shape.

Microscopical Examination.—The enlargements were found to be due to a quantity of simple fibrous tissue infiltrated between the nerve fibres, causing their separation, without injury to their structure. Even in parts where no enlargement existed, the nerve fibres were found closely adherent.

The specimen was taken from the body of a woman, aged 25, who died in Guy's Hospital, from a disease which was termed phthisis, but which Dr. Wilks attributed to the fact of the pneumogastric nerves being affected by the deposit producing the enlargements before spoken of. For details see *Path. Soc. Trans.*, vol. x. p. 1.

157. Portion of the posterior tibial nerve covered by soft fibrine. When recently examined, the neurilemma of the nerve, after the coating of fibrine had been taken away, was found to be highly vascular. The nerve was removed from amongst a quantity of sloughing areolar tissue in connexion with compound comminuted fracture of the right tibia and fibula. The other parts of the nervous system, such as the brain, spinal cord, etc., were quite natural.

The specimen was removed from the body of George P., aged 27, who was admitted into the Hospital with the above-mentioned fracture, February 22nd, 1850. On the 28th, after a bad night, and increased pain in the injured leg, stiffness of the jaw was noticed, unaccompanied by cramps or dysphagia. On March 1st, there was perfect fixedness of the jaws and violent spasms of the muscles of the trunk and extremities, and there was slight opisthotonos. The oil of turpentine in small doses was given by the mouth, and turpentine enemata, but the patient died March 2nd. For further details, see *Post Mortem and Case Book.* 1850. p. 41.

158. Specimen showing the accumulation of fibrinous material about the roots of several of the spinal nerves. The lower cervical and upper dorsal nerves are those mostly affected. In many cases this deposit was so scanty as only to be seen on close inspection, coating over the nerve roots. In other places the deposit was sufficient to form a layer, obscuring and matting together the various nerve strands composing the entire nerve root; whilst, in a few cases, the deposit existed around the separate roots in single masses, appearing like beads of various sizes. In one instance a pink-stained mass was formed around one of the anterior roots, of the size of an ordinary pea. The spinal cord was natural in other respects.

Microscopical Examination.—The greater part of the material investing the nerve roots possessed all the appearances of ordinary fibrinous material: but, on examining that portion of the exudation which immediately surrounded and penetrated between the various nervous elements forming the entire root, in addition to a quantity of granular and amorphous material, there were found vast numbers of peculiar round, oval, and, in some cases, oat-shaped bodies, which, on the application of acetic acid, became larger, but not otherwise altered. The nerve fibres of the various affected nerve roots were in most places very opaque, and filled with granular matter and fatty particles.

The specimen was removed from the body of a man who had, on several occasions, with long intervals, been subject to 'numbness' of the lower limbs. Subsequently, the upper limbs became similarly affected, and the muscular power of the arm and hands, and also of the legs, became diminished. Slight involuntary twitchings of all the limbs supervened. Stupor and contraction of the pupils came on, and before death a 'fit,' attended by much struggling, occurred. For details, see *Post Mortem and Case Book.* 1856. p. 195; and *Med. Chir. Soc. Trans.*, vol. xliii. p. 383.

159. Specimen showing carcinomatous deposit (the so-called melanotic form) in connexion with the intra-cranial part of the seventh pair of cranial nerves. This deposit, when recent, was much larger in quantity than it is in the present state, passing into the internal auditory foramen: a similar deposit also existed in connexion with the ninth pair of cranial nerves passing into the jugular foramen; and this was the case on each side of the brain. The deposit was only in connexion with the connective tissue uniting the various filaments of the nerve, and did not involve the nerves themseves. Similar deposit was connected with the cerebral dura mater, and with the lining of the ventricles (see No. 86 in this Series), and with other parts of the body.

The specimen was removed from the body of James H., aged 27, who was admitted into the Hospital, February 20th, 1856, apparently suffering from disease of the brain, as well as from several tumours, which proved to be carcinomatous, connected with the subcutaneous tissues. He became the subject of epileptic seizures, and died May 3rd. For details, see *Post Mortem and Case Book.* 1856. p. 100; also *Path. Soc. Trans.*, vol. vii. p. 5; where the microscopical appearances are given with minuteness.

160. Specimen showing extravasation of blood beneath the sheath of the optic nerve in connexion with fracture of the base of the skull, extensive bruising of the brain, laceration of the dura mater, and rupture of part of the middle meningeal artery. For further details, see *Post Mortem and Case Book.* 1852. p. 57.

161. Specimen showing the same as the preceding preparation, and removed from the same patient. Slight extravasation, however, exists in the substance of the nerve in addition to that beneath the sheath.

162. Specimen showing the bulbous extremity of the crural nerve, after division in an amputation.

163. Specimen of the same nature as the preceding one.

164. Portion of the median nerve, which, along with the radial artery and certain muscles of the forearm, had been divided by some injury, showing an oblong tumour in connexion with its divided extremity. This tumour, when recent, was soft, but firm, and of a light brown colour. It was adherent to the cicatrix of the wound, and seemed to be the result of an effort to prolong the divided extremity of the nerve, so as to unite it with the lower portion from which it was separated. Some enlarged branches of the musculo-spiral nerve had formed connexion with the lower part of the median nerve, and amply supplied its deficiency.

This specimen was found in the dissecting room. For further details, see *Medical Gazette*, vol. i. p. 271. *Presented by* CÆSAR HAWKINS, Esq.

165. Specimen showing a bulbous extremity of the popliteal nerve, after division in an amputation. It has been cut through and laid open.

The preparation was removed from the body of John G., aged 23, who had the leg amputated, May 4th, 1837. The stump was an unusually good one, but, owing to the patient's leading a mendicant life and being dissipated in habits, he had to return with a painful and retracted stump to the Hospital, December 2nd, 1840. The stump was amputated, and both divisions of the popliteal nerve presented firm bulbous extremities; but these were not implicated in the cicatrix. The end

of the bone was inflamed having new osseous deposit upon it. *Presented by* CÆSAR HAWKINS, Esq.

166. Specimen showing the union of a divided carpal nerve of a horse, three-quarters of an inch of the nerve having been removed. The operation was performed in the year 1819, for some disease in the horse's foot—the disease was cured, and the foot deprived of ordinary sensation. Until the year 1823, the horse remained sound, and the hoof of the foot in question grew to a greater size than natural. In 1823, the horse become unsound.

The preparation shows, in addition to the nerve, two arteries to which it had become united by the intervention of a quantity of fibrous structure, which was of exceeding firmness, and presented the ordinary microscopical appearances of white fibrous tissue.

167. Specimen like the preceding one, showing the union of divided nerves.

168. Preparation showing the bulbous extremities of several nerves in the upper part of the arm after division in an amputation.

The specimen is also catalogued among the diseases of bones, as it shows necrosis of part of the humerus.

169. Specimen showing extravasation of blood on the external surface of the cerebral dura mater.

It was removed from the body of Walter T., aged 31, who had sustained extensive fracture of the skull and separation of the sutures, owing to a fall from a scaffold. He was admitted into the Hospital, January 22nd, 1853, and died on the following day. *Post Mortem and Case Book.* 1853. p. 16.

170. Specimen showing laceration of the dura mater in connexion with comminuted fracture of the squamous part of the left temporal bone.

The preparation was removed from the body of George S., aged 38, who fell from a great height, and was admitted into the Hospital, October 20th, 1856, with fracture of the base of the skull. He died three days after admission. *Post Mortem and Case Book.* 1856. p. 244.

171. A specimen showing a fatty tumour situated within the spinal canal, and lying on both sides of the theca of the cord. The membranes of the cord were found somewhat protruded through an opening in the back part of the sacral canal, extending downwards from the level of the inferior margin of the sacro-iliac synchondrosis, below which point the laminæ were almost entirely deficient. On opening the membranes, the protrusion was found to be caused by a large fatty mass adhering to them below, which may be seen in the preparation to form a smooth circumscribed tumour within the theca, considerably separating the cord (which here extends to the bottom of the canal) from

the membranes. A piece of blue glass has been placed between the dura mater of the cord and the periosteum, in order to show a distinct lobule of fat which occupies that situation. The tumour lies in close contact with the subcutaneous fat, but was satisfactorily proved at the operation (described below) to be separated from it, as the membranes, though denuded, were left entire. The bodies of the lower sacral vertebræ were found to be deformed. From the body of the third downwards they were displaced to the left side, and small in size, the deficient space being filled up with strong fibrous tissue. The coccyx was in its natural position. There was no appearance of inflammation of the cord or membranes.

This preparation was taken from the body of a male infant, aged 11½ months, who had been under the care of Mr. Athol Johnson, at the Hospital for sick children, in February, 1857, on account of a tumour over the sacrum. The child had been born with an ulcer in this situation, and when first seen (at the age of 6 weeks), the ulcer was found to be situated on a slight, ill-defined swelling, by the side of which was a little pendulous mass of fat covered with integument. The ulcer healed kindly; but the swelling increased, at first slowly, but in the early part of the year 1857 more rapidly; and then the child began to suffer from frequent twitchings, or convulsive movements, affecting the right leg only. The tumour was broad, doughy to the touch, and ill-defined: it was situated over the sacrum, a little to the right of the median line. The following operation was performed February 3rd. After cutting through a mass of fat, which was not circumscribed nor contained in any distinct capsule, the glistening surface of a membrane surrounding a distinct fatty mass, and constituting a separate tumour, was exposed. This was found to protrude through an aperture in the sacral canal, large enough to admit the finger, and, on removing this with the knife, a soft mass connected with the interior of the canal, formed by the membranes enveloping the spinal cord, and exhibiting a distinct pulsatory movement synchronous with the respiration, was seen to rise up to the level of the opening. The child did well after the operation, the convulsive movements of the lower extremities ceased, and he began to walk a little; when he was attacked with peritonitis from some accidental cause, and died six weeks after the operation. *Presented by* ATHOL A. JOHNSON, Esq. See the *Path. Soc. Trans.*, vol. viii. pp. 16, 28.

172. Specimen showing a large oval-shaped tumour, connected with and embedding the sciatic nerve and its posterior tibial branch. This tumour is of about six inches in length and four in width, and is nodulated on its surface; and presents a hollow central

cavity of considerable size, with soft and shreddy walls. The great mass of the tumour is very firm in texture, and when cut into after immersion for many years in spirit was of a pale yellowish colour ; but towards the central cavity its substance is, in many places, much softened and very friable. In addition to the main trunks of the nerve which are embedded in it, portions of which are plainly visible at the inner surface of the central cavity, numbers of nerve filaments of various sizes may be seen separated and spread out on its external surface. Moreover, for about one inch and a half above the tumour the nerve is much thickened and indurated.

Microscopical Examination—The chief mass of the tumour was found to consist of the following elements, namely, fibrous tissue, of more or less firmness and solidity; granular amorphous material; round and oval cells of the size of pus globules for the most part, some being, however, of larger size, swelling out and becoming clearer on the addition of acetic acid; elongating fibre-cells. Remnants of old nerve-fibres were here and there met with, especially where nerves were seen by the naked eye. When recently examined, the central cavity contained a quantity of semi-fluid broken-down substance, which ran out when an opening was made into it. The leg was amputated in consequence of the tumour, but no further history is known of the patient. *Presented by* Sir B. C. Brodie. See *Beale's Archives*, Vol. iv.

173. Specimen showing a shaggy fibrous growth affecting the dura mater (corresponding to the superior angle of the occipital bone). It chiefly occupies the outer surface of the membrane, covering an area somewhat larger than a crown piece, but it also affects the inner surface on either side of the falx cerebri. Moreover, on the right side the growth, where it occupies the entire thickness of the membrane, is perforated by a large unevenly-edged opening of the size of a quill, the result of ulceration. The fibrous growth had apparently commenced in the bones of the cranium, appearing externally as an uneven lobulated tumour; it also compressed the surface of the posterior part of the brain on the right side of the median fissure (see the next preparation, No. 174), to the extent of about $2\frac{1}{2}$ inches in length, $1\frac{1}{2}$ inches in breadth and about an inch in depth. The grey matter of the brain was not destroyed by the pressure of the growth.

Beyond the above-mentioned disease of the cranial bone and the dura mater, nothing of note, excepting a granular condition of the kidneys, was found in the body.

Microscopical Examination.—The morbid growth, which was in the central parts very softened, proved to be entirely

composed of nucleated spindle-shaped cells, along with a quantity of fibrous matrix.

The preparation was removed from the body of — M., aged 64, who was admitted into the Hospital June 17th, 1854. He had been an out-patient for some time, with a tumour at the back of the head, which had attained a considerable size, measuring 11 inches in circumference, and 3 inches from side to side. Owing to cough, and pain in the side, which he had for three weeks, he was transferred to the physician's care, when it was found that he expectorated rusty-coloured sputum, and that there was decided evidence of consolidation of the lower and back parts of the right lung. In the course of his illness, the left leg became numb and cold. The patient sank and died, after spitting up a quantity of purulent matter. For details, see *Post Mortem and Case Book.* 1854, p. 155.

174. Portion of the upper part of the right hemisphere of the brain, mentioned in the description of the preceding preparation, showing indentation of the surface, without destruction of the grey matter.

175. Specimen showing an abscess, of the size of a large walnut, occupying the upper and anterior part of the right half of the cerebellum. It presents a small orifice, of which the lips had been attached by recent lymph to the dura mater, in which also was a corresponding hole through which the contents of the abscess could make their way. The external meatus of the ear was found to be denuded of mucous membrane and bathed in pus. The membrane of the tympanum was destroyed and the bone forming the walls of this cavity was laid bare. (For bone, see Series II., preparation 99a). Every part of the bone itself, however, was free from disease. A section was made through the mastoïd cells, which proved to be healthy.

The lateral sinus and the internal jugular vein, on its right side, were occupied by pus and shreddy lymph. About an inch of the attached wall of the sinus, at the part nearest the jugular foramen, had been removed by ulceration, so that purulent matter lay between the sinus and the bone, and had also penetrated the dura mater by a hole as large as a three-penny-piece, over the anterior aspect of the petrous bone. From this source the matter had burrowed into the middle lobe of the cerebrum, where a narrow opening led to an abscess of considerable size; and also, as already described, into the cerebellum. The pus was prevented from escaping into the general arachnoïd cavity by a small effusion of soft lymph around the opening. There was evidence of acute pleurisy in the right side, and there were abscesses in the right lung.

The preparation was taken from the body of a man, aged 22, who was admitted into the Hospital April 25, 1863, having for a week suffered from sore throat. No ulceration or diptheritic membrane could be discovered, the throat being only red and swollen. It was observed that he had a discharge from the ear, but when questioned he was found not to have been previously aware of it. When he had been in the Hospital about a week, the discharge from the ear suddenly ceased; he had an attack of rigors and fell into a temporary condition of collapse; when this had passed off, he suffered from acute pain in the right side of the chest, with hurried and painful respiration. He soon afterwards fell into a semi-comatose condition, in which he died four days after the attack of shivering and the cessation of discharge from the ear. For further particulars, see *Post Mortem and Case Book.* 1863. p. 117; also, *Path. Soc. Trans.*, Vol. xiv.

176. Specimen showing syphilitic disease of the dura mater, with meningeal apoplexy. There is a membrane loosely attached to the inner surface of the dura mater, covering the right hemisphere, which is nearly decolorized ; and in the midst of this and attached to it is a hard thick mass of yellow and opaque organized lymph.

On *Microscopical Examination*, it was found to be indistinctly fibrous, with a few fibrillating cells intermixed. It is about half an inch in thickness, and had produced evident compression of the convolutions on which it lay. Outside the membrane was a smaller patch of lymph, in an exactly corresponding situation, which appeared to be continuous through the dura mater. Opposite to the part of the membrane thus affected, was a node in the parietal bone, which was chiefly indicated by a circle of new rough bone. (For preparation of the skull, see No. 101a. Series II).

The preparation was removed from a man, aged 35, of very dissolute habits, who had, at a former period, lost bone from the nose. He was admitted into the Hospital February, 1862. In November, 1861, while in tolerably good health, he was attacked with convulsions, which chiefly affected the left side, and which were followed by a state of unconsciousness which lasted three days. He subsequently had three similar attacks, unattended however by any loss of consciousness. When admitted into the Hospital, he was in the fifth convulsive seizure. Most of the voluntary muscles of the left side twitched violently; the muscles on the right side being more slightly affected. His intelligence was unimpaired, and there was no loss of sensibility of the skin. He was covered with perspiration. Next day when the seizure had almost passed off, it was found that the left limbs were rather

weaker than the right, and were somewhat wanting in sensibility. It was afterwards observed, that when awake he was scarcely ever quiet, more or less of the convulsive movements being always present. Finally, an abscess was formed near the left elbow, and he sank and died about two weeks after admission. Before his death, the movements ceased, and he became quite deaf. For further particulars, see *Path. Soc. Trans.* vol. xiii. p. 8; also *Post Mortem and Case Book.* 1862. p. 48.

177. Specimen showing a tumour of about the size of a chestnut in the inner part of the optic thalamus. (The preparation displays a vertical and horizontal section of the anterior part of the brain). Owing to an increase in the size of the left optic thalamus, the corpus striatum on the same side is thrust forwards, and the septum lucidum is pushed beyond the median line. The lateral ventricles contained about an ounce of clear fluid. The deposit, which when fresh, was yellow, spongy, and semi-transparent, is now white and opaque. It was mixed with minute patches of extravasated blood.

On *Microscopical Examination*, the deposit was seen to consist of irregular cells, not unlike some form of tubercle, mixed with granular matter.

The preparation was taken from the body of a man, aged 21, who was admitted into the Hospital, in an almost idiotic state, May 13th, 1863. About six months before his death he began to complain of acute pain in the head. He then had a fit, in which he lost his consciousness, and afterwards he lost power in the right limbs, first in the arm and then in the leg. He was a patient in the Hospital for the last month of his life. When admitted, he could walk, using the right leg imperfectly; the left arm hung helpless by his side. He derived little benefit from such remedies as were resorted to, but became almost comatose. He emerged from this state after blistering and purging, but only again to become comatose: his pupils became dilated and the urine passed unconsciously. He had a succession of epileptic fits before his death, which occurred June 22nd. For further particulars, see *Post Mortem and Case Book.* 1863. p. 157.

178. Specimen showing the presence of a large quantity of scrofulous deposit external and very adherent to the dura mater covering the spinal cord at a point corresponding to the last cervical and first dorsal vertebræ. The deposit is larger in quantity on the left side of the cord, and firmly surrounds the roots of the nerves issuing from the cord at that part, but especially those on the left side. The lower part of the cervical and upper part of the dorsal portions of the cord are softened, and opposite the seventh cervical and first dorsal vertebræ it is

almost diffluent. Moreover, the posterior surface of the bodies of the cervical and of the three upper dorsal vertebræ were deprived of all ligamentous covering, and the intervening cartilages were almost completely destroyed: the opposed bony surfaces being carious. The anterior surfaces of the bodies of the 5 or 6 upper dorsal vertebræ were eroded and bathed in thick pus. The lungs were œdematous and the lower part of the right one was hepatized.

The preparation was removed from the body of Robert G., aged 20, who, in 1856, had been a dispensary patient, under Dr. John W. Ogle's care, and was subsequently removed to the Hospital. His illness began with pains about the shoulders and neck, and tenderness, on pressure, of the upper part of the spine. Subsequently a sense of weakness in the arms came on, especially in the right one, and head-ache was experienced. By degrees he had a difficulty in walking without supporting the chin with his hands, and at one time dysphagia came on. He lost power in moving his legs, especially the right one, and subsequently lost sensibility in these limbs. When admitted into the Hospital, September 17th, 1857, he was almost unable to move his legs, which, in bed, were wont to become drawn up involuntarily; the ham-string muscles becoming rigid. He had a severe attack of dyspnœa with slight cough and tightness across the chest, of which he died March 4th. For details, see *Post Mortem and Case Book.* 1857. p. 50; also *Beale's Archives.* No. XIV. p. 116.

179. Specimen showing softening of the lower part of the cervical region, and also of the lower part of the lumbar region of the spinal cord. The spinal membranes were healthy. The brain and its membranes were also healthy. Abscess of the kidney existed, and a large calculus (uric acid covered with phosphates) was found in the bladder, which was much inflamed. (See the Series devoted to Urinary Calculi).

The specimen was removed from the body of a gentleman, aged about 57, who for long had suffered from hæmaturia, with symptoms of stone in the bladder, and from paraplegia. His illness originated apparently from a slight fall, soon after which he passed blood along with the urine, attended by pains in the left side. Prostration of strength came on, and the hæmorrhage continued, purulent matter being also passed from the bladder. About five years after the first symptoms set in, difficulty in walking and numbness of the legs came on, and gradually almost complete loss of power in the legs was established. Eventually loss of sensibility of the skin of the legs and of the face was experienced, and hyperæsthesia of the arms. The patient died owing to excessive accumulation of mucus in the bronchial tubes. *Presented by* Dr. JOHN W. OGLE.

180. Specimen showing excavation of the convolutions forming the anterior part of both hemispheres of the brain, the result of a severe injury of the head, which occurred twenty years before the death of the patient. The arachnoïd and dura mater were carried evenly over both depressions, so that a space was enclosed beneath them, which was filled by loose areolar tissue and serum. In the right hemisphere, the mouth of the excavation was nearly circular, was about an inch and a half in diameter, and was so placed that the inferior margin lay close to the base of the brain, whilst the inner one was close to the median fissure. The depth of the excavation was about an inch; and the convolutions round its edge were natural. The cavity commenced for the most part abruptly, but one or two convolutions could be traced in a stunted condition down its walls which had an even surface, and were loosely coated with areolar tissue. In the corresponding part of the left hemisphere was an excavation, in all respects similar, except that it had rather less than half the dimensions of the one above described. The cerebral tissue in the neighbourhood of these cavities, and forming their walls, had a perfectly healthy appearance. There were no traces of blood extravasated in the cavity of the arachnoïd; the other parts of the brain were perfectly healthy, and so, too, was the brain-case—no traces of fracture—no sign of injury to the bones. The patient died of aneurysm of the subclavian artery.

This preparation was taken from a man, aged 48, who, twenty years before his death, was admitted into the Hospital with several other men, all of whom had fallen a great height in consequence of the giving way of some scaffolding. When admitted into the Hospital, he was suffering from several severe injuries, one of which was an injury of the head, marked by the symptoms of so-called concussion of the brain; but there were no signs of fracture in any part of the skull. For several days he struggled between life and death, in a state of perfect unconsciousness, followed by violent delirium, which ultimately, however, subsided, and in a few weeks he was so far well that he was able to leave the Hospital. After a while, he resumed his occupation, that of a house decorator, and for years he worked for one of the best firms in London, and was known as one of their ablest workmen. His intellect was as clear as it ever had been, and when accidentally met, from time to time, by Mr. Prescott Hewett, he always said that he did not suffer more from headache than other people. *Presented by* MR. PRESCOTT HEWETT.

181. Specimen showing induration and enlargement of the pneumo

gastric nerve at a point just above the giving off of the recurrent laryngeal nerve. The enlarged portion of nerve presents a fusiform appearance.

Removed from a patient who had extensive carcinomatous disease of the œsophagus and neighbouring parts, and also of the femur. Below the recurrent branch, the pneumogastric nerve is dwindled and atrophied.

Microscopical Examination.—In the enlarged and indurated part of the nerve, nothing like the elements of carcinomatous growth (such as were found in the neighbouring œsophagus and other parts) was to be observed. (See *Beale's Archives*, Vol. IV.)

182. Specimen showing the cerebral arteries containing minute shreds of fibrine, illustrative of a case of cerebral embolism consequent upon rheumatic affection of the heart. The vessels connected with the carotid and vertebral trunks have been dissected out and are spread upon talc. Here and there they are laid open to show small shreds of white fibrine inside them, which are loose, and not of sufficiently large size to cause complete obstruction. A considerable mass of circumscribed red softening was also found in the right hemisphere of the brain, and the minute arteries of the corresponding pia mater were packed with minutely divided opaque matter. The large cerebral arteries were in the condition described. A loose ragged mass of recent lymph was attached to the mitral valve of the heart. A block of fibrinous material was found in the liver and in one kidney.

The preparation was taken from the body of a woman, named Isabella J., aged 25, who was brought into the Hospital February 15th, 1862. She had only been taken ill the day before, with pain and swelling of some of the joints, and delirium of a low muttering type. She complained of constant pain in the head, which was hot. A slight squint was noticed in the right eye, and subsequently in both eyes. A tendency to drowsiness was at one time manifest; after which, for a short period, the delirium assumed a more active character. The heart had been frequently examined during these symptoms; its action was always excited, and a very variable systolic murmur was heard both at the base and apex. She died February 21st. For further particulars, see *Post Mortem and Case Book* for 1862, p. 45; also *Path. Soc. Trans.* Vol. XIII. p. 10.

183. Specimen showing spinal arachnitis, the result of disease of the cervical vertebræ and intervertebral cartilages, removed from the body of an insane woman, who had attempted suicide by cutting her throat. There was a carious condition of the anterior surfaces of the cervical ver-

tebræ, and softening, with perforation, of the intervertebral cartilages, so that a probe could readily be passed through one part of an intervertebral cartilage into the spinal canal. On examining the latter, it was found that the dura mater at the upper part of the cervical region was thick and shreddy, and that the spinal arachnoïd cavity throughout its whole length contained a large quantity of purulent and fibrinous material. It was also found, on examining the cranium, that the purulent fluid had found its way upwards, and covered the arachnoïd situated over one of the lobes of the cerebellum. The brain and its membranes were very congested. The spinal cord was healthy.

The case was that of a woman, aged 52, who, in making the suicidal wound with a razor, had not only divided the larynx, but also the œsophagus to a considerable extent. She was kept alive by nutritious injections, passed through an œsophageal tube thrice a day for three weeks. During that time the wound contracted to half its original size, and she went on well until two days before death, when she became delirious. No spasm or convulsion, however, of any kind occurred before death, and one hour before that event took place the patient was fed as usual, and answered questions rationally. After death, it was found that not only had the razor divided the larynx and œsophagus, but that inflammation had been set up behind these structures. The case occurred in the practice of Dr. Boyd, of the County Lunatic Asylum at Wells. *Presented by* Dr. John W. Ogle. See *Path. Soc. Trans.*, Vol. XV. p. 1. 1863-4.

184. Specimen showing a large accumulation of fibrine and purulent matter external to the dura mater of the spinal cord for the space of several inches, and also to a certain degree, within the arachnoïd cavity. The spinal membranes were matted together, and the roots of the nerves surrounded by the deposit. The portions of membranes affected correspond to the lower part of the dorsal region of the cord. The spinal cord itself was healthy. This affection was in connection with caries of the last three dorsal and first lumbar vertebræ, destruction of intervertebral cartilages, and psoas abscess. 'Secondary deposits' were found in the lungs, and the kidneys were much congested and enlarged.

The patient was a man, Thomas H., aged 42, who was admitted into the Hospital, September 26th, 1860, with obvious disease of the vertebræ. He attributed this to a 'wrench' of the back which he met with two years previously, and which was followed by stiffness and pain. Four months after admission, he suffered acute pain in the lower extremities, preventing his standing. Whilst in the Hospital, the psoas

abscess appeared, and was opened. Subsequently, spasmodic action of the back and legs came on, and eventually difficulty of breathing. He died December 1st. For details, see *Post Mortem and Case Book*, 1860. p. 315.

185. Specimen, consisting of a part of one of the middle lobes of the brain, showing the arachnoïd and pia mater at its base, puckered, thickened, and of a dark brick-red colour. These altered membranes are seen to be adherent to the substance of the brain, which correspondently is somewhat softened and atrophied. The remainder of the brain, and of the cerebral membranes, etc., were natural, except that more fluid than usual was found in the lateral ventricles.

The patient was a man, Henry Y., aged 35, who was admitted into the Hospital, May 12th, 1855, of whom but little was known, except that he had lived an irregular, intemperate life, that two years previously he had broken his arm in a fall, and that since then he had often complained of pain in the head. He died of disease of the heart and kidneys on the day after his admission. For details, see *Post Mortem and Case Book*, 1855. p. 148.

186. Specimen showing deposits of a fibrinous character within the substance of the dura mater covering the upper surface of the brain. These deposits are two in number, one being on either side of the median line; they project from the outer surface of the membrane, and are flattened as if by pressure against the cranial bones, and somewhat puckered and indented. The inner surface of the dura mater corresponding is quite smooth and even. These deposits are very dense and firm in places, but here and there are softened, containing a light, yellow-coloured material, of about the consistence of putty. The above described deposits in the dura mater corresponded to depressions in the inner surface of the skull, into which they were received. The outer surface of the skull corresponding to one of the deposits, presented a slight depression, and here the scalp was indurated and very adherent to the bone. Moreover, just at this part the surrounding bone was generally thickened. The brain and the rest of the cerebral membranes were quite healthy. A large quantity of turbid fluid, and also old adhesions were found in the pleural sacs; and the heart was usually enlarged, the valve-flaps on either side being much diseased.

The preparation was removed from the body of Lavinia T., aged 27, who having had three attacks of rheumatic fever, had been affected by palpitation and anasarca, etc., and when admitted, into the Hospital had obvious symptoms of cardiac disease. She never evinced any indications of intra-cranial

mischief before death, which took place November 27th. See *Post Mortem and Case Book*, 1856. p. 265.

187. Portion of brain, showing a carcinomatous growth (apparently from the hippocampus major), projecting into the cavity of the right lateral ventricle. There was a large quantity of clear serum in both lateral ventricles, and the septum lucidum was softer than it should be. The remainder of the brain was healthy. Miliary scrofulous tubercles were found throughout both lungs, and there was strumous disease of the kidneys and prostate gland.

Microscopical Examination.—The morbid growth of the brain was of a dark red colour, and found to contain a great number of capillary vessels, mixed with largish-sized granular bodies, not unlike pus globules, and a large number of smaller simple nuclear bodies.

The preparation was from the body of Henry W., aged 24, who at first had been a surgical patient, owing to pain in the right knee and hip, which lasted six weeks, and prevented him walking. A week before admission he had rigors, but no definite disease was found about the joints. He suddenly fell into a half comatose state, only partially understanding what was said, and speaking '*thickly*.' Much fever set in, with pulse of 152. He then appeared to have no pain in the hip. On the 28th, he had some kind of a 'fit,' attended by slight convulsions, in which he became comatose. He died on the same day. For details, see *Post Mortem and Case Book* 1860. p. 312.

188. Specimen showing a dense laminated yellowish-colored material (evidently the remains of old blood-clots) attached to the inner surface of the dura mater, corresponding to the parietal eminence on the right side of the skull. The deposit is of about the size of a crown piece; and in its interior was a compressed cavity, containing some scales of a silvery appearance. It could be peeled from the dura mater, though it was pretty firmly adherent thereto. The cerebral convolutions were rather flattened, and there was a large quantity of serum in the lateral ventricles. Softening of the corpora striata and optic thalami, etc. existed, and there was also softening of the cerebral convolutions, corresponding to the deposit on the inner surface of the dura mater above described. The lungs and kidneys were congested.

The preparation was removed from the body of Mary H., aged 42, who was admitted into the Hospital, August 9th, 1850, and who, having been subject to fits of some kind, had become 'hemiplegic' on the left side. From this state she partially recovered, when she became a second time affected on the same side, after a severe attack of convulsions. Peculi-

clonic spasms of the muscles of the back and legs came on, and coma set in before death, which occurred August 11th. For details, see *Post Mortem and Case Book*, 1840. p. 144.

189. Specimen showing a tumour (fibro-cellular) connected with the pia mater, and situated within the cavity of the 4th ventricle of the brain.

190. Specimen showing softening of the anterior portion of the middle lobe of the right hemisphere of the brain; and also plugging of the middle cerebral artery on the same side by fibrin. From a case of diabetes mellitus. *Presented by* Dr. JOHN W. OGLE.

END OF SERIES VIII.

SERIES IX.

INJURIES AND DISEASES OF THE TONGUE, TONSILS, PHARYNX, ŒSOPHAGUS, STOMACH, INTESTINES, PERITONEUM, LIVER AND PANCREAS (INCLUDING HERNIÆ, INTUS-SUSCEPTION AND ARTIFICIAL ANUS).

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* Other specimens of gallstones within the gall bladder and gall duct will be found in the Series devoted to Concretions.

1. Specimen showing extensive thickening and ulceration of the tongue, on the right side, not far from its extremity. The surface at the part is very soft, spongy, and prominent; and at some distance below, a cavity is seen containing a small quantity of soft shreddy material. No fluid could be squeezed from the affected parts.

   Microscopical Examination.—The surface of the tongue, as well as the material within the cavity, were found to furnish, besides a quantity of granular and amorphous material, and occasional small oval and round nuclear and cell bodies, a great number of very large dark granular corpuscles, of exactly the same nature as are not unfrequently found in softened brain and other parts. Very little epithelial material was met with in connection with the surface, and very slight new cell-formation in connection with any part of the diseased portion. *Presented by* SIR B. C. BRODIE.

2. Specimen showing extensive carcinomatous ulceration of the left side of the tongue. The edges of the ulcer are elevated and thickened, but the immediately surrounding parts are not materially indurated. As the ulceration extends posteriorly, the ulcer becomes more superficial. The tonsils and uvula were also destroyed by the ulceration. The arytæno-epiglottidean ligaments were swollen, but not hardened.

   Microscopical Examination.—After maceration in spirit for many years, the scrapings from the edges and surface of the ulcerated parts presented abundance of well marked nucleated epithelium of various forms, along with granular and amorphous material, blood corpuscles, small well defined clearly nucleated cells, and here and there a very large oval dark corpuscle, tapering at one end (possibly some form of tactile corpuscle). The firmish structure extending beneath the ulcerated part was found to be full of small nucleolated nuclei. For a considerable extent no proper muscular structure was met with.

   The specimen was removed from the body of Sarah W., aged 12, who was admitted into the Hospital February 16th, 1848, with extensive ulceration of the above-mentioned parts, also with dysphagia, and great hoarseness and distress of breathing, chiefly after taking food. The ulceration was said to have been of two years' standing; it proved unamenable to treatment, and the patient died May 7th. After death grey hepatization of the lungs was found; but there were no carcinomatous scrofulous deposits in any of the viscera. For details, see *Post Mortem and Case Book*, 1848. p. 95.

3. Specimen, consisting of the larynx, trachea, tongue, and lower part of the upper maxillary bones 'in sitû,' showing extensive carcinomatous disease of the tongue and palate. The left side of the tongue is the part mainly affected, the disease spreading

thence, and involving the soft tissues at the inner and upper part of the mouth, and also the fauces.

Microscopical Examination showed the diseased products to consist mainly of cell-forms of various sizes and shapes, chiefly oval and rounded, with nuclei and granular contents; but many cells were angular, and some caudate and plaque-like. Many oval, dark, granular forms existed, resembling exudation corpuscles, and many cells were arranged something like columnar epithelium. Occasionally, a nested character of these forms was seen. Most of the cells were in a fatty condition. Here and there muscular fibre was met with, containing much granular matter.

4. Specimen showing extensive carcinomatous deposit in the substance of the tongue and the subjacent tissues, as also in the lymphatic glands around. Extensive and deep ulceration had occurred.

Microscopical Examination showed that the adventitious growth consisted almost entirely of large nucleated cell-forms of every size and shape, great numbers being angular, but many being flattened, and epithelium-like, and nested. Most of them were tolerably transparent. Near the surface of the tongue much fibrous material, apparently muscular, was seen, occupied by refracting particles and granular material.

The specimen was removed from the body of George B., aged 24, who was admitted into the Hospital August 3rd, 1843, in a state too despairing to permit of any operation. The whole of the cervical glands on both sides were deeply involved. The patient, very much emaciated, died six months after admission. No carcinoma was found in any other part of the body. For details, see *Post Mortem and Case Book*, 1843. p. 38.

5. Specimen showing extensive occupation of the left side and root of the tongue by carcinomatous growth. Here and there distinct unsoftened nodules are seen, but generally the affected parts are extensively ulcerated. The lymphatic glands in the neighbourhood are somewhat affected.

Microscopical Examination showed elements of almost precisely the same nature as in the previous preparation (No. 4). Perhaps the epithelium-like character of the cells was more remarkable than in the above. *Presented by* SIR B. C. BRODIE.

6. Specimen showing extensive carcinomatous affection of the central part of the tongue. The disease extended very deeply into the tissues of the organ, as may be seen by the incision made at its under part. The upper surface of the tongue presents a large ulcerated cavity.

Microscopical Examination.—The affected structure of the tongue, as well as the juice expressed therefrom, was almost

entirely occupied by numbers of large cell-forms; most of them containing well defined nuclei. The majority were oval, but many were angular, and many flattened and plaque-like. None were seen to be nested. Several very large oval and rounded dark cell-forms, five and six times larger than the generality, were met with. Very little fibrous formation existed, but much granular and amorphous substance. *Presented by* SIR B. C. BRODIE.

7. Specimen showing two rounded smooth growths, connected, one with the surface of the back part of the tongue in the centre; the other more distinct and rounded with the left side of the glottis. It will be seen that there has been much ulceration of the surface, just above the glottis, the parts being very indurated, and thickened, and corrugated. The epiglottis has also been removed, apparently by ulceration.

   Microscopical Examination.—The two growths were found (after maceration for many years in spirit) to consist entirely of fibrous tissue, with the exception of occasional groups or accumulations of round and oval nuclear bodies. The elements contained were the ordinary ones of such growths. The glands at the root of the tongue are very enlarged. *Presented by* SIR B. C. BRODIE.

8. Two specimens of enlarged tonsils, removed during life by operation. *Presented by* SIR B. C. BRODIE.

9. Part of the stomach and œsophagus, showing perforation in the walls of the œsophagus, caused by an attempt made to pass a bougie into the stomach. The coats of the œsophagus, at its lower portion, (the part where the laceration exists,) are very greatly thickened, and its calibre diminished.

   Microscopical Examination.—The thickened part which is very indurated, presented the following histological characteristics, when examined after immersion for many years in spirit. In the middle of the firmest part were seen very strong and coarse fibres, mixed with granular and amorphous material, and having interspersed a few rounded and oval cells about half as large again as pus-cells, with here and there much larger brownish coloured cells of irregular form. All these were obscurely nucleated. In some places a few twisted and curled fibres existed. In portions which were of a softer consistency, great numbers of cell-bodies, oval and round, were seen, of about twice the size of pus-corpuscles, and having mixed with them in small number others of very much larger size, and more varied in form. Here and there were opaque yellowish bodies, apparently flattened, with granular contents, reminding one of epithelium; and in a very few cases, the above mentioned cell-forms assumed somewhat a nested tendency, clusters of nucleated oval cells, surrounded by a granular and fibrous matrix, being seen.

After the attempt to pass the œsophageal bougie into the stomach, diffuse inflammation of the posterior mediastinum occurred, of which the patient died.

10. Specimen showing the pharynx, œsophagus, tongue, and larynx of a person who died six days after having swallowed a quantity of bichloride of mercury. The mucous membrane of the œsophagus and pharynx were highly congested, and recent soft fibrine is seen covering that of the pharynx. Ulceration also of the right tonsil is seen. Moreover, recent fibrine exists on the laryngeal surface of the epiglottis, and to a slight extent on the mucous membrane of the chordæ vocales.

The specimen was removed from the body of Francis L., whose case is more particularly described, in connection with the preparation showing the effects of the poison upon the stomach, intestines, etc., as Nos. 36, 113, 114, 199 in this Series. For further details, see *Post Mortem and Case Book*, 1841-2. p. 245.

11. Specimen showing the effects of the swallowing of sulphuric acid upon the mucous membrane of the pharynx and œsophagus. This membrane is, in most places, in a loose shreddy condition, and in many parts of a deep brown colour, as if charred by heat.

Microscopical Examination.—The loose membrane was found to consist of dêbris of mucous membrane, along with large numbers of nuclear bodies. The dark colour of the parts is owing to the admixture of blood, as the microscope showed. The whole œsophagus and pharynx were very vascular also. Similar effects were met with in the stomach and duodenum (see preparation No. 206 in this Series).

The preparation was removed from the body of Thomas H., aged 33, who was admitted into the Hospital May 4th, 1853, having taken 'oil of vitriol,' and having been observed to stagger and fall down. The lips were eroded, and he was much collapsed. Much shreddy mucous membrane was brought up by the stomach pump adherent to it. He died May 5th. For details, see *Post Mortem and Case Book*, 1853, p. 97; also *Path. Soc. Trans.*, Vol. XI. p. 294.

12. Specimen showing extensive stricture of the œsophagus, at its upper part, caused by inflammation, the result of an arrest of a portion of bone during the act of swallowing. Inflammation was set up in the præ-vertebral areolar tissue of the cervical region, and also ulceration of the inter-vertebral cartilage between the 3rd and 4th cervical vertebræ, which went on to entire perforation into the spinal canal, and to inflammation of the membranes and substance of the cord, with excessive softening of the latter.

On *Microscopical Examination* of the thickened and hardened

parts of the œsophagus, where the stricture existed, only strong curled and straight fibres were seen, with round and oval areolar-tissue-corpuscles. There were no enlarged glands in the neighbourhood.

The preparation was removed from the body of Alfred W., who was brought into the Hospital January 14th, 1852. He said that he had been generally ailing for some months, but that on January 4th a bone of some considerable size had stuck in his throat. This was removed; and subsequently he parted with large quantities of purulent matter, attributed at the time to the formation of an abscess. He had also had much cough. On admission there was great pain at the back of the neck, which was much increased on movement; violent vomiting followed. After a time, in spite of remedies, the pain became more intense, and rigors came on. For a time he amended; but on February 10th he began to lose power in the upper extremities, which eventually became completely paralysed as regards motion; the lower extremities and bladder became also affected, but for some time sensation still remained. The mental faculties were retained to the last; and the patient died, apparently of asthænia, February 16th. For further details, see *Post Mortem and Case Book*, 1852, p. 36; also *Path. Soc. Trans.*, Vol. IV. p. 27. The diseased intervertebral cartilage is described as Preparation No. 11, Series V.; and the affected spinal cord as No. 139, Series VIII.

13. Specimen showing stricture of the upper part of the œsophagus. On *Microscopical Examination* no indications were found of any specific growth connected with the part affected, but at this place the lining mucous membrane was slightly ulcerated.

14. Specimen showing dilatation of the lower part of the pharynx, at a point corresponding to the lower border of the inferior constrictor muscle, forming a pouch equal in size to that of a bantam's egg. The pouch, which implicates only the posterior and lateral walls of the cavity, projects downwards behind the upper part of the œsophagus; it is apparently composed of a portion of the mucous membrane and sub-mucous tissue protruding through the muscular coats of the pharynx, and does not, either to the naked eye, or by the microscope, show any muscular fibres entering into its formation. The upper part of the pharynx is enlarged, and the pharyngeal muscles hypertrophied. There is no stricture of the œsophagus.

The preparation was removed from the body of a man, aged 63, of moderate size and spare habit, who, for several years before his death, had suffered from inability in swallowing anything. After the conclusion of a meal in was in the habit of returning small portions of food, and this would continue more or less for some hours. For two or three years previous to his death he was subject to attacks

of inflammation of the larynx, from which he recovered under treatment; but his death ensued during an attack of inflammation of the lungs. The dysphagia was always supposed to be owing to stricture of the œsophagus, but no operation for its relief was had recourse to.

15. Part of the œsophagus of a dog, showing a large piece of bone impacted in its walls, which had produced ulceration and partial sloughing, and subsequently extensive suppuration in the mediastinum and the pleural and pericardial cavities. The bone had been swallowed along with other food, and the dog had been poisoned by the administration of sulphate of zinc, which induced vomiting. On its expulsion from the stomach, the bone had become fixed, as seen in the preparation. *Presented by* CÆSAR HAWKINS, Esq.

16. A small portion of bone, which was supposed to have been swallowed by a man about three weeks previous to his admission into the Hospital, January 19th, 1847. From his sensations, the patient thought the bone had lodged in the œsophagus. On the day after he swallowed the bone, a probang had been passed, but without relief; and again at the end of a fortnight. Previous to this latter passing of the probang he had only been able to swallow fluids, but afterwards he could eat small pieces of solid food. On admission, the chief pain was just above the upper end of the sternum, where an imperfect sensation of the presence of the bone was experienced. Bougies and forceps of various sizes were introduced two days after his admission, but they evidently passed beyond the bone, and a little blood came away with the instruments. On the evening of the 30th January, whilst taking some tea, the patient endeavoured to swallow a piece of crust of bread, and in this effort he felt the bone dislodged, and enter the stomach. He was ordered some castor-oil, and on the following day he produced the portion of bone, which had passed 'per rectum.'

17. Specimen showing simple ulceration of the anterior wall of the œsophagus, at a point rather below the middle of that tube. It will be seen, that in some places all the coats are quite destroyed.

The preparation was removed from the body of James P., aged 64, who was admitted into the Hospital December 30th, 1842, and who had suffered from the disease for some time. He was exceedingly emaciated, but complained of little or no pain. He could swallow fluids, though with difficulty, but solids he could not swallow at all; and these symptoms varied but slightly until he died exhausted, February 22nd, 1843. No particular induration around the ulcer was found after death. The lungs were slightly hepatized, but nothing more of note was observed in the various viscera, etc. For details, see *Post Mortem and Case Book*, 1843. p. 37.

18. Specimen showing extensive ulceration of the pharynx and œsophagus, affecting mainly the left side. The tissues in the neighbourhood are very thickened and indurated, and several ulcerated openings of communication exist between these parts and the ulcerated portions of the pharynx, etc. This is especially the case on the left side, where is an abscess amidst the thickened external structures posterior to, and slightly involving, the left portion of the thyroïd gland. The margins of the glottis and epiglottis are seen to be very swelled and indurated. On close inspection, many parts of the ulcerated surface present small hardish nodules, or out-growths, in form somewhat like warty growths. One or two neighbouring lymphatic glands are much enlarged.

Microscopical Examination.—After maceration for some time in spirit, portions of the ulcerated surface showed the following elements: 1.—Fibres looking like old decomposing muscular bundles; 2.—Delicate straight and wavy fibre-tissue, with occasional curled elastic-tissue-fibres and granular matter; 3.—Occasional large rounded opaque yellowish bodies, obscurely marked, as if they contained other bodies within them; of these, several were in groups, showing peculiar rounded projections at their edges; and some had a slight tendency to a concentric arrangement; 4.—Numbers of rounded small corpuscular bodies, both regular and irregular in shape, and not unlike pus-globules; and 5.—Numbers of epithelial scales, at times assuming a columnar tendency, but for the most part flattened in form. Some of these were very granular and opaque, as if from fatty change; and a few were very irregular and bizarre in shape, forming groups of various kinds. In one portion the more recently ulcerated part was cut into, and the subjacent hard tissue was seen to present numbers of fibres mixed with small rounded and oval cell-forms, with occasionally flat and columnar epithelium-like forms. In the various nodulated out-growths before described, occupying the surface in certain parts, many epithelium-like forms were seen varying in size and shape, along with granular and fatty matter, and elongated nuclei. The contents of the abscess, etc., were found to be devoid of any epithelial structures, but to contain pus, and numbers of rounded, dark, yellowish, crystalline bodies. The enlarged lymphatic glands in the neighbourhood were free from any epithelium or special cell-forms.

The specimen was removed from the body of a young woman, who, six weeks before admission, accidentally swallowed a pin, being previously in good health. The affection of the throat immediately supervened; and it was thought that the pin had lodged in the situation of what was afterwards found to be an abscess. No pin was however found in connection

with the abscess or ulcerated parts after death. *Presented by* SIR B. C. BRODIE.

19. Specimen of ulceration of the œsophagus, the result of swallowing American potash, an impure caustic alkali. At the upper part of the preparation some cicatrised bands exist, apparently the result of healed ulcers, arising from the same cause as the main ulceration. The latter is seen to have affected the mucous membrane of the whole of the lower half of the œsophagus, which is much contracted, and to have exposed the muscular coat; the tissues around it are much thickened. The cardiac orifice, where the ulceration ceases, was so much contracted as hardly to admit the passage of a director.

For the preparation of the stomach and pylorus, see preparation No. 204 in the present Series. The patient survived the accident more than two months. For the history of the case see *Post Mortem and Case Book*, 1853. p. 142.

20. Preparation showing syphilitic ulceration of the œsophagus, in the neighbourhood of the glottis, along with unusual enlargement of the glands at the root of the tongue.

The specimen was removed from the body of a man named William W., aged 26, who died from excessive dyspnœa, which came on along with sudden salivation. After death, extensive and foul suppuration was found extending down the whole mediastinum. Both lungs were hepatized, and serum and recent fibrine were found in both pleural, and in the pericardial cavities. *Presented by* CÆSAR HAWKINS, Esq.

21. Specimen showing extensive ulceration of the fauces and adjoining structures, especially on the left side, the glottis being much affected, and the hyoïd bone quite exposed, and projecting from the ulcerated surface. The epiglottis is completely destroyed.

The specimen was removed from the body of a patient who died in the Lock Hospital with secondary syphilis. *Presented by* SIR B. C. BRODIE.

22. Specimen showing extensive sloughing of the fauces and adjoining structures, of a syphilitic nature. The hyoïd bone has been completely exposed in one or two parts; and on the left side of the base of the tongue one of its cornua is seen projecting from the sloughing surface.

The preparation was removed from the body of a patient who was admitted into the Lock Hospital with symptoms of secondary syphilis. He was put under the use of mercury with evident advantage for a time, but the sloughing of the throat soon obliged its discontinuance. His general health became worse, and whenever mercury was exhibited, the throat assumed an unfavourable aspect. *Presented by* SIR B. C. BRODIE.

23. Specimen showing one or two abscesses and sinuous canals in

the structures adjacent to the pharynx and œsophagus, connected with extensive ulceration of the inner surface of those parts, and stricture. There is no induration of the neighbouring tissues.

Microscopical Examination.—No special cell-forms were anywhere visible. The loose shreddy material presented by the ulcerated surface was seen to contain much fibrous tissue, of which the most part was very granular and fatty, as also old unstriped muscular fibre in a fatty state, and much free granular and fatty matter. Here and there a few corpuscular elements were seen, and occasional nucleated cells somewhat like epithelium.

The preparation was removed from the body of a woman aged 50, who laboured under considerable irritation of the throat, with difficulty in swallowing solid food. She became quickly emaciated, and died seven weeks after admission. *Presented by* SIR B. BRODIE.

24. The pharynx and larynx from a woman who died of diphtheria. A membranous exudation may be seen passing for a short distance down the pharynx, turning over the epiglottis, and coating the larynx as low as the true vocal chords. This membrane is very loosely adherent to the mucous lining of the tubes, and is of a dark colour, owing, as was thought, to the administration of preparations of steel. No fungus was observed in the membrane by *Microscopical Examination.*

The specimen was removed from the body of Mary P., aged 43. For further particulars, see *Post Mortem and Case Book*, 1859. p. 217.

25. Tubular cast of the œsophagus, formed by epithelium, and so called exudation-matter. The substance is moderately tough, and of a brownish colour; it is smooth externally where it is marked by the mucous folds of the œsophagus with which it had been in contact, and roughened on its inner surface.

Microscopical Examination.—The preparation was found to consist mainly of a yellowish granular and amorphous material, having abundance of oily particles and epithelium mixed with it: in one or two places nothing but tesselated epithelial scales were met with.

The specimen was parted with during life, along with about a tea-spoonful of blood, by a man who was suffering from fever consecutive to cholera. The patient subsequently died, but no post mortem examination was obtainable. See the *Path. Soc. Trans.*, Vol. VI. p. 182.

26. Specimen showing carcinoma of the upper part of the œsophagus and pharynx. A complete circle of the canal is diseased to the extent of about 1½ inches, opposite to the cricoïd cartilage. The growth, which was mainly confined to

the inner coat, projects into the canal, the edges terminating abruptly, and overlapping the healthy membrane. Between the cricoïd cartilage and the first ring of the trachea an ulcerated opening led into the trachea, and a soft tumour projected into that tube, the orifice of communication being large enough to admit a bougie.

Microscopical Examination.—After immersion in spirit for some years, the morbid growth was found to present the following appearances: the surface for the most part was broken down and spongy, but here and there it was mammillated and rugous. Most portions showed an obscurely fibrillated basis, but were seen to consist mainly of rounded and oval nucleated and chiefly granular cells. Some cells were pear-shaped and elongated, and very few possessed more than one nucleus, which was, however, generally very large. In one or two places (and this mainly in the mammillated processes), star-shaped and forked forms of nucleated cells were seen. In other places again, several very large oval and round cells, having curved processes attached, presented themselves; and in a variety of places, curled and areolar tissue, with granular and fatty matter existed. A scanty number of clearly nucleated pavement-epithelium cells were also found.

The specimen was removed from the body of Jeddiah C., aged 38, who was admitted into the Hospital August 1833, having for several months suffered from dysphagia. In January, 1834, she passed a week without swallowing either liquid or solid food. At this time a tender swelling was perceived on the right side of the cricoïd cartilage, and she was much emaciated. There was discharge of nearly a pint of watery mucus daily from the throat. A bougie introduced sometimes passed through the œsophagus, but was generally tightly held by it, and a little lymph or pus clogged the orifice of a catheter when introduced. The passing of the bougie gave relief, so that she could again swallow liquids. The patient died in February. *Presented by* CÆSAR HAWKINS, Esq.

27. Specimen showing carcinoma which had passed into a sloughing condition, of the upper part of the œsophagus.

Microscopical Examination.—The shreddy portions were seen to consist of strings of granular fatty matter, and decomposing fibrous tissue in a fatty state, with here and there large accumulations of granular fatty matter. The tissue underneath the sloughy parts showed the same fatty matter mixed with the fibrous elements, and very occasionally smallish-sized nucleated cells, with numbers of irregular and incomplete-looking corpuscular elements. In one or two places where the sloughy parts were already removed, portions showed a considerable number of large oval and irregularly shaped nucleated cells.

The preparation also shows an enlarged and indurated lymphatic gland on the left side, close to the lower border of the thyroïd body. This was seen to present, *microscopically*, free nuclei, with round and oval elongated cells, of which many were nucleated. In no case, either as regards the lymphatic glands, or the texture of the œsophagus, were any capsulated or concentrically-formed cells seen to exist.

The specimen was removed from the body of George G., aged 56, who was admitted into the Hospital August, 1832. He had a sallow complexion, and was emaciated. He stated that he had for a few weeks only suffered from difficulty in swallowing, and from some tenderness of the throat on pressure. Bougies were passed twice or three times, but the patient died about four days after admission.

28. Specimen showing carcinoma of the upper part of the œsophagus and pharynx, and also of certain of the lymphatic glands in the neighbourhood. The uvula is very much thickened, and on the interior of the trachea, on the left side, one or two rounded masses of carcinomatous material project into the tube.

Microscopical Examination.—After immersion for some years in spirit, the following appearances were observed. The soft and shreddy parts showed multitudes of round, oval, clavate, and columnar shapes, containing one or two, or, in some cases, many nuclei. The large hemispherical mass situated above the shreddy part, and involving the base of the epiglottis, showed chiefly round, oval, and irregular cells, and in places, large 'plaques,' with nuclei inside, some of the latter having a faint resemblance to tesselated pavement-epithelium. No distinctly columnar cells were seen. The small growths inside the trachea showed large numbers of free nuclei or small cells, with much granular matter, and a slightly fibrous matrix. In the mass connected with the outside of the œsophagus, which probably was an enlarged lymphatic gland, much coarse fibrous tissue existed; but in other respects, as to cell-formations, etc., its elements were much the same as those of the rounded mass before described. No fatty matter of importance was found. In the thickened uvula some rather large masses of deposit existed, containing much fatty and granular matter, with here and there imperfectly formed corpuscles, and some wavy fibrous tissue, as also scanty particles of calcareous material.

The preparation was removed from the body of Sarah H., aged 70, who was admitted into the Hospital July 21st, 1841. She complained of having been ill for two months with cough and sore-throat, attended by abundant expectoration, which latterly had contained much blood. There was great difficulty in swallowing and breathing, the voice being very sonorous. She died

in two days after admission. The contents of the thorax and abdomen were found, on post-mortem examination, to be natural. For details, see *Post Mortem and Case Book*, 1841. p. 129.

29. Specimen showing an extensive carcinomatous affection of a large portion of the œsophagus and adjoining tissues. At the lower part of the upper third of the œsophagus, and at the anterior part of this tube, a large oval ulcerated opening of about two inches in length is seen, with elevated thick and pulpy margins. This communicates with a cavity which is quite soft and spongy throughout, and at its base is continuous with a broken-down mass on the left side of the preparation, connected with a quantity of indurated material, to be alluded to immediately. Several nodules, varying in size up to that of a pea, project from the posterior part of the trachea, about one inch above its bifurcation. The large indurated mass before spoken of as situated on the left side, consists of enlarged lymphatic glands, and a quantity of firm connective-tissue, embedding the commencement of the left carotid and subclavian arteries, the pneumogastric nerve, the upper part of the arch of the aorta, the recurrent laryngeal nerve, and also to a slight extent, a portion of the neighbouring lung. The bronchial glands are very large, hardened, and occupied by black-coloured material. The various blood-vessels before mentioned as being implicated, were, however, not at all penetrated by the growth. Moreover, the left pneumogastric nerve presented quite a fusiform enlargement a little above the origin of the recurrent laryngeal nerve; (see No. 181 in Series VIII.); but in the parts below, it was very dwindled, and adherent to the root of the lungs and to the bronchial glands.

Microscopical Examination.—The juice squeezed from the affected parts of the œsophagus showed various elements, which may be enumerated as follows: 1.—A few rounded as well as oval nucleated cells of small size: 2.—Spindle-shaped and elongated nucleated cells: 3.—Nucleated cells, having fibres projecting in two or three directions: 4.—A few very large pale and granular cells of an oval form: 5.—Nucleated fibres, of which some were curved and gradually tapering, whilst others were blunt and round at their extremities: 6.—Thick, dark, opaque, fibrous strands, without nuclei. Where the surface was removed by ulceration, the main thickening of the tissue was composed of firmish, fine, and wavy fibre-tissue, interlaced by slight cell-formations. In only one or two places was anything like a capsulation or concentric arrangement of cells noticed. The enlarged lymphatic glands were seen to contain great numbers of nucleated cells of an unusual size. Some of these were caudate, and a few of them slightly capsulated. Here and there were a few 'plaques,' having two or three nuclei

within. The dark colour of the bronchial glands was seen to depend merely on amorphous carbonaceous matter, and not upon pigment enclosed within cell-walls.

The preparation was removed from the body of a patient who had also malignant disease of the shaft of the femur, which was, however, not ascertained before death. For description of diseased femur, see Series II.

30. Specimen showing an extensive carcinomatous affection of the pharynx and upper part of the œsophagus. The parietes of these structures are very greatly thickened, and the tube of the œsophagus is greatly diminished in size; but the larynx itself is unaffected, although, along with the thyroïd gland, it was greatly pushed forward by the morbid mass. Small growths of the diseased product exist also in the substance of the arytæno-epiglottidean ligaments. In most parts the diseased mass is ulcerated at its surface, whilst in others its surface is, as it were, papillated, and presents projections and nodules of various dimensions. The mass throughout had an unusually firm and consolidated character, approaching to what is usually known as "scirrhus."

Microscopical Examination.—Scrapings from cut surfaces showed oval and rounded opaque cells rather larger than pus-globules. In some places pear-shaped nucleated cells placed in apposition, and somewhat imbricated, were seen; and here and there oval and very large patches existed, containing two and three opaque concentrically-marked bodies amidst a granular opaque material. Occasionally also there were numbers of delicate nucleated cells, enclosed in a kind of alveolus formed within the stroma of a very fine fibrous texture. The uterus contained one or two fibrous tumours, but otherwise all the other organs of the body appeared healthy.

The specimen was removed from the body of Sarah C., aged 57, who was admitted into the Hospital April 17th, 1844, extremely emaciated, quite unable to swallow solids, and fluids only with difficulty. A hard swelling of considerable size could be felt posterior to the larynx, and it was stated that the patient had had difficulty in swallowing a piece of food of even the size of a pea for very many years. The bougie had occasionally been used. About 14 months before admission she was attacked with what was thought to be "sore throat," and about this time the swallowing and hardness appeared. She died April 28th, strong beef-tea injections, etc. having been retained entirely for eight days previous to death. For further particulars, see *Post Mortem and Case Book*, 1844. p. 93.

31. Specimen showing extensive carcinomatous disease of the pharynx and upper part of the œsophagus, which had spread to the larynx, causing perforation, and also affected the lymphatic

glands of the neck, and the right lobe of the thyroïd gland. The affected parts of the œsophagus and pharynx were very ulcerated, and, at the posterior part of the larynx, implicated in the carcinomatous disease. About 1½ inches from the glottis, a soft fungus mass projected, in the centre of which was seen a small opening, through which a probe could be passed down on the right side into a quantity of disintegrated and broken down carcinomatous material, involving the tissues and lymphatic glands in the neighbourhood. The chordæ vocales and parts of the larynx above were not affected; nor were the lymphatic glands and other tissues on the left side of the neck. The brains, lungs, heart, and all the abdominal organs, were healthy.

Microscopical Examination.—The various parts of the above described carcinomatous material presented all the usual well-marked characteristics of what is called "epithelioma," *i.e.*, cells of every form and size, containing one or more nuclei, along with 'plaques,' nested 'mother-cells,' laminated cells, and masses of granular matter, etc.

The preparation was removed from the body of Mary A. M., aged 26, who was admitted into the Hospital July 3rd, 1844, and who, in the preceding March, had for the first time noticed a small lump under the skin of the right side of the neck, of the size of a pea. This increased, and in May was punctured, when blood escaped. On admission, the tumour was of the size of an orange, was intimately connected with surrounding parts, and in a state of partial suppuration, discharging a thin, curdy pus. There was dysphagia as regards solid food, and the patient was emaciated, her countenance having a very cachetic appearance. At one time, danger of suffocation was so imminent, that preparations were made for the operation of tracheotomy. She died July 19th, not having for five days been able to swallow fluids. For further details, see *Post Mortem and Case Book*, 1844. p. 154.

32. Specimen showing extensive carcinomatous ulceration of the œsophagus, and consequent communication with the trachea, whose walls, at a contiguous part a little above the bifurcation, are much destroyed. On the right side, and opposite the point where the walls of the trachea are deficient, the lung is attached to the broken-down part of the œsophagus by means of carcinomatous material.

Microscopical Examination.—The surfaces of the projecting portions were seen by a low power to be villous, presenting rounded glove-like out-growths, for the most part granular and opaque. When torn up, the following elements were found to exist:—Much granular matter; much fibrillated tissue; large numbers of oval and rounded nucleated cells, as well as elon-

gated and very large nucleated cells and epithelium-like 'plaques,' of various shapes and sizes, with granular and yellowish contents. Here and there were bodies showing an attempt at a concentric arrangement, but they were few in number. Two enlarged lymphatic glands, one situated between the œsophagus and trachea, and the other adherent to the lung, were seen to be full of similar oval, rounded, caudate, and irregularly-shaped cells, some being capsulated, and often containing a large number of nuclei. In these glands a good deal of strong and stout connective fibre-tissue existed. The bronchial glands were similarly affected. The lung to which the œsophagus, etc. was adherent, presented no implication in the above-mentioned affection.

The preparation was removed from a patient who died in the Hospital. *Presented by* SIR B. C. BRODIE.

33. Specimen showing extensive carcinomatous ulceration of the œsophagus, and communication between this tube on the one hand, and the cavity of the pleura and tube of the left bronchus on the other. The upper four inches of the œsophagus were much dilated, but otherwise free from disease; below this, to the extent of four inches, it was ulcerated throughout its entire circumference, the whole of the mucous membrane and a considerable amount of the muscular tissue being destroyed. On the right side of the ulcerated surface a rent of $1\frac{1}{2}$ inches in length was found communicating with the right pleural cavity, at the back part of the root of the right lung. Another opening, at the anterior part of the œsophagus, and at about the middle of the ulcerated surface, communicated with the tube of the left bronchus. This opening was oval, with even edges (as if of old standing), and equal in size to a three-penny piece. The left bronchus was full of blood. The lymphatic glands in the posterior mediastinum were enlarged and full of a creamy juice. No fluid was found in either pleural sac. The thoracic viscera were otherwise healthy, as were the abdominal viscera.

Microscopical Examination.—The ulcerated portions before described presented the ordinary appearances of soft encephaloïd material, with but few fibre-elements; numbers of granular and nuclear bodies being chiefly observed.

The patient, Emma B., aged 32, had for some time suffered from stricture of the œsophagus, and consequent extreme emaciation. She was admitted into the Hospital May 17th, 1853, and at her urgent request a bougie was passed experimentally down the œsophagus, but without beneficial result. She died May 18th. For details, see *Post Mortem and Case Book*, 1853. p. 111.

34. Specimen showing complete obliteration of the œsophagus at about one inch from its pharyngeal opening, the upper part

being very dilated. Below the obliterated opening is an aperture at the anterior surface of the œsophagus, which directly communicates with the larynx at a point about half an inch above the bifurcation of the latter into the bronchi, and hence, the stomach and œsophagus were only continuous with the mouth by means of the glottis. This communication between the trachea and œsophagus was valvular in form, the posterior part of the trachea above the opening being continuous with the posterior part of the œsophagus which is patent below the communication, while the anterior part of the œsophagus is continuous with the lower lip of the opening. No other malformation was noticed in the body.

The preparation was removed from the body of an infant who only lived to the fourth day. It was of healthy look when born, but it seemed that most, if not all the milk, returned by the nares. It died after having had a series of convulsions. For details, see *Path. Soc. Trans.*, Vol. vii. p. 52. *Presented by* Dr. JOHN W. OGLE.

35. Specimen showing an extensive lacerated wound of the rectum and bladder, produced by the patient falling backwards on to the leg of a chair, the course of which is marked by a bougie. It will be seen that the leg of the chair, after passing about 2½ inches up the rectum, penetrated the anterior wall of this part of the intestine, and afterwards entered the fundus of the bladder. It then passed obliquely upwards to the right side of the apex of this organ, and, having penetrated it at this part, entered the cavity of the peritoneum. There was also a small lacerated wound at the back part of the margin of the anus. Much bloody fluid and flakes of recent fibrine were found in the general peritoneal cavity; but no injury of any other organ was found.

The preparation was removed from the body of George G., aged 43, who was admitted into the Hospital June 30th, 1843. Whilst standing on a table, he slipped off, and fell over a chair, the leg of which passed up the rectum, as before stated. When brought into the Hospital he was suffering from great depression, and complained of pain about the bladder and over the lower part of the abdomen. A catheter was passed, and a quantity of bloody urine drawn off. The pain soon spread over the whole of the abdomen; and he sank with symptoms of low peritonitis, in about twenty-one hours after his admission into the Hospital. For further particulars, see *Post Mortem and Case Book*, 1845. p. 158.

36. Portion of rectum removed from the body of a person who died six days after having swallowed a quantity of bichloride of mercury. It will be seen that almost as far as the verge of the anus, the mucous membrane is very darkened, and coated over

with thick, soft, recently effused fibrine. The sub-mucous tissue is also much thickened. The inner surface of the whole of the intestine was, throughout, of a dark livid colour, and many parts were, as in the case of the rectum, coated by fibrine, etc.

The preparation was removed from the body of Francis L., who was admitted into the Hospital February 27th, 1842, and died March 4th. Preparations of the stomach and of other parts of intestine are described as Nos. 10, 113, and 114 in this Series. For details, see *Post Mortem and Case Book*, 1842. p. 245.

37. Specimen showing simple stricture of the rectum, at a point about an inch from the anal orifice. The surface of the mucous membrane is to some extent much ulcerated, and the walls of this part of the bowel are greatly thickened, and very indurated. *Microscopical Examination.*—After maceration in spirit for many years, the thickening and hardening was found to be simply owing to increase of the sub-mucous areolar tissue, and to the presence of much firm fibrous tissue about the outer surface of the gut, by which the posterior wall of the uterus was very closely united with it. No peculiar cell-formations were found in connection with the adventitious tissue above described. *Presented by* Sir B. C. Brodie.

38. Specimen showing very large hæmorrhoïds, along with extensive sloughing of the neighbouring mucous membrane of the rectum. The hæmorrhoïds partly project from the bowel, and are partly contained within it. Those situated outside the anus are covered by mucous membrane, but those within are deprived of it by ulceration and sloughing. The mucous membrane between the hæmorrhoïds has sloughed away, laying bare the muscular tissue beneath, which also presented some traces of disorganisation.

The preparation was removed from the body of William B., who was admitted into the Hospital with phthisis and disease of the heart, and died eleven days after admission. For particulars, see *Post Mortem and Case Book*, 1849. p. 72.

39. Specimen of internal hæmorrhoïds. The rectum has been laid open in order to show them more clearly.

40. A coagulum of blood, covered by a smooth membrane, which had caused a hæmorrhoïdal tumour. This has been preserved, to show that piles are sometimes due merely to an extravasation of blood into the cellular tissue. The patient came into the Hospital with an extremely painful tumour under the mucous membrane of the rectum. This was cut into, and the coagulum squeezed out, after which the pain ceased.

41. Lower part of the rectum, showing several fistulous openings communicating with a large abscess and with several cavities within the surrounding areolar tissue.

The specimen was removed from the body of a patient who died of phthisis. *Presented by* SIR B. C. BRODIE.

42. Specimen showing fistula in anô. The muscular fibres of the sphincter ani are dissected, to show the relationship which the fistula had to their structure. *Presented by* SIR B. C. BRODIE.

43. Specimen showing a fistulous opening into the lower part of the rectum. The coats of the bowel are greatly thickened, and the course of the fistula has been traced in the thickened tissues, as may be seen by the bristles which are introduced. *Presented by* SIR B. C. BRODIE.

44. Specimen showing fistulous openings through the walls of the lower part of the rectum, communicating with sinuous passages in the thickened areolar tissue of the neighbourhood. The walls of this part of the bowel are, throughout, very hardened and thickened; and this is also the case with the areolar tissue above mentioned, in which were collections of purulent fluid, connected with extensive infiltration of the same material in the cavity of the pelvis. The calibre of the rectum, at about $2\frac{1}{2}$ inches from the anus, is very much reduced, owing to contraction of the indurated walls, and the lining surface to some extent is here much ulcerated. One of the above-mentioned sinuses communicated with an abscess in the perineum, which, during life, had an external opening through which fœcal matter passed. Several condylomata exist around the anus. The peritoneum, especially at the lower part of the abdomen, was much inflamed, and pus and serum existed in this cavity. The small intestines were adherent, in places, to the bladder and to the lining surface of the pelvis.

The specimen was removed from the body of Thomas F., aged 40, who was admitted into the Hospital January 8th, 1840, with symptoms of stricture of the rectum, which would only just admit the entrance of the finger. On the 18th, he was attacked with peritonitis, and he died in the space of 15 hours; but previous to this attack he had been in better health than usual. *Presented by* CÆSAR HAWKINS, Esq.

45. Preparation showing two fistulæ in anô, neither of which has any internal opening. The large one, however, is separated from the gut only by a very thin membrane, which appeared to be a new formation, closing the aperture which most probably had originally existed. The patient, Peter P., aged 33, died of phthisis. The duration of the fistulæ was not exactly known. *Post Mortem and Case Book*, 1859. p. 55.

46. Preparation showing a fistulous channel leading upwards about three-quarters of an inch along the outside of the rectum, and opening below and into the gut by an orifice above the anus.

The preparation was taken from the body of a woman aged 26, who was insane, and who died from the effects of a fall,

having thrown herself out of a window. An old chalky deposit in the apex of one lung, beneath a deeply-depressed cicatrix, appeared to be the remains of some scrofulous deposit; but no other morbid appearances were found in the viscera. *Post Mortem and Case Book*, 1859. p. 240.

47. Specimen showing abscesses in front of the lower part of the rectum. There is also great thickening of the coats of the rectum, and some ulceration of its lining surface, but no fistulous opening through its walls seems to have existed. It will be seen that a communication (as indicated by a bougie) existed between an abscess around the neck of the bladder on the right side, and the recess between the rectum and the bladder. An opening by ulceration has apparently been made also between the above-named abscess and the lower part of the bladder, the inner surface of which is slightly ulcerated. *Presented by* SIR B. C. BRODIE.

48. Specimen showing extensive thickening of the walls of the lower part of the rectum. The mucous and sub-mucous tissues are in places very greatly thickened, forming elevated patches and nodules, and in one part, a patch of ulceration is seen occupying the summit of one of these elevations. *Presented by* SIR B. C. BRODIE.

49. Specimen showing extensive thickening of the entire walls of the lower part of the rectum, the inner surface being corrugated and seamed, and the whole tube somewhat contracted at this part. *Presented by* SIR B. C. BRODIE.

50. Portion of the rectum, whose walls are greatly thickened and indurated, owing to chronic inflammation, as also is the areolar tissue connected with its outer surface. The part chiefly affected is the lower portion of the gut, whose inner surface is ulcerated. Moreover, the intestine is perforated at one or two places by old ulceration, and its calibre is interfered with by thickening of the sub-mucous coat, and by fibrous bands projecting along its inner surface. The walls of the large intestine generally, were in several places easily lacerable, and above the diseased part of the rectum, the gut was greatly distended by flatus and fœces.

The preparation was removed from the body of John B., aged 45, who was admitted into the Hospital March 4th, 1843, and who, for twelve months had been attending as an out-patient, on account of continual pain in the region of the rectum, greatly aggravated by the presence of fœcal matter. Previously to this he had been treated for piles. When brought into the Hospital he had not had a motion for eight days, and was complaining of intense pain in the abdomen, which was tympanitic. He died the day after admission. Indications of recent inflammation of the peritoneum were

found after death. For details, see *Post Mortem and Case Book*, 1843. p. 45.

51. Specimen showing considerable ulceration of the inner surface of the lower part of the rectum, along with some degree of thickening of its walls.

The preparation was removed from the body of a patient who died in the Hospital of dysentery. *Presented by* SIR B. C. BRODIE.

52. Specimen showing extensive ulceration of the lower part of the rectum. The inner surface is quite furrowed by deep passages (ulcerated) leading towards the anus from the larger patches of ulceration. *Presented by* SIR B. C. BRODIE.

53. Specimen showing extensive ulceration of the inner surface of the rectum. Excepting certain small portions which appear as islets, the whole of the mucous surface has been destroyed for the space of six or eight inches from the anus. There is also considerable thickening of the walls of the lower part of the gut, and at a point about an inch and a half from the anus is a somewhat narrow stricture of the tube; the calibre of the bowel, however, above the stricture is dilated for a short distance. A few internal hœmorrhoïds are seen about the anus, and also a sinuous canal in the areolar tissue around, which, however, has no opening into the gut.

Microscopical Examination shewed that the thickening of the intestinal walls did not possess any specific character. The liver was large, and the lungs were congested and emphysematous. Nothing else worthy of note was met with.

The specimen was removed from the body of Sarah S., aged 29, who was admitted into the Hospital April 21, 1841. The stricture of the gut materially yielded under the use of a bougie. The patient eventually suffered much from pain in the abdomen, and from sickness and sloughing sores on the back. She died December 14, 1842. For particulars see *Post Mortem and Case Book*, 1842. p. 92. *Presented by* CÆSAR HAWKINS, Esq.

54. Specimen showing extensive ulceration, which had proceeded to perforation of the walls of the lower part of the rectum. There is also great thickening of the intestinal walls, and of the pelvic areolar tissue in the neighbourhood of the ulcerated part, sinuous passages existing in the condensed areolar tissue, and communicating with the ulcerated perforations, which are two or three in number. Through two of the sinuous openings, large bougies have been passed. A fistula exists near the anus, through which a small bougie is also passed.

The specimen was removed from the body of Charlotte S., aged 34, who was admitted into the Hospital September 14, 1844, having for many years been suffering from simple

stricture of the rectum, which was generally capable of temporary dilatation by bougies. She bore the use of the bougie without pain, unless it was carried in the least degree beyond the stricture; in which case, the pain was intense. On one occasion, the bougie had been passed as usual, and on the following day rigors came on, and cold sweats, after which low peritonitis and typhoïd symptoms occurred, and she died, March 12th. For details see *Post Mortem and Case Book.* 1844. p. 49.

55. Specimen showing extensive sloughing of the posterior wall of the rectum. *Presented by* SIR B. C. BRODIE.

56. Specimen consisting of a large portion of the walls of the intestine, most probably the lower part of the colon or the rectum, which had been voided 'per anum.' *Presented by* SIR B. C. BRODIE.

57. Specimen consisting of a part of the mucous membrane of the rectum, which had sloughed away, and been passed by stool. The patient had for a long time suffered from chronic inflammation of that part of the intestine. *Presented by* SIR B. C. BRODIE.

58. Small warty excrescence, with a narrow peduncle, removed from within the orifice of the anus. This little growth was continually getting within the sphincter ani, and producing a desire to go to stool. The symptoms were immediately relieved on its removal.

59. Small warty excrescence removed from the rectum.

60. Portion (of about the size of a small orange) of a warty growth removed by operation from the rectum of an old woman. The surface is very knotted and cauliflower-like.

61. Fibro-cellular tumours removed from the orifice of the anus by operation.

62. Portion of the rectum, in the lower part of which is an ulcerated opening, with thick, indurated, and rather raised margins, capable of holding a nutmeg, and communicating with a pouch exterior to the intestine, formed of very thickened and hardened fat and areolar tissue. The pouch, with its walls, forms a mass equal in size to a small hen's egg. The margins of the orifice, which are slightly everted, are shreddy, and this is also the case with the inner surface of the pouch into which it leads.

Microscopical Examination of the shreddy material from the pouch, as well as from the hardened walls, showed much strong areolar and fibrous tissue; but, in addition, there was a large amount of granular and fatty matter, and great numbers of cells of various forms, chiefly oval, and without prolongations, and varying in size from that of a pus-globule to four times its dimensions. No

'compound granular' cells, or nested, or epithelium-like forms were seen. There was but little thickening of the surrounding walls, or contraction of the intestinal tube, in the neighbourhood. *Presented by* SIR B. C. BRODIE.

63. Specimen showing extensive carcinomatous ulceration of the lower part of the rectum, and also a communication between the intestine and the membranous part of the urethra. There is, in addition, stricture of the rectum, about three inches from the anus, that is to say, at the point where the ulceration of the mucous membrane ceases; this constriction being so great that the little finger could not be passed through. There is, moreover, great thickening of the areolar tissue about the prostate and urethra, and (for some distance above) of the walls of the rectum. Several neighbouring lymphatic glands are hardened and enlarged. The surface of the ulcerated part presented numerous rounded, soft, spongy elevations; and this sponge-like character was also noticed in the enlarged glands before spoken of.

Microscopical Examination.—The surface of the ulcerated parts, as well as the interior of the glands, were found to present large numbers of cell-bodies of various forms, but chiefly elongated and flattened laterally, many being arranged side by side, and forming masses like clumps of columnar epithelium. This last form of cell, with distinct oval nuclei, predominated; but there were also many cell-elements of different forms, though none were very large, or contained many nuclei. In the hardened sub-structure of the ulcerated part, and in the walls of the rectum, the denser structures contained the same kind of cell-growths, along with fibrous tissue which greatly predominated. The bladder was healthy. The other viscera were not examined.

The preparation was removed from the body of George C., aged 48, who was admitted into the Hospital February 28th, 1844, having been suffering for two years from disease of the rectum, but having neglected his symptoms, thinking they only arose from hæmorrhoïds. One day whilst passing water, he was suddenly seized with a 'stoppage,' and after some straining, a few bubbles of air passed by the urethra. Rigors set in after passing the catheter without success, and peritonitis came on, of which he died March 13th. For details, see *Post Mortem and Case Book*, 1844. p. 50.

64. Specimen showing extensive thickening and induration of the walls of the rectum, from carcinomatous deposit (scirrhous form). The thickening is greatest at a point about 2½ inches from the anus, and when cut into, the indurated part presented a firm surface and yellow aspect. The mucous membrane in this neighbourhood for several inches has been removed by

ulceration, but the sub-mucous tissue is seen greatly thickened. *Microscopical Examination.*— The hardened and thickened tissues were found to present an abundance of firm fibrous tissue, straight and waved, with considerable fatty matter, and numbers (but very disproportionate to the amount of fibrous tissue) of small, round and oval cell-bodies. No many-shaped or many-nucleated cells were apparent.

The preparation was removed from the body of a woman who was admitted into the Hospital in 1832, supposed to be ill with 'cholera morbus.' She died in a state of collapse. In addition to the above condition of the bowel, the tube was found to be surrounded by a putrid abscess, involving most of the areolar tissue of the pelvis. *Presented by* Sir B. C. Brodie.

65. Preparation showing the fatty appendages of the rectum, infiltrated with encephaloïd matter. The walls of the bowel are unaffected.

The specimen was taken from the body of a woman, aged 61, who died of malignant disease of the liver and stomach. For full particulars, see *Post Mortem and Case Book.* 1861. p. 257.

66. Specimen showing the termination of the rectum in a cul-de-sac at a point about 2½ inches from the anus. The anus itself, and a very small part of the adjoining intestine, are quite open and natural. The whole of these parts are firmly united to the posterior wall of the vagina, along which a slight ridge may be traced, formed by the obliterated portion of the rectum. The upper part of the rectum, at some distance from the obliteration, is very dilated and thinned.

The preparation was removed from the body of a female infant, in whom a trocar was passed, but without any benefit, the patient dying the following day. The vagina is widely dilated, and the neck of the uterus very much enlarged, irregular on its surface, and very hard.

67. Specimen showing the termination of the rectum in a blind pouch of the size of a goose's egg. This sac filled the greater part of the false pelvis behind the bladder, and was held in place by a continuation of the meso-colon, which was attached to the sacrum. The anus, and about three-quarters of an inch of the gut above were pervious, the latter terminating in a blind puckered extremity. Between this blind termination and the large above-mentioned pouch existed a fold of peritoneum, which, descending from the meso-colon connected with the pouch, was attached to the anterior surface of the rectum, and reflected on to the posterior surface of the bladder. In this peritoneal reflection, no trace of gut or ligament could be discovered. The kidneys were large and lobulated. The ureters in the upper two-thirds of their course were distended with

fluid to the size of the small intestine of an infant. The other viscera were healthy.

The preparation was removed from the body of a male infant who lived five weeks after birth. SIR B. C. BRODIE was consulted in the case, but, as no protruding gut could be felt within the blind pouch connected with the anus, he did not recommend any interference. The preparation was presented by Mr. GEORGE, of Kensington; and the details of the case are to be found in the *Medical Gazette*, 1849.

68. Specimen showing the termination of the rectum in a cul-de-sac about 1½ inches from the anus, a firm, small, round cord being the only continuation of the rectum. Above this cord the gut is widely dilated. A trocar was passed. for the distance of an inch into the pelvis, in the situation of the anus, but without relief to the patient, who died a few days after the operation.

69. Specimen showing a large fistulous communication between the rectum and the vagina. The opening is evidently of very long standing, being oval in shape, with rounded, but even, margins. The coats of the vagina and rectum are very much thickened, and the sides of the passage on one side are somewhat plicated. The communication exists at a point about three inches from the 'os uteri.'

The specimen was removed from the body of Charlotte B., aged 21, who died of phthisis, and who frequently had been the subject of syphilis. For a year before her death she had been in close confinement in the Penitentiary, but was finally sent to the Lock Hospital with gonorrhœa and hæmorrhoïds. The fistulous opening above described was not known by others to have existed during life-time. *Presented by* SIR B. C. BRODIE.

70. Portion of the rectum and anus, the veins of which were found to contain purulent fluid, and are seen as ridges projecting from the surface of the mucous membrane, near the anus. Pus was also found in other parts of the venous system, in the substance of the liver, and in the knee-joint.

The preparation was removed from the body of Thomas D., aged 42, who was admitted into the Hospital October 15, 1845, for a venereal sore; but who also was suffering greatly from hæmorrhoïds. Some internal piles were ligatured, and some external ones cut off. The ligatures came away in the space of five days, and the anus had a healthy look. Nine days after they were applied, the patient had a rigor, followed by fever. Symptoms of pyæmia became established, and the patient died November 17. Slight disease of the kidneys was also found after death. For details see *Post Mortem and Case Book*. 1845. p. 266.

71. Specimen of a small inguinal hernia. The strangulated intestine has lodged in the inguinal canal, not having reached the external abdominal ring. The sac also contains omentum, which, though it bore no decided marks of inflammation, was adherent to the inner surface of the sac. The contained intestine was discoloured, owing to injection of its vessels, but was not otherwise affected.

The preparation was removed from the body of a young man, who stated that, on a former occasion, he had suffered from hernia; but that for two months before the day of his admission into the Hospital, which was January 8th, 1825, the bowel had not protruded. On the day before his admission, the bowels became constipated, and pains in the belly set in; and when he was brought to the Hospital, a small tumour was perceptible to the finger, though scarcely to be recognised by the eye, about the middle of Poupart's ligament. As all remedies were tried in vain, an operation for the relief of hernia was proposed, but the patient would not consent to it (January 24th). Delirium and great prostration preceded death, which occurred on the 25th. After death, no evidences of peritonitis or other cause of death were found. *Presented by* Sir B. C. Brodie.

72. Specimen showing oblique inguinal hernia of the right side. The 'sac' contains a large amount of omentum. The epigastric artery has been dissected 'in situ' to show its relative position to the neck of the sac. *Presented by* Sir B. C. Brodie.

73. Specimen showing the sac of a direct inguinal hernia on the left side. The intestine has been removed, and the inner abdominal ring is well seen. The walls of the sac are extremely thickened and indurated. *Presented by* Cæsar Hawkins, Esq.

74. Specimen exhibiting the scrotal form of inguinal hernia. The sac has been laid open to show the large mass of omentum, which is contained in, and which is firmly adherent to, the walls of the sac. *Presented by* Sir B. C. Brodie.

75. Specimen showing the sac of an old standing inguinal hernia. The sac, whose walls are much thickened, contains a large mass of thickened omentum.

76. Specimen showing the sac of an old standing inguinal hernia, whose walls are much thickened.

77. Dried specimen showing the sac of an oblique inguinal hernia on the right side. The epigastric artery, and some of its branches, are seen injected with wax.

78. Dried specimen showing the sac of a very large oblique inguinal hernia. The femoral and epigastric arteries, etc., are seen injected.

79. Specimen showing the sac of an inguinal hernia, containing a

portion of omentum thickened and firmly united to the walls of the sac. At the upper and back part of the preparation, the omentum, thickened and condensed, presents a cavity of about one and a half inches in length, formed by the adhesions of some of its folds, which thus have produced an omental hernial sac. No intestine was found in this cavity.

The preparation was removed from the body of a middle aged person, who died of some disease unconnected with the hernia.

80. Sac of an enormous inguinal hernia, (measuring six inches in length, by eleven in circumference at its broadest part,) which is lined by omentum, and which originally contained several convolutions of the small intestine, in a state of strangulation. The intestine was of a dark mahogany colour, but neither softened nor thickened. The specimen has been dissected, and the following structures can be recognised. Firstly: on the outside, a dense fibrous membrane, apparently a condensation of the different fasciæ and neighbouring areolar tissue; Secondly: in the middle, the hernial sac formed by the peritoneum thickened and condensed; and, Thirdly: on the inside, the sac formed by omentum, thickened and altered in structure, and measuring, in its thickest part, more than an inch in depth. The testicle, somewhat flattened, is adherent to the external coat. The incision made for the purpose of relieving the strangulated gut may be seen on the left side of the preparation in the neck of the sac, where the omentum is not much altered in structure.

The specimen was removed from the body of Charles E., aged 42, who for three years had been the subject of hernia, which, however, had not given him much inconvenience, and for which he had never worn a truss. Symptoms of strangulation had existed for about three days, when the patient was operated upon. When the sac was laid open, the intestine, which was of a very dark colour, was covered by a band of omentum, slightly altered in structure, which adhered to some part of the sac. This had to be divided before the gut could be reduced. The patient died thirty-six hours after the operation, and after death, indications of general peritonitis of a low character were found.

The details of this case, and of three other omental sacs, which were found in cases of strangulated hernia, in St. George's Hospital during the years 1842-3, are related by PRESCOTT HEWETT, Esq., *Transact. of the Roy. Med. Chir. Soc.* Vol. XXVII. p. 282.

81. Specimen showing the sac of an inguinal hernia, with the 'internal abdominal ring' containing a knuckle of the small intestine in a state of strangulation. At the post mortem

examination, the sac and the gut were found to be wholly situated in the inguinal canal, the internal ring being remarkably tight, and the external one quite free, and of the natural size. The hernial sac contained some fibrinous effusions which served to unite the gut to its internal surface, but there were no marks of general peritonitis. The portion of strangulated gut was of a very dark colour, but otherwise apparently healthy.

The preparation was removed from the body of W. T., who was admitted into the Hospital, July 8th, 1846, with symptoms of strangulated hernia, and a tumour of the size of an ordinary man's fist, tense and painful, situated in the right inguinal region. The hernia had been strangulated about twenty-four hours. Attempts at reduction were made in vain; but whilst the patient was still in the warm-bath, the tumour was said to have suddenly disappeared without being touched, leaving the external ring free. The symptoms were not, however, relieved, and the patient died six and a half hours after admission. For details see *Post Mortem and Case Book.* 1846. p. 152,

82. Specimen illustrating congenital inguinal hernia, and showing the non-closure of the peritoneal pouch accompanying the testicle in its descent into the scrotum, on the right side.

The preparation was removed from the body of Robert H., aged 5 months, who was admitted into the Hospital in 1849, having symptoms of strangulated hernia, which were of several hours' duration. Congenital inguinal hernia on the left side was found, and with difficulty reduced. The vomiting continued, and at noon on the following day the intestine again descended, but could not be again reduced, except by operation, which was resorted to. Peritonitis came on, and the child died between the third and fourth days after the operation. For details, see *Post Mortem and Case Book.* 1849. p. 42.

83. Sac of a congenital hernia, which was tapped by a surgeon for hydrocele, and from which half a pint of fluid was thus evacuated.

The specimen was removed from the body of Robert B., aged 53, who, for a long time, had been the subject of a tumour of the scrotum, which often varied in size, but had never quite disappeared. The patient had never worn a truss. Owing to pain in the tumour, he had applied to a surgeon on the day before admission, who introduced a trochar, and evacuated a quantity of clear fluid, thus giving relief for a time. The tumour soon regained its original size, and when admitted, the patient had symptoms of strangulated hernia, which could not be reduced. The operation was then performed,

and fifteen inches of highly congested small intestine were discovered, along with a portion of omentum, within the cavity of the tunica vaginalis. After death, which occurred on the day after the operation, the gut was found in a state of mortification, and the cavity of the tunica vaginalis was seen lined by recently effused fibrine, but the general peritoneum was not inflamed. For particulars, see *Post Mortem and Case Book.* 1844. p. 143.

84. A specimen of femoral hernia, in which the obturator vessels are seen to be given off from the epigastric, and to encircle the neck of the sac. The hernia having become strangulated, the usual operation was performed, and nothing abnormal was discovered. The sac contained intestine and adherent omentum. There was some trifling hæmorrhage in dividing the latter, but it was easily arrested. The patient went on well till three weeks after the operation, when the wound became erysipelatous. This state, however, was easily controlled, and the wound again became healthy; but, on the thirty-eighth day after the operation, slight oozing of blood occurred for the first time, and this hæmorrhage continued at intervals until the patient sank exhausted, six days after the first occurrence of bleeding. Several unsuccessful attempts were made to discover the source of the hæmorrhage, and to tie the vessel.

In the preparation, a black bristle is seen passed from the wound which is occupied by omentum, into the hole in the artery.

The patient, Margaret H., aged 34, was an inmate of the Hospital in 1850. See *Post Mortem and Case Book.* 1850. p. 24.

85. Specimen showing a large umbilical hernia. The sac, whose coats have been dissected, is seen to contain a large portion of colon and omentum.

The preparation was removed from the body of a patient who died in St. James' Infirmary. *Presented by* SIR B. C. BRODIE.

86. Specimen showing the sac of an umbilical hernia. When removed, after death, the sac, which communicated with the general peritoneal cavity by an opening of about the size of a sixpenny piece, contained neither intestine nor omentum, but only fluid. *Presented by* SIR B. C. BRODIE.

87. Specimen showing a small umbilical hernia. The sac contains only omentum. *Presented by* SIR B. C. BRODIE.

88. Specimen of umbilical hernia. The sac, whose coats are seen dissected, only contains omentum. The large accumulation of fat beneath the general integument, but which is not met with where the hernia actually exists, is worthy of note. *Presented by* DR. JOHN W. OGLE.

89. Ventral hernia, following a wound of the abdomen on the right side of the body, between the umbilical and pubic regions. The sac, whose walls are dissected, is mainly situated between the muscular layers of the abdomen, as the preparation shows, and contains both omentum and small intestine, opening into the general peritoneal cavity by an orifice of about the size of a florin.

The specimen was removed from the body of a patient who was admitted into the Hospital six months after having sustained several wounds in different parts of the body from stilettoes. In connection with one of these it was that the hernia occurred. At the time of his admission, a tumour in this situation was distinctly felt, and increased greatly on the least exertion, but was unattended by any inconvenience. *Presented by* SIR B. C. BRODIE.

90. Specimen showing the sac of an obturator hernia, as well as a small sac of an inguinal hernia on the same side. When recently examined, after death, the obturator sac was found to contain a portion of the circumference of the small intestine, which was of a dark livid colour, and strangulated.* The portion of bowel above this strangulated part was very dilated and filled with fluid fæces, whilst all the part below it was empty and flaccid, its opening of communication with the peritoneal cavity being of about the size of a common director.

In the preparation, the obturator nerve is seen to be on the outer side of the sac, the neck of which was originally completely covered by the obturator externus muscle, being situated between this muscle and the obturator ligament. A large quantity of fat was found connected with the sac, contained in fine loose areolar tissue, some of which still exists in the preparation. There was no inflammatory exudation in the general peritoneal sac, but the intestines were very much congested.

The preparation was removed from the body of Mary G., aged 67, who was admitted into the Hospital, March 31, 1846, with well-marked symptoms of strangulated hernia. She stated that she had been subject to a rupture in the groin for the last seven years, for which she had always worn a truss, that the hernia had come down behind the truss three days before her admission, that she had succeeded in reducing a part of it herself, and that a surgeon had reduced the other part on the following morning, the whole tumour having been about the size of a pigeon's egg. At the time of her admission, the various apertures through which herniæ occur were carefully

* The piece of intestine, which was partially strangulated, may be seen as Preparation 99 in this Series.

examined; no tumour was, however, found in any of them, but, on the following day a slight enlargement was obscurely felt in the left groin, and as the symptoms had not been in the least relieved, an incision was made, reaching down to this enlargement, which appeared to be of the size of a marble, and perfectly flaccid. The ring was of large size, and easily admitted the forefinger. The symptoms of the strangulation were not relieved by the operation, and the patient died, exhausted, two days after her admission into the Hospital. For further particulars, see *Post Mortem and Case Book.* 1846. p. 75.

91. Specimen showing the sac of a congenital inguinal hernia, in connection with which the corresponding testicle has been retained in the abdomen, although the spermatic cord has descended through the inguinal canal. The retained testicle is healthy and natural in character, as determined by the microscope, and is seen in the preparation, along with the commencement of the spermatic cord, to be adherent to the margin of the inner abdominal ring on the abdominal aspect of the preparation. The gubernaculum of the testis is well seen, connected with the testicle. *Presented by* CÆSAR HAWKINS, Esq.

92. Specimen showing femoral hernia, in which the obturator vessels are seen to pass round the neck of the sac.

93. Specimen showing rupture across the entire circumference of the small intestine, as well as of the corresponding portion of mesentery to a considerable extent. The laceration of the bowel was owing to the kick of a horse over an inguinal hernia of 20 years' standing.

The specimen was removed from the body of Thomas E., aged 46, who was admitted into the Hospital July 14th, 1840, in consequence of having received a severe kick on the hernia as above stated. Much swelling had taken place immediately after the accident, and symptoms of strangulation having become urgent, he was at once operated upon, on his admission. The sac was found to contain a large quantity of fæcal fluid, with serum and recent fibrine, and it was with some difficulty that the opening in the intestine could be found. It also contained about a foot of the small intestine, which, as above described, was quite torn across. Of the torn ends of the intestine, one was still in the sac, and the other in the abdominal cavity; the latter was drawn down through the ring, which was large. The ends of the torn bowel were then secured in the wound by a ligature, and the lower part of the sac closed. The symptoms still continued, and the patient died about five hours after the operation. After death it was found that reduction of the herniated bowel before the accident

would have been impossible, owing to old adhesions, and the sac itself was in several parts converted into a fibro-cartilaginous substance. *Presented by* CÆSAR HAWKINS, Esq.

94. Portion of the small intestine, covered in one part of its outer surface by soft recent fibrine, and perforated by an opening which was the result of laceration effected by the patient in the reduction of a femoral hernia.

The specimen was removed from the body of Elizabeth R., aged 55, who, for several years had been subject to femoral hernia, which she had been in the habit of reducing herself. The hernia came down June 4th, 1841, and the patient tried for the space of an hour to reduce it as usual. At the end of this time the gut went up into the abdomen, and she immediately felt pain in the abdomen, and other symptoms of peritonitis. The patient was at that time examined, and an umbilical hernia, which was, however, quite free from tension, and also a femoral hernia, were found. On the day following, the symptoms being aggravated, the femoral sac was opened, and found empty, as was supposed, and about four ounces of fæculent and oily matter escaped from the peritoneal cavity after the neck of the sac was divided. The patient was somewhat relieved, but died on the following day. After death, fæculent matter was found in the peritoneal cavity; and the portion of ileum which was ruptured, was seen retracted to some little distance from the femoral ring. *Presented by* CÆSAR HAWKINS, Esq.

95. The sac of a large congenital inguinal hernia, showing rupture owing to forcible taxis. The mesentery of the intestine contained in the sac was also ruptured, and is preserved, in the following preparation (No. 96).

This specimen was taken from the body of John F., aged 60, who was admitted with strangulated inguinal hernia March 14th, 1847. The hernia had been operated on 15 years previously. It had again descended four days before his admission, and had then been reduced; but on its appearing again the day following, the taxis was applied, without success. When he came into the Hospital the scrotum was purple from ecchymosis, and the operation was performed immediately. The intestine within the sac was found inflamed, and the sac contained coagulated blood. He died the next day from peritonitis.

The preparation shows the opening in the sac, which was made at the operation, dilated. The testicle is at the upper and back part of the sac; and at its inner and back part a vertical rent extends into the cellular tissue of the scrotum.

96. The portion of gut referred to in the description of the above preparation (No. 95), showing a rent in its mesentery, extending to the attached border of the gut. The lymph deposited on the

peritoneal surface may still be seen. *Post Mortem and Case Book*, 1857. p. 62.

97. Specimen showing a pouch in the circumference of a portion of small intestine, produced by strangulation in the internal abdominal ring. The outer surface of the pouch is covered by soft recent fibrinous exudation.

The preparation was removed from the body of an old woman, who died in St. James' Workhouse with symptoms of strangulated hernia. *Presented by* SIR B. C. BRODIE.

98. Specimen showing sloughing of about one-half of the diameter of the small intestine, after protracted strangulation. General peritonitis also existed.

The preparation was removed from the body of a patient who, for 4 years, had been subject to femoral hernia. On the 14th of January the hernia became strangulated, and the patient complained greatly of pain in the abdomen, and frequent vomiting. These symptoms continued for four days. Reduction was attempted in vain, and the operation was resorted to, when it was found that the bowel contained in the hernial sac was in a sloughy condition, consequently, it was returned within the abdomen. Peritonitis supervened, and death occurred four days after her admission. On post mortem examination, a knuckle of small intestine, about 3 feet from the cæcum, was found to be firmly adherent to the inner part of the right femoral ring, and its cavity communicated with that portion of the sloughy intestine contained in the external wound. The remaining part of the intestine was very much constricted at its connection with the sloughy portion, communicating with it by an opening of about the size of a goose-quill; so much contracted was this portion, and so small the orifice between them, that had the patient lived, the two portions of intestine would most probably have been quite separated, and the canal of the remaining portion, although considerably encroached upon, would have been sufficiently large to have allowed of the passage of the natural contents. For details, see *Post Mortem and Case Book*, 1849. p. 20.

99. A portion of the small intestine, showing a pouch in its walls, the result of strangulation, in the obturator foramen.

This preparation was originally connected with the sac of the obturator hernia described as No. 90 in this Series.

100. Specimen, consisting of a large portion of thickened omentum, which had been herniated, and in which a considerable degree of suppuration had occurred. *Presented by* SIR B. C. BRODIE.

101. Portion of small intestine, showing perforation of its walls by ulceration after strangulation. The bowel had been herniated at the femoral ring, and was found after death to be adherent

to the abdominal parietes, at a point about half an inch from the femoral ring. On separating these adhesions, an ulcer through its walls was met with. Above the point which had been strangulated, the mucous membrane of the bowel was dark and livid to the distance of three inches, but healthy below. Much purulent fluid and peritoneal adhesions were found in the general abdominal cavity.

The preparation was removed from the body of Charlotte B., aged 37, who was admitted into the Hospital October 13th, 1838, with symptoms of hernia of five days' standing, the femoral hernia having been only discovered shortly before her admission. She was operated upon immediately, and a knuckle of intestine, very dark in colour, was found and returned into the abdomen. In the course of half an hour, the patient had two evacuations, and went on pretty well, with symptoms of moderate inflammation, but with suppuration and sloughing around the wound. She died on the 20th of October, one week after the operation. *Presented by* CÆSAR HAWKINS, Esq.

102. Specimen showing artificial anus consequent upon strangulated femoral hernia. The portion of intestine, about eight inches from the cæcum, is seen doubled on itself, protruded through the femoral ring, to which it is adherent by yellowish fibrinous bands, as may be seen on the abdominal aspect of the preparation, and in a sloughy state, at the extremity of the protruded knuckle. In this manner the herniated part of the bowel forms two open canals, presenting externally, and corresponding to the incision of the operation to be alluded to below. The part of intestine above the strangulation was thickened and more vascular than the part below, but healthy. No trace of general peritonitis was found after death.

The preparation was removed from the body of Margaret D., aged 40, who was admitted into the Hospital October 16th, 1837, being the eighth day that the hernia had been strangulated. She was operated upon immediately, and the herniated bowel, soft and dark coloured, and mortified, was found firmly fastened in the femoral ring. After the operation, some amelioration of the symptoms occurred, the fæces readily passing through the wound, which formed an artificial anus. On the 19th day, however, some pain returned in the abdomen, with debility, and on the 20th, the patient, who was pregnant, miscarried (at the 4th month of pregnancy), and died on the day following. The uterus, on post-mortem examination, was found large and dark-coloured, and where the fœtal membranes adhered, it was partly sloughy. The membranes still adhered closely to the fundus; and at the back part of the uterus, as well as around the ovaries, which were very vascular, there

was a quantity of dark pus, *Presented by* CÆSAR HAWKINS, Esq.

103. Specimen showing artificial anus in the left groin.

104. Complete laceration of almost two-thirds of the circumference of the sigmoïd flexure of the colon, the result of a gun-shot wound.

The preparation was removed from the body of a boy, aged 12, who was admitted into the Hospital, under Mr. Babington's care, and died on the same day. When examined, a large portion of small intestine protruded through the opening in the abdomen made by the shot; this was reduced, after a ligature had been applied round a small opening found in the gut. The lacerated intestine had been laid open by the shot from behind, and some of the shot had also wounded the small intestine, but the largest quantity had passed between the abdominal muscles and the peritoneum, and was found lodged in the muscles of the back and in the psoas muscle, the structure of which was extensively destroyed.

105. Specimen showing a small lacerated oval opening through the walls of the ileum, situated about 1½ feet above the ileo-cœcal valve. The external surface of the intestine is covered by recent fibrine in the neighbourhood of the wound, the edges of which are somewhat everted.

Removed from the body of Joseph D., aged 30, who was brought into the Hospital May 13th, 1847, having, whilst drunk, received a violent kick on the belly. He was insensible for six hours, and vomited for some time subsequently. He was reported to have been in good health at the time of the accident. He lived in the Hospital in intense agony for two days, when he died. For details, see *Post Mortem and Case Book*, 1847, p. 113.

106. Portion of the ileum, at a point about six inches from the ileo-cœcal valve, laid open to show a long lacerated wound, extending almost across the entire circumference of the mucous lining, and having at its middle part a perforation through its entire walls. A quantity of soft recent fibrine is adherent to the outer surface of the gut, near the perforation. At about two inches from this part of the gut, another wound of the mucous membrane exists, but without any corresponding lesion of the peritoneum. Besides peritonitis, laceration, and softening of the iliac and psoas muscles on the right side existed. Moreover, there was laceration of the right internal epigastric artery, but no hæmorrhage of importance had taken place into the peritoneal cavity.

The specimen was removed from the body of Edward C., aged 30; who was brought into the Hospital June 21st, 1851.

He had been riding between two cabs, and the shaft of one of them had struck him on the right side, below Poupart's ligaments, passing under the femoral arch and separating it from its attachments. After the accident, a portion of the intestine protruded through the wound. Symptoms of peritonitis and delirium set in, and the patient died June 23. For details, see *Post Mortem and Case Book*, 1851. p. 135.

107. Portion of the ileum at about 15 inches from the ileo-cœcal valve, showing an oval perforation of its walls, caused by the stab of a knife. The wound had been made by the instrument, which must have passed through the great omentum, at a point almost close to the right side of the umbilicus. No artery of importance was injured, but fœcal matter was found to have escaped from the wounded intestine.

The specimen was removed from the body of Thomas V., aged 58, who was brought into the Hospital August 2, 1851, having run against a knife which a butcher had in his hand. When admitted, he was in a state of collapse, but symptoms of peritonitis set in, and he died August 4th. For details, see *Post Mortem and Case Book*, 1851. p. 161.

108. Specimen showing laceration of all the coats of the duodenum, situated at about one inch from the pylorus of the stomach, and comprehending about three-fourths of the entire calibre of the gut. Excepting slight redness of the mucous membrane about the laceration, the intestinal tract was healthy. The pancreatico-duodenalis artery was uninjured. Much congestion of the peritoneal covering of the intestine was found, and there was much fœtid chocolate-coloured fluid in the abdominal cavity. Owing to the wound in the peritoneum, blood had passed down behind it, as far as the brim of the pelvis. There was no injury of any other viscus, except laceration of the liver.

The specimen was removed from the body of Thomas J., aged 40, who was brought into the Hospital October 16th, 1851, having been run over by a cab. He was in a state of extreme prostration, with great pallor and coldness, and a small irregular pulse. During the day he vomited and passed urine, but not any stools. He died about 11 hours after admission. For details, see *Post Mortem and Case Book*, 1851, p. 208.

109. Portion of the small intestine, an inch or two from the ileo-cœcal valve, showing laceration from the stab of a sharp-pointed knife. The intestine is wounded in two places, the largest wound being about three-quarters of an inch long. Recent fibrine may be seen coating the peritoneal surface around the wound, and when recent, the whole abdominal peritoneum was very vascular, and in many places smeared over with the

same fibrine. Moreover, much dark-coloured reddish fluid existed in the peritoneal cavity, but it was free from any peculiar odour. The knife had passed through the abdominal parietes at a point about two inches above the pubis, and one to the left of the median line, taking a direction downwards and to the inner side of the internal epigastric artery, puncturing the ileum, as above described, and then puncturing the bladder in two places. (See later Series containing Preparations of the Bladder).

The specimen was removed from the body of Richard S., aged 19, a shoemaker, who was stabbed by a fellow-workman in a quarrel. He was brought to the Hospital October 12th, 1852, in a state of collapse, when a small piece of omentum was seen in the wound. Symptoms of peritonitis came on, and he died October 15th. For details, see *Post Mortem and Case Book.* 1852. p. 199.

110. Specimen showing an oval rupture of rather more than an inch in length in the walls of the small intestine, with ecchymosis of blood beneath the mucous membrane in the neighbourhood, the result of a blow. When recent, this opening was closed by adhesion to adjacent bowel, and products of inflammatory effusion with fœculent matter, existed in the peritoneal sac. The mucous membrane of the small intestine was also lacerated in one or two other places. The injured portion of bowel had been during life herniated into the scrotum, and the sac had been struck by a kick from a horse, which had reduced the hernia at the same time that it lacerated it. The sac had also been ruptured and the parts around were found to be almost gangrenous. Rupture of the mesentery of another part of intestine also existed. *Vide* Preparation 228 of this Series.

From the body of William S., aged 36, who died 30 hours after the blow. *Presented by* CÆSAR HAWKINS, Esq.

111. Specimen showing laceration of the commencement of the jejunum. in two places: viz., at, and also opposite to, the attachment of the mesentery. The mucous membrane of the gut is seen protruding in the former situation.

From the body of James F., aged 42, who was admitted into the Hospital February 17th, 1853, at 10 a.m. and died on the following day at 5.30 a.m. The accident had occurred from his falling off a scaffold, along with some bricks, which struck him upon his abdomen. For details, see *Post Mortem and Case Book.* 1853. p. 40.

112. Specimen showing an extensive rupture of the whole circumference of the small intestine, as well as of the corresponding part of the mesentery.

The specimen was removed from the body of Patrick C., aged 27, who was admitted into the Hospital November 10th,

1838, having been run over on a railroad. He suffered very great pain, and had symptoms of hæmorrhage into the abdomen; he died on the 13th. After death, about four pints of blood were found in the peritoneal sac, and much blood in the psoas and iliac muscles. A branch of the mesenteric artery, of considerable magnitude, was also found lacerated. *Presented by* CÆSAR HAWKINS, Esq.

113. Portion of the lower part of the ileum, showing the effects of poisoning by the bichloride of mercury (corrosive sublimate). The inner surface, and this more particularly at the summits of the 'valvulæ,' is covered by soft, light-coloured, effused fibrine. When recent, great congestion and lividity of the surface also existed. This appearance was confined to the lower three feet of the ileum, but there was in addition great vascularity of the duodenum.

The preparation was removed from the body of Francis L., who was admitted into the Hospital February 27th, 1842, having swallowed the poison only shortly before. He died six days after. The rectum and the stomach presented remarkable appearances, and are described as preparations 36 and 99 in this series. The history of the case is given more fully in connection with the description of the stomach, and in *Post Mortem and Case Book*, 1841-2, p. 245.

114. Portion of the ileum and cæcum, showing the effects of poisoning by bichloride of mercury, from the same patient as the preceding preparation.

115. Portion of the ileum, cæcum, and colon, showing under the mucous membrane of the two latter extensive effusion of blood. When recent, these parts, as well as the whole length of the colon and the rectum, were of a dark purple colour. A quantity of fluid blood also existed in the intestinal tube. The stomach presented like appearances.

The preparation was removed from the body of Mary C., aged 30, who was brought into the Hospital December 25th, 1848, with scarlet fever; subsequently purpura, and hæmorrhage from the bowels came on, and she died December 27th. For details, see *Post Mortem and Case Book*, 1848. p. 265.

116. Portion of the ileum, showing a very large oval and prominent patch of Peyer's glands, the margins being everted, and overhanging. Immediately below the patch are to be seen several solitary glands, greatly enlarged, which, when recent, had the appearance of small-pox pustules.

The specimen was removed from the body of Martha W., aged 26, who had had symptoms of 'fever' for 14 days. For details, see *Post Mortem and Case Book*, 1842. p. 28.

117. Portion of the colon, showing numbers of the solitary glands very much enlarged.

118. Portion of the lower end of the ileum and cæcum, showing much enlargement of the solitary glands, from a patient in the Hospital, who died of cholera.

The patient, Jane R., aged 25, was admitted August 25th, 1849, with disease of the knee-joint, and on the day following her admission was attacked with cholera. She died on the 17th. For details, see *Post Mortem and Case Book*, 1849. p. 166.

119. Portion of the lower part of the ileum and cæcum, showing great enlargement of the solitary and Peyer's glands; from a patient who died of cholera. The glands of the colon were not larger than usual. For details, see *Post Mortem and Case Book*, 1849. p. 133.

120. Portion of the ileum, showing great enlargement of the solitary glands, from the same patient as the preceding preparation.

121. Portion of the small intestine, injected with vermilion, and showing large patches of ulceration on its inner surface.

From the body of a patient who died of fever in the Hospital.

122. Portion of the small intestine, showing ulceration of its inner surface.

From the same patient as the preceding preparation.

123. Portion of small intestine, showing ulceration of its inner surface.

From the body of a patient who died at an early stage of fever.

124. Portion of the small intestine, showing ulceration of its inner surface.

From the body of a patient who died of fever.

125. Portion of the small intestine, showing ulceration of the inner surface.

From the body of a patient who died of fever.

126. Portion of intestine, showing the 'caput coli' ulcerated on its inner surface.

From the body of a patient who died of fever in the Hospital.

127. Portion of the small intestine, showing absence of large patches of the mucous membrane, owing to ulceration. When recent, the mucous membrane could readily be detached from the muscular coat beneath.

From a patient who died in the Hospital.

128. Specimen showing extensive ulceration of the inner surface of the ileum and cæcum.

From the body of a patient who died of fever.

129. Preparation showing extensive ulceration of the lower part of the ileum and of the ileo-cæcal valve, the colon being healthy.

The preparation was removed from the body of Mary B., aged 15, who was admitted into the Hospital August 26th, 1840, with fever of three weeks' standing. She had great pain at the lower part of the abdomen, and was passing large quantities of blood by stool. She died September 2nd. The opening in the walls of the gut seen at the bottom of an ulcer was accidentally produced after death.

130. Specimen showing cicatrices of ulcers on the inner surface of the cæcum.

From the body of a patient who died in the Hospital of fever.

131. Specimen showing ulceration of the solitary and agminate glands of the ileum and ileo-cæcal valve, with enlargement of those of the cæcum and colon. The mesenteric glands are greatly enlarged, and congestion of other parts of the intestines, of the lungs, and of the membranes of the brain was also found. The patient, who had fever, was admitted into the Hospital January 15th, 1851, having been ill for a fortnight, but only confined to bed for three days. He had epistaxis, and passed blood by stool to a great extent. He died January 19th. For details, see *Post Mortem and Case Book*, 1851, p. 11.

132. Specimen showing slight ulceration of the inner surface of the small intestine.

From the body of a patient who died of fever. *Presented by* Cæsar Hawkins, Esq.

133. Portion of the small intestine, showing ulceration and perforation of its coats.

Removed from a patient who died of fever. Recent fibrine had been effused, causing adhesion of the perforated part (shown in the Preparation) to neighbouring intestine, and so preventing escape of fœcal matter; but through another perforation fœcal matter had escaped, and caused fatal peritonitis. *Presented by* Cæsar Hawkins, Esq.

134. Portion of the small intestine, showing ulceration of its inner surface. The ulcerations have a peculiar character, causing the surface to appear as if punched out.

From the body of a patient who died of phthisis.

135. Specimen showing ulceration of the inner surface of the small intestine.

From the body of a patient who died of phthisis, aged 24.

136. Specimen showing ulceration, with perforation, of the small intestine.

From the body of a man aged 28, who was admitted with fever into the Hospital June 20th, 1843, and died June 28th. At the post-mortem examination, the perforation was so completely covered by recent fibrine, that it was some time before it was

discovered. The general cavity of the peritoneum contained much fibrine of this kind, and a large quantity of brownish fluid of a peculiar offensive odour. For details, see *Post Mortem and Case Book*, 1843. p. 32.

137. Portion of the colon, thickened, and having patches of ulceration on its inner surface.

From the body of a patient who died of dysentery. *Presented by* CÆSAR HAWKINS, Esq.

138. Portion of the colon, showing extensive ulceration of its inner surface. Removed from the body of a patient who died of dysentery. It will be seen that almost the whole of the mucous membrane is destroyed, and the muscular tissue laid bare. That which remains is much thickened standing out like islets on the surface. The colon and the rectum were involved, but the ulceration did not go higher than the ileo-cæcal valve. There had been also actual perforation of the transverse colon, owing to ulceration; and the peritoneal cavity contained much purulent fluid.

The preparation was removed from the body of William S., aged 22, who was brought into the Hospital November 3rd, 1847, with dysentery, which had not been benefited by treatment. A few days after admission, he was attacked with sudden pain at the abdomen, and with great collapse, and died November 17th. For details, see *Post Mortem and Case Book*, 1847. p. 233.

139. Portion of the cæcum and colon, showing extensive ulceration; from the body of a patient who died of dysentery. The mucous membrane from the cæcum to the anus was of a dark purple colour, pulpy, and much thickened. Several ulcerations in the cæcum had quite exposed the muscular coat, and these gradually increased in size and number in the ascending colon; so that in the transverse and remaining part of the colon, only small isolated patches of the mucous membrane remained. The muscular and other parts of the bowel were, in places, so attenuated as easily to be lacerated.

The patient, John G., aged 25, was admitted into the Hospital January 15th, 1845, with frequent and involuntary alvine evacuations, and in a state of great prostration. He committed suicide by cutting his throat, and died January 20th. For details, see *Post Mortem and Case Book*, 1845. p. 21.

140. Portion of the pyloric end of the stomach along with the duodenum, showing an extensive ulcer in the first portion of the latter, following a burn. The inner aspect of the ulcer is very large, and of the size of a bean; and at its upper part is a small aperture through the muscular and peritoneal coats, which existed during life. The posterior part of the ulcer has been greatly strengthened by masses of fibrine which

have accumulated. The duodenum contained a large clot of blood, about six inches long, moulded upon its walls. No other part of the intestines was ulcerated, but they were generally highly congested.

The patient, Sarah T., aged 19, was admitted into the Hospital April 9th, with extensive and painful burns over the thighs, nates, and shoulders. She died April 19th, ten days after admission; and before death, the bowels, which had been confined for some days after the accident, became much relaxed, and the fæces contained blood. On the day before her death she vomited much matter tinged with blood. For details, see *Post Mortem and Case Book*, 1841. p. 71.

141. Portion of the stomach and duodenum, showing a large oval ulcer, with destruction of the mucous, and part of the muscular, coat, close to the pylorus. Below this point, but on the same side of the intestine is another though smaller ulcer.

The preparation was removed from the body of a woman, aged 66, who was brought into the Hospital with an extensive burn of the superior extremities, trunk, and right leg. She soon passed into a low and irritable condition. The sloughs were long in separating, and she gradually sank, and died 17 days after admission. Evidence of slight pleurisy was found after death, but the lungs and larynx were natural. For details, see *Post Mortem and Case Book*, 1844. p. 73.

142. Portion of the stomach and duodenum, showing a large oval ulcer in the latter, immediately below the pylorus; removed from the body of a patient who was extensively burnt over the face, neck, and upper extremities. The ulcer is about 1½ inches long, and half an inch broad, and situated immediately below the pylorus. The muscular part of the walls is almost equally destroyed with the mucous part, and a branch of the pancreatico-duodenalis artery is entirely laid open. The margins of the ulcer are rounded and swollen, and were moderately vascular, its base being formed by the opposed pancreas. Below this larger patch of ulceration a smaller one also existed, and the neighbouring solitary glands are much enlarged. The entire intestinal tract, as low down as the lower part of the colon, contained a reddish-black fluid, composed of fæcal matter and coagulated blood.

The patient, Elizabeth J., aged 5, was admitted into the Hospital May 4th, 1850. She suffered from pain in the abdomen, but not from vomiting and purging; and sank from collapse May 9th. For details, see *Post Mortem and Case Book*, 1850. p. 82.

143. Portion, showing an oval patch of ulceration in the stomach and duodenum, with entire perforation of the coats of the latter, immediately below the pylorus. The margins of the ulcer are

quite even and smooth, and on the inner side of the ulceration are rounded. The surrounding parts of intestine are thickened.

The specimen was removed from the body of a middle-aged man who, immediately after a meal, was suddenly seized with symptoms of acute peritonitis, of which he died in a few hours.

144. Specimen showing ulceration of the small intestine removed from the body of a patient who died of fever.

The preparation is interesting as showing the effect of a solution (saturated) of hydrochlorate of ammonia in proof spirit in preserving the colour of the parts. It was immersed in such a solution immediately on its removal from the body several years ago. *Presented by* G. GASKOIN, Esq.

145. Specimen showing ulceration of the lining membrane of the appendix cæci.

Found accidentally in the dissecting room. *Presented by* CÆSAR HAWKINS, Esq.

146. Specimen showing destruction of the entire mucous membrane of the intestine forming the ileo-cæcal valve. This complete loss of the ileo-cæcal valve was not discovered until after death, and was evidently caused by ulceration which had existed many years previously. The patient died of some disease totally unconnected with the bowels.

147. Specimen showing ulceration of the whole circumference of the ileo-cæcal valve. For details, see *Post Mortem and Case Book.* 1858. p. 255.

148. Specimen showing extensive ulceration and perforation of the lower part of the small intestine. There had also been intense peritonitis with effusion of fœces into the cavity of the peritoneum; and ulceration both of the large and small intestines with deposition of strumous tubercle under the lining membrane of the bowels and in the mesenteric glands existed. Tubercles and a vomica were found in the lungs.

The patient, a man aged 50, was admitted under the care of Dr. Fuller, on December 21st, 1859, on account of weakness and emaciation. He had declined in weight from 11 stone 7 lbs. to 8 stone 3 lbs. in the course of 4 months. There had been no diarrhœa, no cough, nor any sickness, sweating or undue diuresis. The urine, however, was found to be albuminous, and to contain 'casts,' and there were signs of a vomica in one lung, and of tubercle in both. He continued to get weaker and thinner, notwithstanding the administration of cod-liver oil, tonics, and generous diet; and was in very low spirits, regarding his condition as hopeless. He, however, ate and slept well; his bowels acted regularly once a day, and the motions were healthy. He continued in this condition till January 3rd,

1860, when he was suddenly seized with agonizing pain in the abdomen, followed by collapse, and died on the 5th. For details, see *Post Mortem and Case Book.* 1860. p. 4; also *Path. Soc. Trans.*, vol. xi. p. 103.

149. Two preparations showing the effect of the healing of ulcers in narrowing the upper part of the ileum. The intestine had evidently been ulcerated at some earlier period, but the results of recent ulceration were also found after death in the lower portion. There were three constrictions, of which one is seen in section, two in profile; and the bowel is so narrowed at each of these, that the finger could not be passed through without some difficulty. In the portion of bowel which has been laid open, much irregularity and condensation of the cicatrix are seen.

The patient, from whom these specimens were taken, died of inflammation of the lungs, which had proceeded to suppuration; and after death a large mass of bronchial glands was found in a state of cretaceous degeneration (see the subsequent Series devoted to the Lymphatic Glands). He had had diarrhœa for some time before death. It was inferred that the ulceration was tubercular. For details, see *Post Mortem and Case Book.* 1861. p. 270.

150. Preparation showing a portion of the same ileum as the preceding specimen (No. 149).

151. Portion of the small intestine in a state approaching to mortification.

Removed from a patient who died of hernia.

152. Portion of the small bowel affected with enteritis. The appearance of disease which was evident when the post mortem examination was made, has become indistinct since the immersion of the specimen in spirit. The part preserved, which is about nine inches long, was cut from a length of two feet, which was uniformly affected, and which was contiguous to the ileo-cæcal valve. The mucous membrane was nearly black in colour and swollen. The coats beneath the mucous lining were softened, and many minute holes perforated the bowel. These had quite distinct edges, and were unlike any ordinary form of ulceration. Lymph lay in flakes upon the outside of the bowel, and the peritoneal cavity contained fæculent fluid.

The specimen was taken from the body of a woman, aged 36, who, while under treatment for œdema connected with disease of the kidneys, was seized with pains and tenderness in the belly, vomiting, diarrhœa, constant sweating and much prostration. She was treated chiefly with opium and stimulants, but gradually sank and died on the fourth day after the attack. For particulars, see *Post Mortem and Case Book.* 1862, p. 22.

153. Specimen showing partial strangulation of the small intestine, by a firm band of fibrine, the apparent result of an attack of peritonitis. This band is seen to be attached by one extremity to the free border of a convolution of intestine, which was situated to the left, to pass in front of the strangulated convolution, and then to be attached by its other extremity, after crossing the bowel, to the peritoneum just as it is about to leave the bowel and form the mesentery. The bowel was obviously constricted, but its contents were not hindered from passing. There was also a "pelvic abscess," communicating with a diseased hip-joint. A slight amount of scrofulous deposit existed in the lungs.

The preparation was removed from the body of Ann R. aged 40, who was brought into the Hospital February 17th, 1847, with symptoms of peritonitis and diseased hip. She died February 27th. For details, see *Post Mortem and Case Book.* 1847, p. 61.

154. Specimen consisting of about 15 inches in length of small intestine, which, during life, were constricted or strangulated in a hole which is seen to exist in a part of the mesentery corresponding. The strangulated intestine was twisted in a very remarkable manner, and in all probability the opening in the mesentery was the result of rupture. *Presented by* CÆSAR HAWKINS, Esq.

155. Specimen showing about two feet of small intestine constricted or strangulated in a hole in the omentum, of about an inch in diameter. This aperture appeared to be the result of a recent accidental laceration, and when first examined the bowel included was of a dark red colour. The intestine above the strangulated part was much distended with air and fæces, and slightly inflamed; the part below was pale, empty, and contracted. The general peritoneal cavity contained some dark-coloured serum only.

The specimen was removed from the body of Colonel C., who, from early life, had been the subject of sudden attacks of pain in the abdomen. He had been in his usual general health, when about a quarter of an hour after slightly exerting himself in the act of hanging up some pictures August 1st, 1827, he complained of sickness, and pain in the abdomen. He had all the symptoms of strangulated hernia, but no external tumour was perceptible. Remedies proved unavailing, and he died August 2nd. *Presented by* Sir B. C. BRODIE, Bart.

156. A preparation displaying the ordinary anatomy of a large scrotal hernia.

The specimen includes the lower part of the abdominal cavity. A section has been made, in part, of the scrotum, so

as to show the coils of bowel in its interior, which are separated by the wall of the sac from the tunica vaginalis, which is seen below, containing the testicle.

157. Portion of the small intestine, showing two very marked and decided contractions of its inner surface, following ulceration. At one of the contractions, the tube of the bowel is not larger than a quill ; and to see this the better, the intestine has been inflated and dried.

The preparation was removed from the body of a girl who died of phthisis. *Presented by* Dr. OGIER WARD.

158. Portion of the lower part of the ileum, showing contraction of its calibre, owing to cicatrization following ulceration.

From the same patient as the preceding preparation.

159. Portion of the colon showing thickening of its walls, with narrowing of its calibre, the result of dysentery. The inner surface is greatly puckered and fasciculated, and nodulated by hard fibrous growths from the sub-mucous tissue. In addition to this, much of the colon was greatly ulcerated.

On *minute examination*, after maceration for many years in spirit, the nodulations proved to be smooth externally, and on section the outer and lighter-coloured parts, which were more homogeneous, were seen to pass gradually into a more fibrillated radiating tissue, having in places yellow-streaked fatty portions.

The preparation was removed from the body of a soldier who had had dysentery in India, and who died in the Hospital in 1827.

160. Stricture of the colon (dried preparation). The portion affected is the sigmoïd flexure. The stricture itself is very small, the part above being greatly distended and divided into two portions by a kind of valve.

The preparation was removed from the body of a man who suffered from obstinate constipation for many days before death, unaccompanied by inflammatory symptoms. *Presented by* CÆSAR HAWKINS, Esq.

161. Stricture of the sigmoïd flexure of the colon. The calibre of the bowel is extremely small, being only large enough to allow of the passage of the bougie, which is placed in the constriction. The fatty appendices are adherent externally. Internally there is a fringe of mucous membrane above and below the stricture. The contracted portion of intestine is indurated by a deposition of fibrous tissue, but there is no trace of malignant growth. This condition of bowel existed in conjunction with a vaginal hernia.

When the patient, Hannah E., was admitted, the bowels had not acted for a week, but this constipation was soon overcome by remedies, and was succeeded by diarrhœa. For

further particulars, see *Post Mortem and Case Book.* 1861. p. 182.

162. Portion of intus-suscepted bowel, which, having sloughed away, was voided by the rectum, the patient recovering subsequently. After having been kept in spirits for a short time this piece of bowel was *examined microscopically* by Mr. DALRYMPLE and Mr. TOYNBEE, who found it to consist of areolar tissue, blood-vessels, and epithelium; Mr. DALRYMPLE also thought that involuntary muscular fibre could also be detected in it.

The preparation was removed from the body of a person aged 17, in whom the symptoms of obstruction of the bowels had lasted 12 days, accompanied, ultimately, by symptoms of peritonitis. *Presented by* Dr. S. J. JEAFFRESON; and further described in the *Lancet*, 1848, vol. i. p. 651.

163. Specimen showing intus-susception and strangulation of a part of the ileum of a child, the strangulated part being much mortified. The inner coats of the affected bowel are quite rough and softened. The symptoms existed for several days before death. *Presented by* CÆSAR HAWKINS, Esq.

164. Specimen showing intus-susception of a part of the ileum through the ileo-cœcal valve.

Removed from the body of a child, aged 2½ years, who died with symptoms of inflammation and mortification of the bowel. *Presented by* CÆSAR HAWKINS, Esq.

165. Specimen showing intus-susception of the rectum and sigmoïd flexure of the colon. The invaginated portion measures more than three inches, and a bougie passed through it shows the canal of the intestine. A perforation exists at a point where the intus-susception commences, leading into the recto-vesical pouch of peritoneum. The apex of the protrusion has been brought down, in preparing the specimen, somewhat lower than it was during life; so that it appears now to protrude at the anus. It was before death just within reach of the finger. For further account of the case, see *Path. Soc. Trans.* vol. viii. p. 177. *Presented by* T. HOLMES, Esq.

166. Specimen showing intus-susception of the ileum, which has taken place at or near the ileo-cœcal valve. Successive folds of small intestine have been carried through into the large intestine, and there lie closely packed together, very many folds of bowel, with their mucous membrane outwards forming a mass which occupies the cœcum. Probably nearly a foot and a half of bowel is thus disposed.

The preparation was taken from the body of a child who had had constipation of the bowels for five or six days, and had been treated with purgatives by the mouth, and latterly by the

rectum. There was no peritonitis. *Presented by* Dr. Cecil Hastings.

167. Portion of the colon showing extensive and thick deposit, of a fibrinous nature, upon the surface of the mucous lining. In many places it was firmly adherent, and the subjacent epithelium quite destroyed; and, almost universally, the sub-mucous tissue was greatly thickened and indurated. The whole of the bowel, from about the middle of the ileum to the end of the rectum, was in a similar condition. There were also disease of the heart and kidneys, and fibrinous exudations into the peritoneal and pericardial sacs.

The preparation was removed from the body of Harriet A., aged 26, who was admitted into the Hospital February 21st, 1852, with dyspnœa and anasarca, having been for some years subject to "occasional dropsy." Extensive physical signs of bronchitis, and a systolic cardiac murmur existed. Subsequently, pericardial friction sounds, with diarrhœa, vomiting, and abdominal pain, came on. Typhoïd symptoms set in, followed by death March 25th. For details, see *Post Mortem and Case Book.* 1852. p.75; also *Path. Soc. Trans.* vol. v. p.142.

168. Portion of the ileum showing a quantity of loose shreddy fibrine, of a brownish-grey colour, adherent to its inner surface. There was no ulceration of the bowels, but the walls of the intestine were soft and easily torn. Indications of extensive peritonitis and disease of the kidney existed.

The specimen was removed from the body of Sarah B., aged 50, who was admitted into the Hospital May 8th, 1855, with symptoms of peritonitis, etc. She died May 13th. For details see *Post Mortem and Case Book.* 1855. p. 147.

169. Portion of the small intestine and colon, showing extensive occupation of the parietes of the cœcal extremity by carcinomatous (alveolar) growth. The walls of the gut are specially affected at the side towards the mesentery, and at the ileo-cœcal valve, which is almost completely obstructed by the thickening, barely admitting the little finger. When recent, all these parts were, externally, of a purplish hue, and presented an irregular knotted character, the intestines generally being distended by flatus and fæcal matter. The uterus and other parts were unaffected. On examining the diseased parts minutely, the following condition was ascertained (after maceration in spirit for many years): The inner surface was very rough, and presented a number of elevations, separated by long lines of division, being in places only slightly pitted on the surface, but in others much ulcerated. On section it was seen that the thickening above spoken of was caused mainly by the sub-mucous tissue and morbid deposit within it, and this was

especially the case about the ileo-cœcal valve. In many places where also the other textures were involved, this sub-mucous tissue was separated from them by a dense and firmish line of a yellowish colour. The tissue above this line (that is the sub-mucous) presented to the naked eye a reticulated character, and was of a lightish buff colour, and semi-transparent in character. The trabeculæ, as it were, formed distinct cavities from which the yellowish gum-like material could be separated.

Microscopical Examinaton.—The trabeculæ were found to consist of fibres arranged so as to enclose spaces, for the most part, oval in shape, and, in many cases, specially where the fibres were very strong, retaining a parallel direction. In one or two instances, these fibres were seen to consist of minute fibrils, arranged somewhat in a penniform way: i.e., passing obliquely out in opposite directions from a common stem. The majority of the oval-shaped spaces contained numbers of rounded bodies half as large as pus-globules, mixed with a quantity of granular matter. On squeezing this thickened sub-mucous tissue, a quantity of juice generally escaped, consisting of large refracting granular particles, in certain parts accumulated in masses, along with numbers of small irregular shapeless bodies like imperfectly formed nuclei. No regular cells, and no distinct fibrillations existed. In places, moreover, a fatty crystalline material, and some brownish calcareous bodies, were seen in the juice. In some parts nothing but a granular matrix formed the meshes, as no fibres existed, but still the contents of the meshes were the same in character. The yellowish line of separation at the bottom of the sub-mucous tissue was found to consist of strong fibrous tissue, and the thickened structure which it separated from the preceding, and which was of a lighter colour and much firmer consistence than the sub-mucous tissue, presented the following characteristics :—Some of the fibres forming the trabeculæ were of the greatest tenuity, but, for the most part they were coarser and stronger than those in the more superficial parts, and the enclosed meshes had contents of a much more opaque character, and containing much shining fat. In many places where nothing but fat existed in the meshes, the trabecular work contained many refracting bead-like bodies, mixed with a granular material. The juice expressed from this whiter and firmer sub-stratum showed, besides the above-named elements of the juice from the sub-mucous tissue, great numbers of bodies varying in dimensions, some being twice the size of a pus-globule, containing granular matter, mostly with very indefinite outline, as if simply from accumulation of the particles; but others were obviously cells, which, on the addition of acetic

acid, showed a round pale nucleus. One or two of them were seen rather prolonged at their extremities, as if attempting to form fibre. The outer surface of the intestine generally was nodulated by prominences varying in size up to that of half a pea, and showing, under the microscope, a quantity of granular and fatty matter, with numbers of small irregularly-shaped nuclear bodies. As before said, in some places, all the tissues forming the walls of the bowel were affected by the growth, but, for the most part, only the sub-mucous tissue was the seat of it.

The specimen was removed from the body of Mary G., aged 17, who was admitted into the Hospital March 31, 1831, with tympanitis, tenderness of the abdomen, nausea, vomiting, and pain in the hypogastric region, which she had experienced for three months. The pulse was 120, and wiry, and the bowels open. The pain and vomiting continued, and the tongue became greatly furred. Constipation of the bowels and great restlessness came on, and, in spite of sedatives, aperients, etc., the patient became comatose, and died April 9th. For more details, see the *Old Case Book*, in the Pathological Museum, p. 17.

170. Portion of the small intestine, having a large mass of encephaloïd deposit (the size of a hen's egg) connected with its walls, and involving the whole thickness of them at one side of the intestine. Corresponding to this part, the lining membrane of the bowel is roughened, and shows a large patch of ulceration.

Microscopical Examination.—After maceration for many years in spirit, the growth was found to consist of a fine stroma of areolar tissue, observing no particular arrangement, and having within it a quantity of granular and fatty matter, mixed with vast numbers of small granulated nucleus-like bodies, shrivelled, but becoming larger on the addition of acetic acid, and thus assuming, in some cases, the size of pus globules. No particularly large or multi-nucleated cells were anywhere seen.

The preparation was removed from the body of a woman who died in the workhouse of St. George's, Bloomsbury, having also malignant disease of the mesentery and other parts. Her history was short and very obscure. At one time, it seems, she was thought to be pregnant; but afterwards she was thought to have ovarian disease, and with that impression, she was sent into the workhouse. For description of the diseased mesentery, see Preparation No. 239 in this Series; and of the diseased lymphatic gland, see Preparation in the Series devoted to affections of those structures.

171. Portion of the small intestine having growths of carcinomatous

material, of the same nature as that described in the previous preparation, connected with its walls, and removed from the same patient as that specimen.

172. Portion of the colon, showing thickening at one part of its walls, throughout the entire diameter, owing to the deposition of scirrhous carcinomatous material, causing a considerable diminution of its calibre. Above the strictured part, which is about one and a half inches in length, the coats of the bowel are thinned, and, in two places, pouched.

Microscopical Examinaton. — After maceration for many years in spirit, the mucous coat was found to be unaffected, but the muscular coat was greatly increased in thickness. Its fibres were very broad and strong, and among them, dispersed in various places, was a quantity of granular matter, with numbers of cell bodies of various shapes, rounded, oval, angular, etc, but chiefly of a size rather larger than a pus globule. Some of these had prolongations at their extremities, but not many; and in several places these cells were accumulated into large masses. *Presented by* CÆSAR HAWKINS, Esq.

173. Specimen showing extensive carcinomatous growth, connected with the walls of the sigmoïd flexure of the colon, and especially with the inner surface, but not encroaching, to any extent, upon the calibre of the intestinal tube. The growth is very rugged and 'fungoïd,' and, when recent, was very soft and vascular. To this part of the large intestine, a convolution of small intestine had become attached, and presented one or two ulcerations communicating with the large intestine; but the remainder of the intestinal tract was otherwise natural.

Microscopical Examination. — After maceration for many years in spirit, the morbid growth was seen to consist almost entirely of opaque granular matter and corpuscular elements, generally rounded and oval in shape, and of about twice the size of pus globules, these elements being distributed in places between large numbers of strong and thick blood vessels. Carcinomatous deposits were also found in the liver, gastro-hepatic omentum, bronchial glands, and apparently the lymphatic vessels on the surface of the lungs.

The preparation was removed from the body of Margaret H. aged 35, who was brought into the Hospital, December 31st 1845, with diarrhœa and bloody stools, which had followed symptoms of severe dyspepsia. She became emaciated and gradually weaker until she died, March 22nd, 1846.

174. Preparation showing an ulcerated carcinomatous growth (encephaloïd) affecting the ileum. About two inches of the canal are quite destitute of their natural walls, which have been replaced by the malignant growth. The upper and lower limit of the ulceration is marked by a prominent vascular ring,

projecting into the cavity of the intestine. From the centre of the rough surface, thus bounded, an irregular opening extends into a large cavity, formed between the layers of mesentery, which had been filled with suppurating malignant matter.

The preparation was removed from the body of a woman, aged 53. A year before her death she had an attack of intestinal hæmorrhage, and six months later she had another. There were no marked symptoms, excepting distension of the bowels, with tenderness, especially about the left groin. For details see *Post Mortem and Case Book.* 1861. p. 162.

175. Portion of the small intestine showing scrofulous deposit between its various coats. There is also much ulceration of its inner surface, and similar deposit in the mesenteric glands. Scrofulous deposit in the lungs and abscess in the brain existed.

The preparation was removed from the body of Johanna L., aged 28, who was admitted into the Hospital May 6th, 1843, and died September 12th. For details see *Post Mortem and Case Book.* 1843. p. 184.

176. Portion of the small intestine showing the presence of a large quantity of scrofulous deposit beneath its mucous coat. No ulceration of the surface existed. There was much scrofulous deposit in the lung and in the mesenteric glands.

The preparation was removed from the body of John B., aged 26, who was admitted into the Hospital, October 2nd, 1844, and died October 22nd. For details see *Post Mortem and Case Book.* 1844. p. 232.

177. Specimen showing a fibrous growth of about the size of a hen's egg, oval in shape, and pedunculated, connected with the inner surface of the small intestine. It has produced considerable invagination of the bowels, whose tunics in the neighbourhood are very greatly thickened, and whose calibre is enlarged, the 'valvulæ conniventes' being almost entirely effaced. The invaginated parts of the bowel have been firmly united to each other by their peritoneal surfaces, and at the upper part of the invagination the mucous membrane is much ulcerated. A bougie has been passed through the canal of the gut.

The specimen was removed from the body of Thomas G., aged 46, who died of extensive peritonitis. For details see *Post Mortem and Case Book.* 1845. p. 207.

178. Specimen of a large fibrous tumour removed (after death) from the small intestine. It was attached by a pedicle to the mesenteric border of the intestine, and the border was invaginated, but not at a part connected with the morbid growth. When first examined, the tumour was of a livid colour, and plentifully supplied with blood vessels. The patient, aged 34, suffered

from constipation, with violent vomiting, and appears to have died of the invagination of the gut. *Presented by* Dr. OGIER WARD.

179. Portion of the cœcum showing a quantity of black colouring matter beneath its mucous membrane. The inner surface, also, is slightly ulcerated.

Microscopical Examination.—After maceration in spirits for some years. the deposit was seen to consist of a large number of very dark irregular masses, for the most part amorphous in character; but here and there oval, and somewhat cell-like, and in places angular as if crystalline. These bodies were mixed with the other granular and corpuscular elements of the part.

The preparation was removed from the body of an old lady, aged 75, who had been subject to constipation of the bowels for many years.

180. Specimen of the tænia solium, passed from the bowels of a young woman. The specimen was presented to the Museum by Dr. SEYMOUR, with the following history. The patient, aged 27, was much troubled with tape-worm. She suffered from heart-burn and pain in the bowels, passed sleepless nights, and grew very thin. None of the usual remedies relieved her. She then took 30 drops of the etherial tincture of male fern twice a day for three days, and then a dose of castor-oil, after which many joints of the worm came away. The tincture was omitted for a week, and afterwards resumed for a fortnight. Subsequent to its being taken a second time, she passed a very large worm (the specimen in question), believed to be the whole, as no other joints were ever passed, and the patient's health was quite restored.

181. Specimen of the tænia solium, passed from the human intestine.

182. Specimen of the tænia solium, passed from the bowels of the dog.

183. Specimen of the tænia solium, passed from the human intestine.

184. Specimen of an intestinal worm removed from a snake.

185. Specimen of the ascaris lumbricoïdes, passed from the human intestine.

186. Three specimens of the tænia lumbricoïdes, each about six inches in length, and removed after death from the lower part of the small intestine of John I., aged 5 years, who died in the Hospital of cholera. For details, see *Post Mortem and Case Book*, 1849. p. 154.

187. Specimen of the ascaris lumbricoïdes, dissected to show its internal structure. Removed from the human intestine.

188. Spécimen of the ascaris lumbricoïdes, coiled round a portion of

small intestine, which has been invaginated. Many other parts of the bowel were also invaginated. The patient died of some independent disease, and the existence of this condition of the bowel was not suspected during life. *Presented by* CÆSAR HAWKINS, Esq.

189. Specimen of the bothriocephalus latus, or tænia lata, removed from the human intestine.

190. Specimen of the bothriocephalus latus. *Presented by* Dr. PAGE.

191. Specimen of the tricocephalus dispar, removed from the human intestine.

192. Specimen showing ulceration of the small intestine, from a case of fever.

193. Specimen showing congenital malformation of the intestinal canal, many portions of its course, and for a great extent, being completely obliterated. The diameter of the gut above the obliterated portions is greatly distended, owing to the accumulation of its contents. The rectum terminated in a cul-de-sac two inches above the anus, which itself was also a cul-de-sac, with a small external opening. It will be seen that an unusually long appendix cæci exists.

The preparation was removed from the body of an infant, in whom Mr. BABINGTON had passed a trocar up the anus, but without relief. The child died a few days afterwards.

194. Specimen (dried and varnished, in glass case) showing a large diverticulum, about $2\frac{1}{2}$ inches long, from the jejunum. The calibre of this diverticulum is of about the same diameter as that of the bowel. No sarcinæ were found in the stomach or bowels.

195. Specimen of the same nature as the above, consisting of the pyloric end of the stomach, and a portion of the duodenum. The diverticulum is a mere rounded pouch projecting from the intestine immediately below the stomach. No sarcinæ were found in the stomach or bowels.

196. Specimen showing gun-shot wound of the stomach, by small shot. A large circular hole is seen on the front surface of the stomach, near its great curvature, by which the principal portion of the charge of shot passed in; a few holes for single shots are also seen near it. Some of the shots remained in the cavity of the stomach, but the greater part had passed through its posterior wall, where a number of small openings will be seen, through which the charge of shot, now scattered, had passed out. A few shots were lodged in the great omentum, but the rents that are now seen in it were probably produced accidentally in moving the parts from the body. No extravasation of the contents of the stomach seemed to have taken place. Some part of the charge had entered the liver, and the rest had

probably lodged in front of the spine, but the precise destination of the shot was not ascertained.

The patient, a lad aged 19, was wounded by the explosion of a fowling-piece, close to his body. The charge had passed through the left fore-arm before entering the abdomen, and had thus lost some of its impetus. The greater part of the charge of shot had, however, still kept together, and had entered the abdomen by a small round aperture above, and to the left side of, the umbilicus. This aperture, at the time of his admission, was plugged by a portion of omentum, and several stray shots were lodged around it. The accident was almost immediately followed by repeated vomiting of dark, coffee-coloured matter; and on his admission into the Hospital three hours afterwards, he was found in such a state of collapse, that it was thought useless to propose any operation on the fore-arm, which was so extensively lacerated, that, under other circumstances, it would have been amputated. He died seven hours after admission. See *Post Mortem and Case Book*, 1860. p. 332.

197. Portions of large masses of hair and string from the interior of the stomach and duodenum. That from the stomach is moulded to the shape of the viscus, which was very dilated; it occupied the larger part of the greater extremity, but a narrowed part projected into the pylorus. The mass consisted chiefly of long black hair, and pieces of string rolled up and matted together with ingesta. When dry, it measured six inches in length, three and three-quarters in depth, and two and a half across. That from the intestine had taken the shape of the lower part of the duodenum and beginning of the jejunum, which were much dilated. It contained much less hair than the mass from the stomach, but a very large proportion of string. It was fourteen inches in length, two and a half in depth, and two and a quarter broad in the thickest part. Purulent fluid was found in the peritoneal sac.

The preparation was removed from the body of a girl aged 19, who was under Dr. BLAKELY BROWN'S care. She had always been delicate, but more so for a year before death, and was sickly and childish. The bowels acted irregularly, and were generally relaxed. The catamenia had only appeared once. Her appetite was variable, and she often vomited after meals. For several months before death she had suffered from a tumour of apparently the size of a large orange, in the epigastric region, which slightly projected, but was not painful on pressure; it was apparently solid, and slightly moveable. It had increased very gradually. On the 30th September, 1849, great pain in the region of the tumour came on, after a

severe fit of vomiting. This was relieved, but recurred on the following day; soon afterwards she became collapsed, and died. It appeared that she had formerly, even at the age of 3 or 4 years, been observed frequently to put hairs into her mouth, but of late the habit had not attracted any particular attention. See *Path. Soc. Trans*, 1851-52, Vol. III., p. 327.

198. The stomach of a man who was supposed to have poisoned himself with sulphate of zinc. The mucous membrane is thickened and marked somewhat like the surface of a portion of tripe. When recent, the mucous membrane was slightly vascular and indurated, but uniformly of a dirty grey colour. The lining membrane of the small intestines was very vascular, and in the duodenum and upper part of the jejunum, was of the same colour and general appearance as in the stomach, but to a much less degree. The rectum was smeared over with a curdy material, but not otherwise affected. The stomach and intestines were contracted. The mucous membrane covering the epiglottis, pharynx, and œsophagus was in places thickened, and of a greyish colour.

The specimen was removed from the body of John W., aged 45, who was brought into the Hospital February 10th, 1850, quite dead, having cut his throat. He had been very intemperate, and for a week before death had been very ill, and vomited much. He was known to have been using a solution of sulphate of zinc as a wash to his eyes, and this salt was found in abundance in the contents of the stomach after death. For details, see *Post Mortem and Case Book*, 1850. p. 32; also description in the *Lancet*, 1859.

199. Part of the stomach of a man who had poisoned himself with 'corrosive sublimate.' A large dark slough is seen on the inner and posterior surface, about three inches from the cardiac extremity. The margins of the parts surrounding the slough are thickened, ulcerated, and irregular in shape, the sub-mucous tissue to some extent around being thickened. Two other but smaller patches also existed in the neighbourhood, and the entire mucous surface was very congested. The sub-mucous tissue of the colon was thickened, and recent fibrine coated portions of the lower end of the ileum, as also the pharynx, and the mucous membrane of parts of the larynx.

The specimen was removed from the body of Francis L., aged 45, who was admitted into the Hospital February 27th, 1842, having swallowed a quantity of the (then termed) bichloride of mercury shortly before, spread on bread and butter. This made him so sick that he was unable to swallow more. The stomach was well washed out by the stomach pump, and but slight pain at the pit of the stomach resulted. On the day following, the mouth had become very sore. On the 1st of March the tongue

was brown and furred, and the patient complained of giddiness and dimness of vision; the mouth was drawn to the right side, and power was apparently lost over the left eyelid. The patient was in no pain, but had passed a certain amount of blood by stool. On the 2nd he passed much more blood, and was profusely salivated, but was in no pain. On the 3rd he still complained of no pain or abdominal tenderness, but of much weakness and giddiness, and had partially lost power over his tongue. On the 4th the gums began to slough, he became drowsy, and passed much watery fœces. He died in the evening, having lived six days after swallowing the poison. Other parts of the digestive tract exist as Preparations 10, 36, 113, and 114 in this Series. For details, see *Post Mortem and Case Book*, 1841-2. p. 245.

200. Stomach and part of the duodenum, from a person who was poisoned with hydrochloric acid. The inner surface of the stomach is seen to be in a highly sloughy state, large dark shreds of the slough hanging therefrom, especially about the pylorus. Portions of the œsophagus were also in a sloughy condition; and the duodenum was greatly inflamed, though not sloughy. The larynx and portions of the lung were highly inflamed.

The preparation was removed from the body of Joseph G., aged 25, who was admitted into the Hospital October 31st, 1836, and was said to have swallowed 2 ounces of hydrochloric acid two hours before admission. He had vomited some dark green matter, which effervesced on the addition of carbonate of soda. The pulse was small, the skin warm, and the tongue very dry and excoriated. His symptoms were referred to the throat and fauces and epigastrium, and he had occasional vomiting. On the 6th of November he had much pain in the throat, extending down to the left side of the chest, and also great difficulty in swallowing. Notwithstanding active treatment, the patient sank, and died November 8th. The case is described in the *Medical Gazette*, Vol. xix., p. 349.

201. Portion of the stomach of a boy aged 15, who died from hydrophobia. The mucous membrane was highly vascular, and beneath it were several spots of ecchymosis, the glands towards the pyloric end being enlarged. The fauces were deeply reddened, and the salivary glands enlarged. The lungs were gorged with blood.

The patient was brought, April 23rd, 1831, to the workhouse of St. Martin-in-the-Fields, having been bitten in the streets by a Newfoundland dog, supposed to be rabid. On the 27th of February he was taken to the Middlesex Hospital, where the wounded parts were excised. He remained well until April 22nd, when head-ache, nausea, and dyspnœa set in,

and led to the usual symptoms of hydrophobia. By the advice of Mr. BRODIE and Mr. CÆSAR HAWKINS, the patient was treated with the expressed juice of the South American plant, the "Mikania Guaco," and with enemata made of infusion of the leaves. The plant was furnished to Mr. HAWKINS by Sir R. KER PORTER, and came from the Caraccas. The juice was given at first every hour, and then every quarter of an hour, and the patient took, in all, 41½ ounces, besides several injections. He died 9 p.m. on the 24th of April. For details, see the *Medical Gazette*, Vol. viii., p. 238, where will be seen some account of the "guaco," by Mr. HAWKINS.

202. Stomach of a dog (inverted) which died of hydrophobia. When recent, it contained a quantity of straw and pieces of wood.

203. Stomach of a dog which died of hydrophobia. When recent, it presented, on its inner surface, numerous black spots, and several erosions of the mucous membrane.

204. A portion of the stomach and duodenum removed from the body a woman who died about two months after taking a large quantity of potash.

On post mortem examination, the mucous lining the pyloric end of the stomach, presented a large and dense cicatrix, which involved the chief part of the circumference of the orifice, implicating the valve, and entirely obstructing all communication with the duodenum, except by means of a small orifice, which admitted only an ordinary sized probe; and through which, in the preparation, a piece of glass has been passed. The remaining portion of the stomach was healthy.

The patient, Eliza G., aged 44, was admitted on May 2nd, 1853, an hour and a half after having swallowed 'a quantity of American potash.' She had vomited directly after taking it; the mouth and fauces were much corroded, and on introducing the stomach-pump, shreds of softened mucous membrane were found clinging to the tube. The symptoms were principally pain in the mouth, along the course of the œsophagus, and in the region of the stomach, with abrasion of the mouth and fauces, dysphagia, and obstinate vomiting. Various remedies were applied with only temporary benefit, and she died of exhaustion, July 8th.

The preparation of the œsophagus and cardiac orifice will be found as No. 19 in this Series. For details see *Post Mortem and Case Book.* 1853. p. 142.

205. The stomach and a portion of the duodenum, intended to show the effects of chronic poisoning by caustic alkali. The patient, Charlotte R., lived four weeks after the drinking of the fluid, apparently the 'spirit of hartshorn,' which was poured into her mouth in order to recover her

from a fainting fit. The stomach is seen to be much dilated, covered with cicatrices, and its pyloric orifice so contracted as only to admit of a bougie. *Post Mortem and Case Book.* 1853. p. 201 ; see also the *Med. Times and Gaz.* Vol. II. p. 553.

206. Specimen showing the effects of sulphuric acid, when swallowed, upon the stomach and duodenum. When recent, the stomach contained about a pint of reddish acid fluid. The larger extent of the mucous membrane of the stomach was but little affected, being of a slight rose colour, but in various parts, specially along the smaller curvature of the viscus and around the pylorus, the mucous membrane was quite destroyed, being chiefly of a black and charred look; in other portions it was of a dark reddish-brown colour. The summits of the rugæ of the mucous membrane were, to a great extent, of the same colour. The duodenum presents the same appearance, having one portion of its surface quite roughened, and somewhat hardened, the glands in the neighbourhood being very prominent. In no part was the muscular coat affected.

The œsophagus, which was much injured by the acid, taken from the same patient, is described as preparation No. 11 in this Series. See also *Post Mortem and Case Book*, and *Path. Soc. Trans.* Vol. XI. p. 294.

207. Preparation showing the 'hour-glass' contraction of the stomach, which, when recent, would only admit the passage of the little finger. The external surface of the stomach, in the neighbourhood of the contracted part, is opaque, the serous membrane being thickened; one or two small ulcerations are to be seen, on the inner surface, in this situation. When recent, the inner membrane was very vascular, and in places, blood was extravasated beneath it. The other organs were healthy.

The specimen was removed from the body of a woman who, for many years, had suffered from nausea, vomiting after taking food, cough in the winter, and dyspnœa. Two or three days before death, she complained of tenderness at the epigastrium on pressure, and for forty-eight hours previously she was delirious. *Presented by* Dr. PAGE.

208. Specimen showing extravasation of blood under the mucous membrane of the stomach; in one place infiltrated throughout the whole thickness of the coats. *Presented by* Dr. JOHN W. OGLE.

209. Specimen showing very great thinning of the coats of the stomach, along with much softening. When recent, the walls were so thin and tender that very little force lacerated them. Both the intestines and the stomach contained much greenish fluid.

The preparation was removed from the body of Edward M., aged 19, who was brought into the Hospital, April 16th, 1851, with fracture of the right tibia and fibula. Erysipelatous and diffuse areolar inflammation, and 'phlegmasia dolens' came on, and extensive superficial sloughs preceded death. Firm fibrinous coagula were found in the femoral, iliac, and pelvic veins, and in the inferior vena cava; and also indications of pleurisy and lobular pneumonia. For details see *Post Mortem and Case Book.* 1851. p. 151. The diseased veins are shown as preparation No. 84 in Series VI.

210. Specimen showing simple ulceration of the stomach. Situated close to the middle part of the lesser curvature is an oval-shaped ulcer of the size of a horse-bean, which had made its way through all the coats of the stomach, and, when recent, was found to be partly blocked up by the under surface of the liver (the lesser lobe) which was united to the margin of the ulcer by recently formed fibrine. On a line perpendicular to this, but at the greater curvature of the stomach may also be seen another patch of ulceration, which only destroyed the mucous coat. The perforating ulcer led to the formation of a large circumscribed abscess in the left hypochondrium. Recently effused fibrine was also found in the cavity of the left pleura, and in the pericardium.

The preparation was removed from the body of Mary H., aged 25, who was brought into the Hospital, January 16th, 1843, with symptoms of acute peritonitis, the pain being principally referred to the left hypochondriac region. Shortly after, she was suddenly seized with symptoms of pericarditis, of which she died January 27th. For details see *Post Mortem and Case Book.* 1843. p. 42.

211. Specimen showing chronic perforating ulceration of the pyloric end of the stomach. The mucous and muscular coats are quite destroyed, to the extent of a crown piece, and the base of the ulcer is supported by the pancreas, which is adherent. The surrounding tissues are thickened, and the pyloric orifice much contracted. One or two other ulcerated patches existed at the greater curvature, which, at the time, were supposed to be owing to the gastric juice within the stomach. One patch showed perforation of all the coats, allowing the stomach's contents to escape into the peritoneal sac.

The specimen was removed from the body of George T., aged 58, who was brought into the Hospital, February 14th, 1849, emaciated, very weak and anæmic, but without any epigastric tumour or tenderness. Two years previously, he had suffered much from pain at the pit of the stomach, but he got well, and so remained until four months before admission, when the pain returned, and vomiting of much blood came on.

For six weeks before admission, he had had almost constant pain at the stomach, bilious vomiting, and 'water brash.' Ten days before, the hæmatemesis had again returned. The vomiting continued almost until death, which took place, February 18th. For details see *Post Mortem and Case Book.* 1849. p. 35.

212. Portion of the anterior wall of the stomach, showing two patches of ulceration; the upper and larger one having destroyed the whole of the mucous membrane, and the greater part of the muscular coat. These ulcers were situated about four inches from the pylorus, and midway between the two curvatures. The mucous membrane, about the ulcers, is very thickened.

The specimen was removed from the body of Henry A., aged 35, who was brought into the Hospital, July 10th, 1845, with carcinoma of the glands of the groin, etc., which affected the pelvic contents, etc. No symptoms of any ulceration of the stomach existed. He died September 6th. For details see *Post Mortem and Case Book.* 1845. p. 216.

213. Specimen showing a large patch of ulceration in the posterior wall of the stomach, which has destroyed all its coats, and opened the trunk of the splenic artery. The patch of ulceration measures two inches in length and one in width, and the base of the ulcer is formed by the pancreas, which is firmly adherent to its edges. Towards the upper part of the ulcer, the opening into the splenic artery is shewn by the bristle passed into this vessel. The stomach contained much air, and blood, partly grumous and partly coagulated, which was adherent to the surface of the ulcer. Both the small and large intestines contained much altered blood, some of which was only removed from the mucous membrane with difficulty. The heart was found to contain but a few drops of blood.

The specimen was removed from the body of John R., aged 34, who was brought into the Hospital, August 16th, 1844. He had suffered from no particular symptoms, but had been getting thin for three months previously, until the day before admission, when, after having much pain at the epigastrium, nausea and faintness, he vomited about a quart of partially coagulated blood. On the day after admission, he vomited a similar amount of florid blood, and seemed very exhausted and weakened by it. On the 19th he died, having again brought up a very large amount of florid blood, and passed his motions involuntarily. For details see *Post Mortem and Case Book.* 1844. p. 182.

214. Specimen showing an oval ulcer of three-fourths of an inch in length, situated close to the lesser curvature of the stomach. The ulcer had almost entirely healed, being covered by a

smooth membrane, very like a mucous membrane, excepting at one point near the centre, where the ulcerating process was still going on, and had made its way into the trunk and one of the branches of the coronary artery.

The preparation was removed from the body of a young man, aged 25, who died from extreme hæmatemesis.

215. Portion of the stomach showing the cicatrix of an old ulcer on its inner surface.

The specimen was removed from a body in the dissecting room. *Presented by* CÆSAR HAWKINS, Esq.

216. Preparation displaying a large circular ulceration, which has completely removed the coats of the stomach, and exposed the pancreas above and the liver below; these viscera having become attached to the margins of the excavation. In the upper part of the ulcer is an opening into the gastro-duodenal artery.

The specimen was removed from the body of a woman, aged 43, who was admitted into the Hospital for epigastric pain and vomiting, from which she had long suffered. She was much emaciated. Hydrocyanic acid, opiates, and stimulants were given, and she went on, without much alteration, for two months. She was then attacked with hæmatemesis, which occasioned her death in ten days. For further particulars see *Post Mortem and Case Book.* 1861. p. 175.

217. Specimen showing ulcer of the stomach, opening into the peritoneal cavity, and perforating the coronary artery. The ulcer is situated at the lesser curvature, very near to the pylorus, and is of somewhat irregular shape. The edges are sharp, and without thickening. The opening in the mucous coat is about as large as a crown piece; that in the peritoneal is considerably smaller. The coronary artery passes, exposed and naked, across the middle of the opening. It is perforated by a small ulcer on its inner aspect. The peritoneal cavity contained a large quantity of blood, as also did the stomach.

The preparation was removed from the body of a man of intemperate habits, aged 41. He had for a month suffered from dyspeptic symptoms, pain at epigastrium, vomiting, and loss of appetite, when he suddenly began to vomit large quantities of blood, and continued to do so until his death which took place on the following day. See *Post Mortem and Case Book.* 1863. p. 79.

218. Portion of a stomach which was affected by gangrene, that went on to total destruction of its coats in one or two places.

The specimen was removed from the body of a child who died 48 hours after the commencement of an attack of inflammation of the stomach.

219. The lower portion of the stomach, everted, and showing great

thickening of the pyloric extremity by the deposition of hard carcinomatous material among its coats. The mucous membrane, as examined after maceration in spirit for some years, was indurated and thickened correspondently, and to the extent of an inch and a half from the pylorus the inner surface of the wall of the stomach was very flocculent and softened and ulcerated, being also raised and prominent (the true mucous membrane being destroyed). This raised part of the inner surface was at one place bordered by tough projections of mucous membrane forming the edge of an ulcer.

Microscopical Examination.—The muscular coat of the pylorus (which was to the simple eye thickened) was found to be hypertrophied, but not otherwise affected. The mucous and submucous tissues, which were thickened to the amount of almost one-third of an inch, showed nothing but a quantity of curly and waved fibrous tissue passing in every direction, and having between its fibres a quantity of granular and amorphous material, but no cell-structure. In one place only there were seen some small finger-like pouches mixed with the fibrous tissue, and one or two accumulations of largish, clear, round, and oval cells containing large nuclei. The flocculent surface of the neighbouring part of the stomach was found to show large numbers of unwaved fibrous bands, mostly dotted, and containing refracting particles, or having them adherent in many places. Many of them also had numbers of large clear nuclear bodies of about a quarter the size of pus-globules adherent. Along with the bands above described existed large numbers of round and oval granular and rather opaque bodies, like pus-corpuscles, only larger, some being twice the size. In a few only were nuclei brought out by the addition of acetic acid. Liq. Potassæ rendered the cells very pale and clear, and enlarged them. No multi-polar or caudate cells were visible.

220. Specimen showing extensive occupation of the pylorus, and of the greater portion of the pyloric part of the stomach, by carcinomatous (alveolar) deposit amongst its various tissues. The submucous and mucous tissues are chiefly affected, being greatly thickened, and presenting in some places a soft flocculent appearance; and this in many parts throughout the whole thickness of the wall's coats. In other parts the stomach's walls are entirely supplanted by a dense yellowish fibrous tissue. The inner surface of this portion of the stomach was extensively ulcerated, and some of the glands usually seen in connection with the stomach were greatly enlarged.

Microscopical Examination.—After maceration in spirit for some time, portions of this thickened flocculent material were found to present a large quantity of delicate fibrous tissue covered with granular material, and having about it numbers

of small round and oval clear nuclear bodies. These fibres observed no specific arrangement. In a few places, bodies filled with opaque contents, and more than three times the size of pus-globules (but nothing more complex) were seen. The enlarged glands showed nothing but inflammatory products within their structure. *Presented by* CÆSAR HAWKINS, Esq.

221. Specimen showing extensive carcinoma of the pylorus and neighbouring part of the stomach. The mucous and sub-mucous tissues are seen to be greatly thickened in these parts, and to be raised considerably, presenting a surface, in places rounded and ridged like greatly hypertrophied folds of the natural mucous structure, but in other places flattened and villus-like. Here and there it was obviously ulcerated to a great extent. The muscular coat was much hypertrophied, and to some extent its inner surface was streaked, and of a light colour where it obviously blended with the super-jacent diseased tissue.

Microscopical Examination.—After maceration in spirit for some years, the superficial parts of this growth were found to present a delicately granular matrix, having in many places numbers of rounded apertures in it, as if of stomach tubes. These were mostly empty. In all directions numbers of small round and oval cell-bodies were seen, and also patches of columnar epithelium-cells. In many parts situated deeper and nearer the muscular coat, delicate glove-like projections, apparently solid, and covered by or containing numbers of black dots and small fat granules, existed. In a few places also an oval trabecular work composed of a delicate fibrous material was observed. The muscular tissue, which was hypertrophied, presented nothing unusual, except at its inner surface, where it had a shreddy, divided appearance as before stated, and where the above-named elements were seen encroaching amongst the muscular tissue. Besides the disease of the stomach, growths of encephalöid carcinomatous material were found in the left lobe of the liver, but the various other organs appeared natural. When recent, the growth in the stomach before mentioned, was very soft and highly vascular, and the external portion of that part of the stomach where the growth was, along with the transverse part of the colon and the omentum, were all firmly adherent to the anterior abdominal wall, forming altogether a hard large mass.

The preparation was removed from the body of a gentleman aged 59, who consulted Dr. SEYMOUR for symptoms of dyspepsia, November, 1826. In March, 1827, he was seen by that physician again, who found a tumour of the size of a large orange midway between the umbilicus and superior anterior spinous process of the ilium, and extending half an

inch to the right of the umbilicus, and an inch below it. It was rather moveable, hard, and tender, but the patient was ignorant of its existence. After various consultations, the tumour was opened by Sir A. COOPER, and two ounces of fetid sanious pus escaped. Some relief was thus obtained, but the tumour grew. The patient died in the following October, without pain, but greatly emaciated. During life, no pain after eating, or vomiting existed, and the appetite and digestion continued natural until two days before death. For particulars, see *Med. Chir. Trans.*, Vol. xiv. p. 230, where is also a lithographic representation of the stomach. *Presented by* Dr. SEYMOUR.

222. Preparation showing extensive fungoïd growth from the inner surface of the cardiac end of the stomach and the lower end of the œsophagus. About two inches of the surface of the stomach, and one and a half of that of the œsophagus, are affected. The growth is considerably raised, and very ragged. The neighbouring lympatic glands were also enlarged.

Microscopical Examination.—After maceration for many years in spirit, the following particulars were observed. On section of any part of the soft growth, a quantity of cream-like juice could be expressed, which, under the microscope, showed vast numbers of cells of almost every variety of form and size, chiefly containing nuclei. No fibres were seen in this juice. Fine sections of the firm and deeper parts of the growth showed large numbers of coarse fibres forming a trabecular net-work, and having around them great numbers of small cell-bodies of the size of pus-globules, but clearer, and without any nuclei, and here and there very large opaque round and oval yellowish bodies, formed apparently by aggregations of these cells. But, besides the above fibrous trabecular work, large and broad flat fibres were seen formed of a delicate granular matrix, more opaque at the edges, and having large numbers of the nuclear bodies about them, capable of removal by washing. In many, particularly where it was apparently more recently formed and least softened or broken down (and this was the case mainly in the œsophagus), the mesh-work was formed of a delicate tissue, scarcely visible, containing vast numbers of small, bright, vitreous-looking, oval bodies, and these seemed to be the main part of the substance, set, as it were, in the almost homogeneous tissue. Occasionally, these small nuclear bodies were aggregated into groups, and surrounded by a membrane of a very fine nature, so as to form a capsule. These groups contained the same bodies in great numbers, sometimes to the amount of 30 or 40, and had quite the appearance of the round or oval myeloïd bodies, so called. Some of the lymphatic glands in the neighbourhood of the stomach are seen to be enlarged, and some were in places very softened; sections showing

accumulations of a yellowish white pultaceous material, separated by white dense fibrous material, forming a coarse kind of trabecular work. This softened part showed vast numbers of nucleated cells of various sizes and shapes, with a quantity of fatty matter and cholestearine crystals. The trabecular work contained extremely fine capillary vessels.

223. Specimen showing extensive thickening of the coats of the stomach, at the smaller curvature, and of the anterior and posterior wall in its neighbourhood, the surface of these parts being greatly ulcerated, and presenting a shreddy fungoïd character. The deposit causing the thickening mainly involves the sub-mucous and sub-peritoneal tissues, and in many places the mucous surface is entire and smooth, being irregularly uplifted as it were, so as here and there to form broad nodules. The tissue of these thicker parts, removed from the more superficial portions, showed a large quantity of unwaved fibrous tissue, having a great abundance of dotted and granular matter about it. Here and there decided apertures, as of stomach tubes, existed. Amongst this fibrous tissue, numbers of nuclear bodies, with dark refracting contents, and somewhat larger than pus-cells, were seen. In the deeper parts, besides the above elements, a considerable amount of curly and wavy fibrous tissue existed. One or two perforations (or lacerations) are seen in the more softened and ulcerated parts; connected with the stomach, some enlarged glands exist.

224. Preparation showing extensive fungoïd disease of the pyloric end of the stomach. The growth forms large irregular masses, projecting into the cavity of the stomach, and in its centre is a large ulcerated opening with irregular margins, which leads into a cavity originally containing two ounces of fœtid pus, and formed by adhesions between the stomach, colon, and duodenum anteriorly, and by the spine behind. The lymphatic glands in the neighbourhood are very much enlarged, and form large masses adherent to the back parts of the pylorus and duodenum.

Microscopical Examination.—The various parts of the growth, after maceration in spirit for some years, were found to present a delicate, almost transparent material, slightly granular, and here and there slightly fibrillated, having a great number of nuclear bodies connected with it in every direction. Most of these bodies were long and oat-shaped, and some were of very large dimensions, being very opaque. Many were rounded and slightly angular, and of these, numbers were full of dark, yellowish, slightly refracting, opaque matter. In some of the deeper and more solid parts, numbers of cysts of small size were seen. One much larger than the others, equalled a small almond in dimensions. These were all lined by a shining, smooth membrane.

225. Preparation showing extensive occupation of the walls of the pyloric half (except about one inch of the pylorus itself) of the stomach, by a carcinomatous growth (the alveolar form). On the external surface the growth projects in large masses, chiefly at the greater curvature, but appears to affect the walls of the stomach almost equally through its entire circumference, appearing at its inner surface. The external masses, which, in places are rather flattened, apparently from pressure, are arranged in a lobular form, and sub-divided into smaller irregularly-sized masses and nodules, each of which presents on its surface multitudes of minute semi-transparent amber-like projections, varying in size from that of a pin's head to that of a bean, and separated from each other by opaque and thickened investing material. The inner membrane of the affected part of the stomach is seen to be entirely replaced by the growth, which here presents a softened, flocculent, dimpled surface, evidently from the opening of the small alveoli, with which the entire growth is filled. The intervening part of the stomach-walls are in some places entirely replaced by the growth; in some parts, the muscular coat exists in greater or less integrity; whilst in others, it is only indicated by an opaque, yellowish, gritty state of the tissue. It is easily seen that in one place the growth proceeds from the mucous and sub-mucous tissues; whilst in another, from the tissues external to the muscular coat.

Microscopical Examination.—On section of any of the outer masses or protuberances, the entire substance was seen to consist of softish gum or glue-like yellow semi-transparent material, lodged in spaces of every form and shape, separated by a trabecular work of firm white material, which was evidently continuous with the investing substance or membrane formed by condensed areolar tissue. In nearly all parts the yellow contents of these spaces could be removed as a body, leaving the investing membrane and the intervening trabecular work entire. At the edges of the masses the isolated prominences became less and less, until, in many cases, mere rounded bead-like bodies of a yellow colour existed, in which no septa visible to the unaided eye were seen. In these bodies, the yellow material was softer than in other places. Portions of the growth, as in the solid walls themselves, were very firm and compact, showing no obvious trabecular work or alveoli. The soft gummy material in the large loculi, showed, under the microscope, vast numbers of isolated nucleus-like bodies of round and oval form, and of a yellowish bright refracting character, being rather larger than pus-globules, and having mixed with them numbers of bodies of a much larger size. These were almost all transparent, and in many places only indicated by a

most delicate, scarcely perceptible, outline. Many contained nuclei, but not all; and many contained granular and fatty matter. Numbers of large flat and solid irregular crystals, some plainly the triple ammonio-magnesian phosphate, were seen in places; and occasionally most obscure fibrillated tissue, as if the débris of broken down trabecular-work. In other parts, however, of the apparently homogeneous gummy material, a firm network was seen, having very obscurely granular material within it. The visible trabecular-work, after the removal of the gummy material, showed nothing but firm fibrous tissue, having numbers of the round and oval bodies, and some granular material, attached to it. On examining the firmer parts of the walls of the stomach under a low power, the general mass was found to consist of a very beautiful mesh-work of light yellow areolar tissue, forming spaces of every size and shape, having adherent to them in many places numbers of masses formed by the accumulations of small round and oval bodies, such as have been before described as connected with the softer parts of the growth. Where most dense, these accumulations were very dark, and large and oval shaped. These nucleus-like bodies had no nucleoli or granular contents. In many places, where, as it were, knots were produced by junction of the trabecular-work, accumulations of fatty matter had taken place. The growth seen at the inner surface of the stomach presented nothing but the alveolar arrangement before mentioned, the superficial cavities being chiefly opened, giving the pitted character above described. The muscular tissue in many places was in a natural state: in others, it was more or less converted into a fibrous structure, whilst in others again, it had the peculiar morbid growth intermingled.

226. Specimen showing extensive occupation of the pyloric part of the stomach, of the pylorus itself, and of the adjoining intestine, by a carcinomatous growth (the alveolar form). The neighbouring glands are also much affected by the same growth. On examination it was obvious that the growth had affected primarily the sub-serous tissue, external to the muscular coat, mainly; but in some places the tissues internal to the muscular coat, had been first affected. In some parts, corresponding to the affected part, the mucous membrane was entirely destroyed, in other places it was greatly thickened. Where this tissue had been destroyed, a soft, rather pulpy surface, dimpled, and having a semi-transparent look, presented itself. This yielded, on slight pressure, much viscid yellow gum-like fluid. In some places the muscular coat had been quite destroyed by the encroachment of the mass from without to the inner surface of the stomach.

Where the morbid growth was the thickest it was also the firmest, showing, to the unassisted eye, numbers of irregularly shaped loculi, formed by a firmish, rather thick network. The meshes were smaller in proportion to their nearness to the inner surface of the stomach, whilst at the extreme outer surface they were very large and elongated. The firm tissue showed a very abundant network of delicate and firm fibrous tissue.

Microscopical Examination.—The thick colloïd, or gummy fluid, as squeezed out of the loculi, showed slight fibrillation in places, and much granular matter, with vast numbers of very delicate rounded bodies, about two or three times the size of pus-globules, having, in many cases, opaque granular contents. In others, which were only slightly clouded, a rather long and narrow nucleus was seen attached to the inner wall of the cell. One or two fibres were also seen in places, rather short and curled, taking a semi-circular shape, and having a long nucleus in their centre. Where the muscular coat at all remained, it was of a yellow colour, and very compressed, showing, under the microscope, very stunted and compressed muscular fibres. The larger affected glands showed much the same kind of network as the above described, but the individual meshes were much larger than those in the growth of the stomach, and many of them were quite rounded, the fibres immediately bounding them being, in many cases, arranged concentrically. In most of the meshes, numbers of large round cell-bodies, with clear distinct nuclei, were seen, and, in many, large bodies, like opaque and granular epithelium, existed, giving the whole an opaque look. Some of the loculi, containing these large bodies, were of very large size. In the smaller glands, those only recently affected, the same trabecular work existed, and, in places, there were large numbers of small round bead-like refracting bodies, with the large round granular cell-bodies before spoken of, three or four times the size of pus globules mixed with them. In some parts these latter bodies altogether predominated. Connected also with the external surface of the stomach, were great numbers of small, round, and oval bodies, varying in size up to that of a pea, united by lax areolar tissue. Similar bodies existed in connection with the omentum, as shown in Preparation 243 in this Series, and with the parietal layer of the peritoneum: there was also a similar alveolar growth in the substance of the lungs; see No. 21 in Series VII.

The specimen was removed from the body of Mary H., aged 40, who was brought into the Hospital, May 28th, 1841, suffering greatly from dyspnœa and urgent chest symptoms.

The stomach was not complained of. She died two days after her admission. For details see *Post Mortem and Case Book.* 1841. p. 103.

227. Specimen showing great thickening and induration of the coats (almost uniformly) of the stomach; its walls measuring about three-fourths of an inch. This thickening is owing to deposit, as well beneath the serous as the mucous membrane. In some parts the mucous and sub-mucous are mostly affected; in others, the deposit is chiefly on the outer surface of the muscular coat, where also, in one or two places, it has so accumulated as to form roundish masses, of the size of a small horse-bean. The muscular coat is seen to be also thickened.

Microscopical Examination.—The deposit, where external to the muscular coat, was found to present both coarse and delicate, clear and longish areolar tissue-fibres mixed with granular matter and small cell-bodies, varying in size up to that of pus-globules in some cases, or even larger. The thickened sub-mucous tissue showed a large quantity of fibrous tissue, chiefly, though not entirely, of the wavy form, and having mixed with it much granular matter, here and there, but only very few of the cell or nucleus-bodies. The muscular fibres, in some places, had granular and fatty matter among them; but otherwise they were generally natural.

The specimen was removed from the body of a man, aged 60, who had suffered from dyspepsia for many years. Whilst in the Hospital, for three months he suffered greatly from vomiting and pain at the stomach. He was only relieved by milk and soda water, on which alone, for some time, he subsisted.

228. Specimen showing a laceration of about one inch in length of the mesentery of the small intestine, having several small accumulations of extravasated blood in its neighbourhood. The corresponding part of intestine is uninjured.

The preparation was removed from the body of William S., who was admitted into the Hospital, February 24th, 1840, having been kicked upon an inguinal hernia, and suffering from rupture of the herniated intestine. The injured intestine is shown as preparation 110 in this Series, in connection with which the case is described. *Presented by* CÆSAR HAWKINS, Esq.

229. Preparation showing a spike-wound of the mesentery. The intestines are bruised in several places, but not perforated.

The specimen was removed from the body of William M., who fell from the top of a house, and was impaled upon some area spikes, which were new and sharp. The spike by which the mesentery was penetrated, had fractured the head of the femur, and broken through the acetabulum. When the abdomen was opened, the intestine, which, at the time of the

accident, must have been close to the pelvis, was found opposite the umbilicus. For further particulars see *Post Mortem and Case Book.* 1861.

230. Preparation (in a dried state, under the glass case), showing excessive development of a portion of the ascending meso-colon, which formed a species of sac, in which the largest portion of the small intestines was contained. When recent, much more of the small intestine was contained within the sac than is now seen ; as when blown up artificially by air it could not be retained in sitû. The ascending colon and cæcum were placed in a direction across the abdomen, almost transverse, the appendix cæci appearing opposite the umbilicus. This was owing to the extreme length of the meso-colon. The great omentum was placed behind the cæcum and lower part of the ileum. It was also noticed that the duodenum and the mesenteric vessels crossing it were placed much more to the right of the median line than they should be. No other malformation existed.

The specimen was taken from the body of Elizabeth P., aged 18, who was brought into the Hospital, April 18th, 1854, and died on the 20th, of acute pneumonia. For details see *Post Mortem and Case Book.* 1854. p. 110; also *Path. Soc. Trans.* Vol. XI. p. 107.

231. Portion of the peritoneum rendered opaque and thickened, under the influence of inflammatory action. When first removed, it was very vascular and reddened, and in places covered by recently exuded fibrine.

The specimen was removed from the body of Mary K., aged 30, who died in the Hospital, September 17th, 1851, of peritonitis, connected with scrofulous disease of the ovaries, uterus, etc. For details see *Post Mortem and Case Book.* 1851. p. 186.

232. Specimen showing intimate union between two portions of small intestine, by means of effused fibrine, the results of peritonitis.

233. Specimen showing a thick strong band of adhesion, formed by effused fibrine between the opposed surfaces of the liver and the diaphragm. *Presented by* SIR B. C. BRODIE.

234. Specimen showing unusually long and delicate bands of adhesion between the opposed surfaces of the liver and the diaphragm, formed by effused inflammatory products. *Presented by* SIR B. C. BRODIE.

235. Specimen consisting of a thick lamina of 'false membrane' peeled from off the surface of the peritoneum, covering the liver, and caused by the consolidation of exuded fibrinous material. It is of a lightish yellow colour, and in places very thinned and indented, having a 'honey-comb' appearance.

The subjacent peritoneum was quite transparent, but puckered in several places: in other parts of the abdomen, however, the peritoneum was very thickened. The liver generally was atrophied and rounded at its margins, and presented the incipient condition of cirrhosis; it was completely surrounded by the thick 'false membrane.'

The specimen was removed from the body of an intemperate man, Henry H., aged 40, who was admitted into the Hospital, December 18th, 1845, with ascites and disease of the heart. He also suffered from pleurisy and congestion of the lungs, and died December 30th. For details see *Post Mortem and Case Book.* 1845. p. 292.

236. Specimen showing the formation of a thick 'false membrane' upon the surface of the peritoneum, covering the liver This membrane is of a lightish yellow colour, here and there dimpled and pitted, and having a 'honey-comb' appearance. In one place, the thick membrane has been peeled off, and the subjacent peritoneum is seen to be in a natural condition. It completely invested the liver, which was consequently much atrophied, and similar 'false membrane' was met with, covering the whole of the parietal part of the peritoneum, and also the spleen. Evidences of pneumonia, and also of old pericarditis were met with after death.

The preparation was removed from the body of Edward S., aged 7, who was brought into the Hospital, July 3rd, 1847, with ascites, which had followed what was called 'inflammation of the chest,' three years previously, and for which he was twice tapped. He was attacked with influenza and died, December 10th. For further details see *Post Mortem and Case Book.* 1847. p. 248.

237. Specimen showing the formation of a thick 'false membrane' upon the surface of the peritoneum covering the spleen. In some parts the membrane is very much thinned, having a 'punched' or honey-comb look. The spleen itself was somewhat firm, but not otherwise altered. The kidneys were granular, and there had been extensive disease of the heart, and effusion into the pleural and peritoneal cavities. The peritoneum generally was thickened.

The specimen was removed from the body of Elizabeth B., aged 48, who was brought into the Hospital September 24th, with ascites, etc., and died September 29th. For details, see *Post Mortem and Case Book*, 1845. p. 228.

238. Specimens showing long and slender bands of adhesion between the opposed peritoneal surfaces of the liver and the diaphragm. The adhesions are seen to contain numerous blood-vessels, which have been artificially injected.

239. Specimen showing extensive growths of fungoïd masses in con-

nection with the mesentery of the large intestine. One of these is equal in size to an ordinary orange, and rather oval in shape. Several of the mesenteric glands are also enlarged and affected by the growth; see Preparation in the Series allotted to those organs. The intestine was similarly affected; see Preparation 170 in this Series.

Microscopical Examination.—On examining sections of the growth by a low power, a very fine stroma of areolar tissue was seen, observing no regular form, but containing numbers of corpuscular elements. By a high power, the cream-like fluid yielded by pressure was seen to contain granular matter, fat globules, and vast numbers of small granular nucleus-like bodies, shrivelled, but enlarging to about the size of pus-corpuscles on the addition of acetic acid. No particularly large cells were seen.

For the history of the case, see that of the intestine as mentioned above (No. 170).

240. Portion of the small intestine and mesentery, showing the almost universal deposition of carcinomatous material beneath the peritoneum. This exists, partly as a layer of uniform thickness, also as rounded prominent nodules of various sizes, and as projecting fringe-like thickish masses, resembling in form a kind of leaf. These foliaceous masses are chiefly on the anterior part of the intestine, at about the place of union between it and the mesentery. The whole of the deposit is very firm, though some parts are firmer than others.

Microscopical Examination.—Those parts which were softer than others showed large masses of epithelial formations of every size and shape such as are wont to appear in so-called epithelial cancer. Among others, numbers of brood and nested cells, semi-circular, and budding, sprouting cells, etc. were seen. In some parts, nothing but vast numbers of small nuclei, of an oval and round shape, imbedded in a slightly granular matrix, were met with. Flat epithelial plates with knobbed projections, were in one or two places observed. In the firmer parts much fibrous tissue was also seen mixed with the cell-formations; and in places a decided trabecular formation and arrangement existed. Besides the above preparation, the whole of the peritoneal surface, excepting that which covers the liver and the stomach, was affected by similar carcinomatous deposit, which was the thickest about the mesentery. The lumbar glands and also the lining surface of one part of the bladder, the os uteri and the vagina, were in like manner affected, the two latter being also extensively ulcerated.

The preparation was removed from the body of Mary M., aged 60, who was brought into the Hospital January 4th, 1843, and died January 14th. The following preparation

(No. 241) shows another part of the intestine, similarly affected; and the uterus and vagina exist as Preparations in the Series allotted to the genital organs. See *Post Mortem and Case Book*, 1843, p. 7.

241. Portion of the small intestine, from the same patient as the above, and showing similar carcinomatous deposit beneath the peritoneum.

242. Portion of the small intestine, with the corresponding mesentery, showing three or four separate deposits of carcinomatous material on the surface of the latter. The largest of these masses is about equal to two peas in size. They are all firm in consistence, and rather friable, their surfaces being somewhat flocculent.

Microscopical Examination.—A large quantity of delicate fibrous tissue was seen, which, only in a few places assumed anything like a trabecular arrangement. Along with this fibrous tissue multitudes of corpuscles of various sizes and shapes existed, in some cases enclosed within loculi, but generally speaking, simply lodged indiscriminately among the fibrous tissue. These bodies were round and oval, some resembling mere nuclei, others being largish cells, with granular and rather opaque contents, and having a very delicate fine outline. A quantity of granular matter surrounded them in most parts. No cells of a more compound nature were seen.

243. Portion of stomach and large omentum, showing a large number of very small round and oat-shaped collections of carcinomatous material (of the colloïd or alveolar variety), connected with the surface of the latter.

Examined microscopically, these little white accumulations showed much delicate fibrous tissue, along with the same kind of corpuscles and slight trabecular-work as did the previous specimen (No. 242). Many of those which had pedicles floated freely out in water, and when recent, were much more transparent than they now are seen to be. Carcinomatous deposits within the lungs (vide Preparation 21 in Series VII.), and in the stomach (vide Preparation 226 in the present Series) were also found. For history, see *Post Mortem and Case Book*, 1841, p. 103; and also the descriptions of the specimens of the stomach and lungs.

244. Specimen showing a mass of carcinomatous material (encephaloïd and melanotic form united) connected with the anterior surface of the mesentery of the small intestine. The mass is about two inches in length, and cylindrical in form, being rather nodulated on its surface.

It was removed from the body of George K., aged 35, who was admitted into the Hospital July 14th, 1856, and died July 28th. Similar carcinomatous growths were also found

in the brain, in the description of which (see Preparation 45 in Series VIII.) all the microscopical and general particulars are given For further details, see *Post Mortem and Case Book*, 1856. p. 178.

245. Specimen showing two lobulated masses of carcinomatous material (the encephaloïd and melanotic form conjoined) in connection with a portion of omentum.

From the same patient as the above specimen (No. 244).

246. Section of the liver, transverse colon, and omentum, showing extensive occupation of the sub-peritoneal tissues of the parts by the alveolar form of carcinoma, the viscera themselves being unaffected, excepting one or two parts of the liver, which are partly involved near its surface, in continuity with the adjacent sub-peritoneal tissue.

247. Portion of the small intestine and mesentery, showing numbers of small scrofulous deposits beneath the serous membrane forming the latter structure. Almost all the intestines were united together by means of false membrane.

The specimen was removed from the body of James R., aged 24, who died in the Hospital January 4th, 1843, of phthisis, with pneumo-thorax, a vomica having opened into the pleural cavity. For details, see *Post Mortem and Case Book*, 1843.

248. Portion of intestine, with the mesentery, showing accumulations of scrofulous matter beneath the peritoneum. The intestines were generally adherent to each other, and in most places the free surface of the peritoneum was covered by a layer of soft and recent false membrane. The pericardium also was obliterated by old adhesions containing scrofulous deposit.

The specimen was removed from the body of Mark P., aged 44, who died in the Hospital April 30th, 1850, of extensive pleurisy. No scrofulous deposit existed in the lungs. For details, see *Post Mortem and Case Book*, 1850. p. 76.

249. Portion of the transverse colon, with the omentum tucked up and adherent to it. In the sub-peritoneal tissues of these parts much scrofulous deposit exists, causing very considerable thickening, in one part to the extent of above half an inch, and giving the appearance as if the intestinal wall was of that diameter. The whole formed a large tumour, which was adherent to the abdominal walls by recent fibrine; and the entire surface of the peritoneum was thickly studded with miliary scrofulous deposits. Similar deposits and vomicæ existed in the lungs.

The preparation was removed from the body of Francis K., aged 47, who died in the Hospital October 11th, 1843. For details, see *Post Mortem and Case Book*, 1842-3. p. 54.

250. Specimen consisting of a portion of the liver and diaphragm,

showing, in addition to one or two abscesses in the liver, a large cavity between the two parts above mentioned, in which a quantity of purulent fluid was collected. The liver and diaphragm were extensively adherent to each other, excepting where the purulent matter was collected; and the adhesions formed thick fibrous shreddy walls surrounding the pus. The diaphragm was to a great extent much condensed and converted into a thick fibrous structure. The liver in the neighbourhood of the adhesions, contained one or two abscesses, some of the smaller ones consisting almost entirely of fatty, granular matter, as if the contained pus had undergone fatty alteration. In addition to the above described appearances, much pus and fibrinous material were found in the pericardial cavity, and fibrinous exudation in one of the pleural cavities.

The specimen was removed from the body of Peter L., aged 33, who was admitted into the Hospital November 1st, 1852, in a state of great depression and destitution, complaining of having suffered much from shivering, which was treated as ague, and from pain all over, but chiefly on the left side. There was a small rounded tumour at the left edge of the ensiform cartilage, which bore handling well, and evidently contained fluid, the seat of which was thought to be the liver. Vomiting and greater depression, with increased quickness of pulse, came on; and the enlargement was opened by trocar, when above two pints of pus were evacuated, unmingled with serous fluid, and only occasionally streaked with blood. The patient gradually sank, and died November 21st. For details, see *Post Mortem and Case Book*, 1852. p. 227.

251. Specimen of a 'loose body' found within the abdominal cavity, and probably having origin in the sub-peritoneal tissue investing the upper surface of the liver, a part of which organ is shown, containing a depression, in which, no doubt, the loose body was originally lodged. The body is of the size of a large almond, of a pearly white colour, and flattened on both surfaces, with an indentation at one of its edges. It fell out from between the diaphragm and the liver, on examining the abdominal contents. On making a section it was found to consist of a yellowish friable material, in places very gritty, and surrounded by a covering of about $\frac{1}{12}$th of an inch in thickness, consisting of firm whitish tissue of the consistence of softened cartilage. The yellow matter was intersected by lighter parts.

Microscopical Examination.—The external covering was seen to consist of material which was in some places quite amorphous, like coagulated albumen, but in others, disposed in layers uniform with each other, amidst which nothing like

nuclei existed. The yellow substance contained much fatty matter, also amorphous and calcareous material, and a great number of round and oval yellow semi-opaque bodies, varying in size from $\frac{1}{400}$th of an inch upwards. The entire substance cleared much on the addition of liq. potassæ or sulphuric æther. The above described body apparently had been originally located in a sharply-edged concavity which was found on the surface of the liver, and which was lined by a depression of the common investing fibrous capsule of this organ. Moreover, at the edge of this concavity on the surface of the liver, was a small tuft of shreddy, fibrous tissue, of about one-sixth of an inch in length, and in the neighbourhood of this the peritoneal covering of the liver was thickened and opaque, and puckered. This fibrous substance acted most likely as a pedicle to the almond-shaped body, and corresponded to the indentation found at its edge.

The specimen was removed from the body of a patient who also died of some disease quite unconnected with the liver. For details, see *Path. Soc. Trans.*, Vol. VI. p. 208.

252. Portion of the large omentum, containing numbers of so-called hydatid cysts. These cysts are of variable thickness, some being semi-transparent and expanded, whilst others are thickened, opaque, and corrugated; in many cases great numbers of these cysts are shrivelled up and collected together in one cavity. Several cavities have been emptied of their cysts, and are seen to be lined by a whitish semi-concrete material. Others have small hydatid cysts attached to their inner surface. Several cysts of a similar nature were found within the liver and other viscera, and in almost every part of the abdomen in connection with the peritoneum; see Nos. 272, 274, and 275 in this Series. In two places they had made their way by pressure into the thoracic cavity.

The specimen was removed from the body of John F., aged 22, who was brought into the Hospital March 27th, 1843, and died April 15th. He had suffered from erysipelas of the face, and was very emaciated. For details, see *Post Mortem and Case Book*, 1843, p. 71; also *Path. Soc. Trans.*, Vol. XI. p. 295, where will be found a description of the *microscopical* appearances of the hydatid cysts.

253. Specimen showing extensive laceration of the liver, owing to a fall, Besides several smaller lacerations, two of greater importance than the others existed, and are shown in the preparation. Of these two, one is observed along the great falx, on the upper surface, reaching to some depth. This rent, when recent, was perfectly filled up by soft fibrine, by which also the liver was united to the inner surface of the abdominal walls. The other laceration is seen on the same surface to depart from the above one, and to pass down to the anterior

margin of the liver, and into the sulcus of the gall bladder, but without injury thereto. Slight ecchymosis of blood existed in the anterior mediastinum and between the pleura and ribs, and some coagula of blood in the pleural cavity, but there was no fracture of any of the ribs. The abdominal viscera were united together by a quantity of recent fibrinous exudation, leaving several circumscribed cavities containing fluid mixed with flocculent fibrine, and in the neighbourhood of the liver, much biliary colouring matter. One cavity contained much extravasated blood.

The specimen was removed from the body of Samuel T., aged 17, who was admitted into the Hospital March 16, 1830, after having fallen from a scaffold 30 feet high. A scalp wound existed, and the ribs were much flattened, but did not appear to be broken. The patient was in a state of collapse, and in a few hours the abdomen began to swell, and became tense and painful, and much difficulty of breathing with some degree of jaundice came on. Constipation, vomiting, and other symptoms of peritonitis followed, along with purging. There was also vomiting of stercoraceous matters, before death. *Presented by* CÆSAR HAWKINS, Esq.

254. Specimen showing extensive rupture of the liver of a fœtus. Several small bruises are seen on the upper and under surface of the organ, and one very extensive one quite in the middle of this surface. A large quantity of extravasated blood existed in the general peritoneal cavity, and also a slight quantity in the sub-tegumentary tissues of the scalp and abdomen.

The liver in the above described condition was found in the body of a fœtus born dead. The accoucheur stated that no account could be given of the rupture, as the mother had quite an easy labour, and the child had sustained no known injury. The other viscera did not appear in any way unhealthy. *Presented by* Dr. JOHN W. OGLE.

255. Specimen showing the liver separated almost into two parts along the longitudinal fissure.

Removed from the body of William H., aged 54, who was killed by a heavy stone which rolled upon and crushed him Other very extensive injuries existed. See *Post Mortem and Case Book*, 1857. p. 124.

256. Specimen showing part of the right lobe of the liver, the posterior edge of which was deeply indented by the ribs. The liver was natural except in this particular. One of the grooves is nearly an inch deep, and is very narrow, as if a rib had been pressed into it edgeways.

The preparation was taken from the body of a shoemaker, aged 72. See *Post Mortem and Case Book*, 1861. p. 307.

257. Part of the anterior portion of the liver, containing a round mass of extravasated blood, about $1\frac{1}{2}$ inches in diameter, which was firmly coagulated near its margin. The liver also contained several other smaller patches of extravasated blood, and was very granular in texture. The capsule of Glisson was greatly thickened and contracted. The spleen was large and soft, and rather pale, and its capsule was thickened and firmly adherent to the diaphagm and abdominal parietes. There was a considerable amount of adventitious membrane in the peritoneal and pleural sacs, and a part of one of the lungs was "hepatized." The dura-mater was also thickened and firmly adherent to the calvarium.

The specimen was removed from the body of Richard W., aged 58, who was admitted into the Hospital June 12th, and died in a typhoïd condition June 19th. For further details, see *Post Mortem and Case Book*, 1850. p. 106.

258. Specimen showing extensive atrophy of the liver, along with great thickening and induration of the various septa of fibrous tissue, known as Glisson's capsule, as well as of the external fibrous and peritoneal investments. The liver was very firm in consistency and nodulated on its surface.

259 Specimen showing yellow atrophy of the liver, with obstruction of the portal vein. The liver weighed only 28 ozs.; its interlobular fibrous tissue appeared to be somewhat increased, and, under the *microscope*, portions of its substance showed shrivelled and fatty gland-cells lying among a quantity of loose fat. The organ was soft in texture and yellowish in colour. The portal vein, from two inches external to the liver to the second and third divisions within it, was tightly packed with light-coloured fibrinous coagulum. This was adherent to the walls of the veins, which, on the removal of the coagulum, were found to be quite smooth and natural. The liver is laid open so as to show the obstructed veins in its interior, and their position is indicated by bougies. The spleen was much enlarged; and one of the lungs contained a large blood coagulum.

The preparation was taken from the body of a married woman, aged 21, who, for four months had suffered from swelling of the legs and ascites. She became much wasted and had jaundice. The breath and the whole body were offensive to smell, and the fæces were peculiarly so. For details, see *Post Mortem and Case Book*, 1862, p. 286; also *Path. Soc. Trans.*, Vol. xiv., p. 63.

260. Portion of liver (almost the entire organ), presenting a well-marked instance of cirrhosis. The whole of the viscus, but especially the right lobe, is very much contracted, and the entire surface is covered by large and small nodulations (hob-

nailed). The portal vein, at the transverse fissure, was filled with laminated coagulum, which, for the greater part, had lost its colouring matter. The gall-bladder was distended with bile.

The specimen was removed from the body of Ellen S., aged 33, who was admitted into the Hospital January 28th, 1846, and whose illness dated from an attack of jaundice nine months previously, followed by dyspepsia, etc. Three months before admission ascites came on. Dyspnœa supervened, and shortly before death coma, and partial paralysis of both the upper and lower extremities, with hiccough set in. She died February 5th. Emphysema of the lungs and dilatation of the cavities of the heart, were also found after death. For further details, see *Post Mortem and Case Book*, 1846, p. 36.

261. Portion of the liver in a state of cirrhosis, the sectional surface, when recent, presenting the appearance of a nutmeg. *Presented by* Sir B. C. Brodie.

262. Section of liver showing extensive thickening and induration of the various septa formed by Glisson's capsule. The liver was very much contracted by thickening of the fibrous and peritoneal investments, and also very nodulated on its surface. 'False adhesions' were found binding the various viscera down to the posterior part of the peritoneal cavity, which was lined by firm adventitious membrane, and contained also a quantity of clear yellow fluid. The spleen was large and firm, and its investments were greatly thickened. Considerable pleuritic effusion also existed.

The specimen was removed from the body of Jane L., aged 29, who was admitted into the Hospital May 8th, 1850, with ascites. Paracentesis abdominis had been two or three times performed: at one time, 40 pints of clear fluid being removed; at another, 25 pints. The patient died July 26th. For further details, see *Post Mortem and Case Book*, 1850, p. 131.

263. Portion of liver in a state of cirrhosis.

The patient from whom the specimen was removed was an habitual drunkard, and was the subject of ascites. *Presented by* Cæsar Hawkins, Esq.

264. Portion of liver very indurated and contracted, and covered by a very thick opaque investment, composed of altered peritoneum and capsule. These united membranes at one part are one-eighth of an inch in thickness, the deeper parts being of a yellowish colour, whilst the more superficial ones are quite white. This thick membrane was capable of being peeled off entire, leaving a tolerably smooth surface of the viscus beneath.

On *Microscopical Examination* this thick opaque membrane was found to consist of nothing but firm fibrous tissue, and the

liver itself was also seen to be the seat of much fibrous tissue, with here and there slight corpuscular elements. The proper hepatic cells were very scanty, comparatively speaking, and dwindled. *Presented by* CÆSAR HAWKINS, Esq.

265. Specimen consisting of a section of a liver showing extensive thickening of the inter-lobular fibrous tissue.

266. Specimen consisting of a cirrhosed liver, in a peculiar lobulated condition. The size of the organ is not much altered, but its form is very remarkable. It is divided into a number of large smooth prominences, many of which are two or three inches in diameter. The organ resembles the lobulated kidney of an ox. The capsule was slightly thickened, and here and there traces of lymph could be seen, particularly in the subdivisions. On section, septa of fibroïd matter were found in many places, and appeared to determine the superficial depressions. The glandular structure was congested so as to leave a nutmeggy appearance, but was otherwise perfectly natural. The hepatic cells examined with the microscope were natural.

The preparation was removed from the body of R. W., who died of gangrene of the leg, in consequence of obstruction of the femoral artery by a coagulum. (See preparations 198 and 199, Series VI). No symptoms of the condition of the liver existed during life.

267. Specimen consisting of part of the large lobe of the liver, containing a cavity equal in dimensions to that of a small cocoa-nut, in which are seen several white, thick and tough membranes, somewhat convoluted, the remains of so-called hydatid cysts. The inner surface of the containing cyst is of a white colour, having the general appearance of a distinct membrane. The cavity occupies almost the entire thickness of the viscus at one point, being at this part only separated from the anterior and posterior surfaces of the organ by a thin semi-transparent lamina. Correspondently, the serous and fibrous investments are here thickened, and at one part covered by recent soft fibrine. In addition to these entozoa, etc., there was found a so-called 'serous cyst' in the substance of the lung, but no description of the said cyst exists.

The preparation was removed from the body of Margaret M., aged 60, who was admitted into the Hospital November 14th, 1828, with prolapsus uteri, and died December 21st, with diffuse suppuration of the fauces, glottis, etc. The presence of the liver disease was not suspected prior to death. *Presented by* CÆSAR HAWKINS, Esq.

268. Walls of a cyst found in the substance of the liver, and originally containing numerous so-called hydatid formations. The cyst is now empty and dried, and is about as large as a moderately sized orange. The walls contain a number of blood-vessels

injected with ordinary red injection, and in several places also patches of calcareous matter of variable size and thickness.

The preparation was found in a body in the dissecting room. *Presented by* CÆSAR HAWKINS, Esq.

269. Specimen of a large cyst, with part of the liver from which it was removed, containing many so-called hydatid formations. The walls of the cyst vary in thickness, but do not seem in any part to exceed that of a piece of ordinary pasteboard. At one point, on the left side of the preparation, is a slight projection on the outer surface of the cyst, which corresponds with a cup-like depression on its inner surface. The base of this projection is seen to be very much thinner than the other parts of the cyst-wall; and from the margins thereof projects a band of fibrous membrane, at first broad and flattened, and then having a rounded character, which passes across a small segment of the cavity to become adherent to another portion of the parietes. This was very indurated, and when *examined microscopically*, was found to show simply the elements of fully-developed white fibres. Moreover, on examining the inner surface of this cup-like pouch, one or two small opaque hydatid cysts were found to be attached. The general inner surface of the cyst is covered here and there with tough yellowish substance, evidently consisting, as shown by the microscope, of the results of inflammatory exudation. Thick leather-like opaque cyst-walls of every gradation of size, as well as cysts with thin and transparent walls are seen in the bottle, having fallen from the large cyst or capsule. In many of these, small opaque soft albuminous material existed, mixed up with innumerable refracting and opaque rounded bodies of various sizes, along with, here and there, plates of cholestearine and calcareous particles. Several large rounded bodies of a brownish hue also existed, some having the character of altered cells, and others appearing as if composed of fine hair-like particles bristling in all directions, reminding one somewhat of margaric acid accumulations. In one of the largest sized cysts in this bottle is a quantity of purplish brown-looking substance, which proved, on examination, to be only the above described material within the cyst, coloured by biliary matter. *Presented by* SIR B. C. BRODIE.

270. Specimen consisting of a thick walled cavity, in which a large number of small hydatid cysts existed (now at the bottom of the bottle). The wall of the large or containing cavity is in places about one-eighth of an inch in thickness, and consists, as found by the use of the microscope, of dense fibrous tissue. It is lined by yellow old inflammatory products, which here and there form masses of a very dark, almost black colour, found to be owing to the colouring matter of bile. *Presented by* SIR B. C. BRODIE.

271. Section of a liver containing a large hydatid cavity, from which a number of small semi-transparent cysts have fallen to the bottom of the bottle. The dense fibrous structure of which the containing capsule is composed is lined by softish inflammatory exudation-material.

The specimen was removed from the body of George F., a boy who died in the Hospital from injury to the brain, owing to an accident. There had been no previous symptoms of the liver disease. *Presented by* SIR B. C. BRODIE.

272. Part of the walls of a large hydatid cyst, showing, on its inner surface, three large and prominent out-growths, having a lobulated cauliflower appearance. Of these out-growths, the largest is of about the size of half a walnut. They are all of the same colour as the parent membrane from which they arise, here and there small elevations on the surface being however less opaque. On close examination these prominences were found to consist of a vast number of small hydatid cysts accumulated, and, from mutual pressure, assuming various forms, mostly being as it were pedunculated, when separated from each other. These minute cysts all contained fluid, and here and there opaque white albuminous matter, with (in many cases) numbers of round refracting bodies of various sizes. In none were any 'hooklets' visible. In some cases these walls were very thick and opaque, whilst in others they were very transparent. The inner surface of the large cyst-wall of the preparation presents innumerable small white elevations, and here and there the innermost layers of the wall are seen to be shreddy, showing, under the microscope, a granular and fatty condition. In one place may be seen a bulging of this surface with a corresponding depression on the opposite side, evidently owing to the former presence of some small cyst.

The specimen was removed from the liver of John F., who was brought into the Hospital March 27th, 1843, and who died of erysipelas of the face. Other hydatid cysts existed in the liver, as seen in Preparations 274 and 275; and also in the omentum, as seen in a previous Preparation, 252, in this Series. For further details, see *Post Mortem and Case Book*, 1843, p. 71; and *Path. Soc. Trans.*, Vol. XI. p. 295.

273. Portion of liver containing a cavity of the diameter of a florin, surrounded by a firm fibrous membrane, in which are embedded and closely packed together, several convoluted membranes—the walls of hydatid cysts. Between these old cyst-walls exists in variable proportions, a quantity of soft yellowish, and, in places, very dark brown material, which proved, on *microscopical examination*, to consist of granular and molecular substance, in which numbers of round and oval bodies, as well as cholestearine and fatty crystals existed.

Many of these small bodies were mere plates, or flattened cell-forms; others were globular and light-refracting; a few contained nuclei; and one or two, but very few, were of a dark crimson colour, as if blood stained. The largest quantity was tinged yellow, from biliary colouring matter, and it was the concentration of this which gave to the naked eye the dark brown colour which existed in places. No 'hooklets' were anywhere seen. The liver itself was very firm, and of a light yellow brawn-like character.

On *Microscopical Examination*, the hepatic cells were seen of ordinary size, but an unusual quantity of granular and fibrous material was found in places between the rows of cells. *Presented by* SIR B. C. BRODIE.

274. Specimen removed from the liver showing a number of hydatid cysts, shrunken up, and packed closely within an investing capsule of fibrous tissue. Between several contiguous cyst-walls is to be seen a quantity of concrete and gummy substance, in some places of a bright yellow, and in other places of a dark brown colour. This substance was *examined microscopically*, and found to contain a number of large round finely-granular dark masses, besides innumerable small glistering round cell-like bodies, fatty matter, and cholestearine. No hooklets were met with. The yellow material was owing to the colouring matter of bile; and the dark brown colour to a kind of pigment here and there seen to exist in irregular masses. At the lower part of the preparation two or three small cysts are very well seen, situated within the substance of the walls of one of the large and shrunken cysts, some of them being of the size of a pea.

The preparation was removed from the body of John F., from which Preparations Nos. 252, 272, and 275 in this Series are taken.

275. Specimen showing the presence of a large hydatid cyst in the substance of the right lobe of the liver, which, by pressure, has caused absorption of the diaphragm, and subsequently become adherent to the under surface of the right lung. This cyst contained a great number of hydatids, some of which still remain in the cavity, whilst others have escaped, and are seen at the bottom of the bottle. Similar hydatid formations were found in the omentum, No. 252 in this Series; in other parts of the liver, Nos. 272 and 274 above; and in the spleen (see later Series).

These preparations were removed from the body of John F., aged 22, who was admitted into the Hospital March 27th 1843, with a very large abdomen, containing, as could be felt from without, numerous tumours, the nature of which was

not evident. The abdomen diminished whilst the patient was taking iodide of potassium. One day whilst playing in the garden the boy fell, immediately felt excruciating pain in the whole of the abdomen, and was taken to bed in a state of collapse, and during some time continued in this condition. After his recovery therefrom, he had symptoms of peritonitis, but recovered from this attack, and left the Hospital, owing to decline of general health caused as was supposed by residence in the wards. Subsequently, he was re-admitted, owing to erysipelas of the head and face, of which he died. It appeared that anterior to the discovery of tumours in the general abdominal cavity, a fluctuating tumour had been found to exist in the right hypochondriac region by Mr. CÆSAR HAWKINS. For more minute particulars, see *Post Mortem and Case Book*, 1843, p. 71; also *Path. Soc. Trans.*, Vol. XI. p. 295.

276. Specimens of hydatid cysts of various sizes, removed from the substance of the liver. Many of these are seen to possess secondary ones within them. The general cavity in which they were originally contained held about two quarts of these cyst formations, but during life no symptoms had been manifested leading to any suspicion of their existence. *Presented by* SIR B. C. BRODIE.

277. Portion of liver containing a cavity of the size of a small orange, lined by dense fibrous tissue, in which are seen numerous shrunken hydatid cysts. Between several of the cysts soft albuminous matter, in places mixed with biliary colouring substance, exists. This collection of hydatid formations in one place rises as high as the surface of the liver, being bounded by the thickened fibrous investment of the organ, which was very coarse and nutmeggy in character. No other part of the body contained similar formations.

The preparation was removed from the body of Francis D., aged 36, who was brought into the Hospital July 23rd, 1851, and who died of scrofulous disease of the brain. For details, see *Post Mortem and Case Book*, 1851. p. 158.

278. Portion of liver containing a cyst projecting from its surface, of the size of an orange, which, most probably, contained at one time hydatid formations. The walls of this cyst are very indurated and thickened, being at one place almost half an inch in thickness, and here and there containing calcareous matter. The inner parts of the walls may be to a certain degree removed in laminæ; but the whole cavity has been at one period lined by a very thick membrane, the remains of which are seen at the bottom of the cavity in a shreddy curled up condition where not adherent. In several places this thick inner membrane is the seat of roundish and deep depressions, which, in one or two parts,

have, as it were, pierced into the solid and hardened deeply placed elements of the cyst-walls. These small depressions or caverns contain, in many places, soft broken down material, in which much fat and oil-globules, and evidently old pus and other small cell-formations, exist. No specific hooklet formations were seen, but here and there large round, rather granular and vitreous-looking bodies were met with. It is most probable that the above-mentioned cyst was the result of hydatid formation. The liver was itself also otherwise diseased, being granular and somewhat thickened as to its peritoneal and fibrous investment. *Presented by* SIR B. C. BRODIE.

279. Specimen showing the parietes of a cyst within the substance of the liver, which originally contained a number of shrunken smaller cysts, some of which are seen at the bottom of the bottle. These were, no doubt, of hydatid origin. *Presented by* CÆSAR HAWKINS, Esq.

280. Portion of liver having a large thick walled cyst, no doubt of hydatid nature, connected with its outer surface. The inner part of the cyst is covered in places by a quantity of fibrinous hard material, which is rather firmly adherent, and within the large cyst several portions of shrunken minor cyst-walls existed. One of these is still retained in connection with the large cyst.

The specimen was taken from an aged person, in whom, during life, no disease connected with the liver was suspected. *Presented by* SIR B. C. BRODIE.

281. Portion of the liver of a sheep, indented on its superior surface by a fossa of about the circumference of a shilling, and somewhat oval in shape, in which is contained a hydatid cyst, somewhat shrivelled. The cyst and the liver have been injected from the hepatic vein.

282. Large cyst from the substance of the liver, with very thick and firm walls. The consistence of these walls was, in places, that of cartilage; and here and there calcareous deposit was contained. The inner surface is covered by a quantity of shreddy and flaky, rather friable material, with here and there films of the innermost layers of the cyst-walls. This deposit had all the *microscopical appearances* of being the remains of exuded fibrine, fatty matter, and pus, with particles of 'false membrane,' and may, in the absence of any history, be supposed to be the dêbris of some hydatid formation, which had undergone suppuration and further changes.

283. A portion of the liver displaying an occlusion of the common duct by means of a broken hydatid cyst. The gall bladder is seen thrust to the left by a cyst as large as a tennis ball, which is connected with the right hepatic duct. The hydatid cyst, and the duct leading from it, are laid open, so as to show the

nature of the obstruction, and a bougie has been passed down the cystic duct. At the time of the post-mortem examination the cyst was full of hydatid-cysts as large as currants. It appeared as if the outermost investment of the cyst had broken, and insinuated itself into the gall-duct.

The preparation was taken from the body of a young woman 16 years of age, who was admitted into the Hospital September 25th, 1861, and died October 11th. She was intensely jaundiced, and had a remarkable tendency to purpura and hæmorrhage, which appeared to be the chief cause of death. For details, see *Post Mortem and Case Book*, 1861, also *Path. Soc. Trans.*, Vol. XIII, p. 104.

284. Portion of liver, in an extremely fatty condition. The whole organ was very large, pale, and mottled, and showed, *when examined microscopically*, a considerable accumulation of oil-globules in the hepatic cells throughout its texture.

The specimen was removed from the body of Ann S., aged 38, who was brought into the Hospital February 6th, 1850, with phthisis, and died February 22nd, having suffered from symptoms of ulceration of the bowels. For details, see *Post Mortem and Case Book*, 1850, p. 37.

285. Portion of liver, in which is seen a quantity of fibrinous material, partly diffused, and in part accumulated in masses.

Microscopical Examination showed nothing beyond what is ordinarily met with in such deposits.

The specimen was removed from the body of a patient of Sir B. Brodie's, who applied to him in September, 1822, on account of an ulcerated tumour in the loins, along with tubercles in the skin of the neighbouring parts. From the aspect of the ulcer it was feared that it was of a cancerous nature. It however quite healed, and the tumour disappeared under the use of sarsaparilla and bichloride of mercury. Subsequently it returned, and ulcerated; and the patient died 18 months after his first visit for relief, having suffered from symptoms of diseased liver.

286. Portion of liver, nodulated on its surface, with a much thickened capsule, and containing several masses of firm, fibrous, light-coloured deposit. Many of these masses are contracted and indurated; others, of a yellowish look, are soft and disintegrating, as shown by the microscope. In one place a mass of partly-discoloured extravasated blood is seen mixed up with the fibrinous material. The only history known was that the patient died of dropsy. *Presented by* CÆSAR HAWKINS, Esq.

287. Portion of liver showing part of the walls (in a shreddy condition) of a very large abscess, situated in the right lobe. The cavity was distinctly circumscribed from surrounding textures by effused fibrine, forming its walls; and in the neighbourhood

several small accumulations of pus and blood were found in cavities, differing from the previously described one only as to size. The external substance of this lobe was in some places of a dark brown colour, in others of a yellow colour, and had the appearance as if pus had been formed between the substance of the liver and its investing tissues. The other lobe of the liver was quite natural, as were all the other viscera. The gall-bladder was, however, much distended with healthy-looking bile.

The preparation was removed from the body of a man who for some time had been suffering from acute pain in the region of the liver, accompanied by jaundice, for which he was treated with mercury, etc.

288. Specimen showing a large number of recent abscesses in the substance of the right lobe of the liver, the left lobe being unaffected. The abscesses may be seen to vary in size from that of half a pea to that of a small orange, and to possess more or less friable, irregular parietes, many of the cavities having processes of the parenchyma projecting into them, probably containing blood-vessels which had escaped the suppurative process. Some of the cavities were lined by a soft membrane, and all contained a large quantity of thick cream-like fluid, unmixed with blood or bile. The surrounding hepatic structure was unaffected by softening or other inflammatory result; and, excepting slight thickening and opacity of the peritoneum, the investments of the liver were unaffected. The contents of the pelvis were matted together by effused products and there was a large accumulation of purulent fluid in the cavity of the pelvis, circumscribed by adherent viscera, and an abscess of the substance of the left ovary, with a sinuous communication passing through the walls of the rectum. The vena portæ and mesenteric veins were particularly free from blood. A quantity of fluid existed in the general abdominal cavity, and one of the pleural cavities was distended with fluid. Excepting the perforation of the rectum, before described, the intestines presented nothing unusual as to their inner surface.

The preparation was removed from the body of Mary A. P., aged 25, who, though married, had never borne children. She had been out of health two months, but for three weeks had been unable to work, her illness beginning with sickness and diarrhœa, etc. Anasarca, with chest symptoms came on, and she died February 6th, 1851, the day after her admission into the Hospital, apparently from asphyxia. For particulars, see *Post Mortem and Case Book*, 1851. p. 38.

289. Part of the liver, showing portions of the walls of an abscess of

considerable size within its substance. *Presented by* CÆSAR HAWKINS, Esq.

290. Portion of a liver, showing one or two deposits of pus in its substance, not limited by any boundary-membrane. This deposition of purulent matter followed compound fracture of the leg. *Presented by* CÆSAR HAWKINS, Esq.

291. Portion of a liver, showing a collection of purulent matter in one part (near the edge) of its substance. On examination it is well seen how the entire deposit is made up of a series of smaller ones, the cavities of which have become emptied of their contents.

The specimen was removed from the body of a patient who had suffered a compound fracture of the leg. *Presented by* CÆSAR HAWKINS, Esq.

292. Preparation showing the walls of an extensive abscess in the liver, which made its way into the common bile duct, and into the duodenum, by ulceration. All these parts have been preserved in sitû, and two probes are passed through the respective openings from the abscess above mentioned. The walls of the abscess were very shreddy, and it contained a quantity of fœtid dark-coloured fluid, along with an infinite number of very small polygonal biliary concretions, agglomerated and retained together by thickened bile and mucus, and forming a mass of the size of a hen's egg (see Preparation in a later series). This mass of concretions had evidently been formed in the gall-bladder, of which no traces could be found, its entire texture being lost in the abscess and destruction of the liver. It appeared that ulceration of the gall-bladder had been set up (probably from irritation of gall-stones), secondary to which abscess of the liver had taken place, which had communicated with the intestine and bile duct.

The specimen was removed from the body of William S., who was an out-patient with jaundiced skin at the Hospital; whilst in the waiting-room he had a desire to empty the bowels, and when at the water-closet died quite suddenly. After death, the heart's cavities were found dilated having thickened walls, and the pericardial sac was distended with clear fluid. Hepatization of the lung was also found. For details, see *Post Mortem and Case Book*, 1852, p. 151; also *Path. Soc. Trans.*, Vol. V. p. 161.

293. Portion of liver (which to a slight extent is in a state of cirrhosis) containing a light yellowish-white deposit, of the size of a large walnut, and partaking of the nature of scrofulous deposit. The mass possesses considerable firmness, and is unsurrounded by anything like a capsule or investing membrane.

Examined Microscopically this mass was found in all its

parts to consist of vast numbers of small ill-formed and irregular cell bodies, greatly resembling those ordinarily met with in crude scrofulous deposit, having mixed with them a quantity of granular matter, with here and there slight tendency to fibrillation. This fibrillation was more apparent in one or two parts of the mass, which were of lighter colour and firmer consistence than other portions. The liver contained several similar deposits, and its texture surrounding the masses in question was firmer than usual, and rather granulated.

The specimen was removed from the body of Thomas C., aged 32, who was brought into the hospital, Dec. 17th, 1852, with anasarca, dyspnœa, palpitation of the heart, and albuminous urine. He had never had rheumatism, and no history is given of any pre-existing disease. Inflammation of the subcutaneous tissues of the legs, and pneumonic symptoms came on, with inflammation of certain lymphatic glands of the neck, and the patient sank and died Jan. 4. Disease of the kidneys, with a pneumonic condition of the lungs, and slight hypertrophy of the heart, were found after death. For details see *Post Mortem and Case Book*, 1852, fol. 6, also *Path. Soc. Trans.*, 1851-2, p. 353.

294. Portion of liver, containing masses of scrofulous deposit of a yellowish cream colour. The specimen has been freely injected, but no part of the injection has found entrance into the morbid deposit, although it reaches it on all sides. It was removed from the body of a kangaroo, which had been for a length of time in confinement in Windsor Park. All the thoracic and abdominal organs contained similar masses. *Presented by* CÆSAR HAWKINS, Esq.

295. Specimen showing large accumulations of carcinomatous material in the substance of the liver. This material, owing to long maceration in spirit, has quite lost its colour, and, at first sight, can with difficulty be distinguished from surrounding hepatic structure. If narrowly observed, however, it may be seen to be much more open in texture, with here and there a rather rough or even shreddy surface. Similar material was found to pervade several of the larger veins of the viscus, and one or two having been dissected carefully out, and separated by means of black bristles, are completely occupied by the material. This, whether removed from the liver tissue itself or from the veins, was found on the whole to present similar appearances when examined minutely. In certain places the growth in the liver differed from that in other parts, in containing rather strong fibrous bands, which appeared to be merely thickened fibrous tissue of the liver.

Microscopical Examination.—The masses were seen to con-

sist of a basis of granular and rather fibrous material, containing cells of various forms and sizes, chiefly being oval and round, and containing one or two nuclei. None were very large, and the majority were very small like mere nuclear bodies. There was nothing like a specific arrangement of these small bodies or cells. Similar appearances were seen in examining the firm contents of the vessels, but they were mixed up with what was evidently blood coagulum. *Presented by* Sir B. C. BRODIE.

296. Specimen showing the same carcinomatous material as the above specimen, and removed from the same liver. As in that case, some of the veins containing this material are dissected out. *Presented by* Sir B. C. BRODIE.

297. Specimen showing soft carcinomatous material disseminated through the substance of the liver, which, excepting that it is not aggregated in such masses, presents the same minute and microscopical appearances as that in the two last described preparations. The large vessels are, unlike those in the above specimens, quite free from any substance blocking them up, but some of the small vessels are seen to contain light-coloured soft coagula not at all firmly united to their walls, which, on examination, were found to consist of blood clot, with only here and there cell-elements similar to those constituting the chief morbid masses in the liver. *Presented by* Sir B. C. BRODIE.

298. Specimen showing soft light coloured masses of carcinomatous material diffused through parts of the liver. A sectional surface of this substance is somewhat rough and ragged, and very loose and open in texture. Here and there strong and light coloured fibrous bands exist in the middle of the diseased structure, evidently from thickening of the fibrous textures of the organ. Several of the large branches of the 'vena portæ' are dissected out, and seen to be filled with similar carcinomatous material to that within the substance of the liver, and in one place a section has been so made through the axis of one branch, that this material may be seen passing into its tube from the substance of the liver. This plugging up of the venous branches only existed in the affected parts of the liver.

Microscopical Examination showed the diseased products within the substance of the liver, and within its veins, to consist chiefly of round and oval nucleated cells, and numbers of round nucleus-like bodies, with but few cell-forms passing into fibres, and no particular arrangement of the various elements. In places, numbers of vessels were met with.

The preparation was removed from the body of John R., aged 40, who died in the Hospital in 1827, with ulcerating

carcinoma of the pylorus of the stomach, in addition to the disease of the liver. The case, with observations, is related by Dr. SEYMOUR, in a paper on tumours in the abdomen, &c. See *Trans. of the Royal Med. and Chir. Soc.*, Vol. XIV., p. 222. The condition of the veins within the liver is seen in Preparation No. 189, Series VI. *Presented by* CÆSAR HAWKINS, Esq.

299. Section of the same liver as the former specimen, No. 46. The sectional surface has somewhat a cancellated or areolar appearance, but on microscopical examination no difference was found to exist between this specimen and the former one. *Presented by* CÆSAR HAWKINS, Esq.

300. Portion of liver containing two large masses of softish carcinomatous material. A sectional surface shows these masses to be made up of other subordinate ones, which present a peculiar trabecular character, the meshes of which are composed of a lighter coloured material, enclosing an infinite number of round and oval spaces of a darker colour. This lighter coloured material is more abundant and denser in the central parts of the masses, from whence, as it were, the trabecular work appears more or less to radiate.

Microscopical Examination.—After maceration for many years in spirit, the white parts were seen to consist of fibrous tissue and rather opaque granular substance, which formed indefinitely shaped areolæ, or cavities in which a quantity of soft material was located. This was seen to be composed of nucleated cells, of various sizes and shapes (such as are usually found in so called encephaloïd cancer) which had no specific arrangement. Nothing like epithelial cells was found, and no cells passing into fibres, &c. *Presented by* Sir B. C. BRODIE.

301. Portion of liver containing several rounded nodules of tolerably firm carcinomatous material. In one or two places only a slight degree of softening exists in the centre of the masses.

Microscopical Examination.—The masses were found to consist of aggregations of the ordinary round and oval nucleated cells, pretty uniform in dimensions, and not arranged in any particular way. In some places, these had fibrous tissue mixed with them, observing a trabecular or alveolar disposition, and having in places a quantity of granular matter, and reflecting particles interposed. *Presented by* Sir B. C. BRODIE.

302. Portion of liver containing large and small masses of carcinomatous material in the substance of the liver. When recent this specimen was described as one of 'Fungus Hæmatodes.' On examination after many years, the largest accumulation in the middle of the preparation was seen to present a soft and spongy sectional surface, pitted, and here and there slightly excavated. This appearance was, no doubt, owing to the

emptying of a large number of small cavities, which may have been partly caused by distended vessels, but were in great part, doubtless, the result of the formation of a trabecular or mesh work in the original morbid structure. Here and there larger round and oval cavities existed amongst the others, filled with an opalescent firm material, containing a large quantity of delicate, clear, fibrous tissue material, but having only a few cell structures within it. Otherwise the whole of the softened mass presented, *microscopically*, numbers of very clearly defined rounded cell-forms, most of them granulated and containing nuclei. Very few of them were of any other than a round form. Two or three of the separated and isolated lighter coloured masses are seen not at all to have undergone any softening process, and some of them contain more or less black colouring matter, as if stained with ink. Two of these masses are thus entirely discoloured, whilst others are only stained, as it were, at their periphery. The dark parts, when examined *microscopically*, were found to consist of similar cell structures to those found in the other affected parts, only differing in the fact that great numbers contained a large amount of pigmentary matter.

The preparation was removed from the body of a woman who had hard cancer of the mammary gland (seen as Preparation in the Series allotted to Tumours), and what was termed cauliflower cancer of the fundus of the uterus. (See Series allotted to the genito-urinary organs). *Presented by* Sir B. C. BRODIE.

303. Portion of liver containing several masses of soft carcinomatous material, which when recent was termed Fungus Hæmatodes. One portion, at the lower extremity of the specimen, is in a state of ulceration, the peritoneal covering of the organ being here entirely destroyed. Sectional surfaces of the morbid masses presented a loculated cavernous appearance. This was, in many cases, owing to the removal, partly by maceration, of the material which had occupied the various vessels of the organ, as may be very clearly seen. In many parts, the proper fibrous tissue of the gland is much thickened, and by its lighter colour presents a great contrast to the other portions of the organ. This thickened fibrous tissue frequently forms the boundaries of the deposits, enclosing them as by a capsule.

Microscopical Examination.—The morbid masses were found to be composed of innumerable round and oval cells, chiefly the former, but few being tapering or fusiform, and most being nucleated, with very firm clear outline; also of a quantity of granular amorphous matter and apparent dêbris of blood.

The specimen was removed from the body of a person who died owing to extravasation of blood from the ulcerated part of the liver into the general abdominal cavity. *Presented by* Sir B. C. BRODIE.

304. Portion of liver almost entirely occupied by rounded large masses of carcinomatous material. The chief part of this substance was of a brownish hue, but large portions were of a dark inky colour. The capsule of the liver may be seen to be very thickened.

Microscopical Examination.—The morbid masses were found to be composed of multi-nucleated cells, of immense variety as to size and form. Many of them were bi-polar, and some were of very unusual size, measuring the 2000th of an inch in length and about a 700th of an inch in length. Great numbers contained dark granular colouring matter.

The specimen was removed from the body of William S., aged 79, who died Nov., 1834, with carcinoma of the face, and abscess of the brain (See Preparation No. 23 in Series VIII). *Trans. of the Royal Med. Chir. Society*, Vol. XXI., p. 69. *Presented by* CÆSAR HAWKINS, Esq.

305. Portion of liver containing a number of soft carcinomatous deposits. These are, for the most part, of a brownish-grey colour, and dispersed throughout its substance, appearing in places on the surface. Here and there small quantities of the deposit are of an inky colour.

Microscopical Examination.—The deposit showed a quantity of amorphous, granular, and much fatty matter, having mixed with it, numbers of small and large oval and round granular bodies, the larger ones being nucleated. In many places, however, the affected part was the seat of much granular fibroïd material, the cell elements being very insignificant, both as regards size and number. The various blood vessels of the organ are unaffected. *Presented by* CÆSAR HAWKINS, Esq.

306. Portion of liver almost entirely occupied by carcinomatous deposit, of which it will be seen that a mass at the lower part has been removed, apparently by ulceration, a rough shreddy surface being left.

The specimen has been injected by Mr. KIERNAN, and where uninjected is for the most part of a lightish brown colour, although here and there it is of quite a light yellow colour, and in one or two parts almost black.

Microscopical Examination.—Portions of the deposit were found to consist of vast numbers of oval and rounded cell structures, mostly nucleated, and where the darker colours existed, grey and black colouring matter in various preparations was met with within the cell forms. For Preparation of carcinoma of the lung from the same patient, see No. 29, Series VII.

307. Portion of the same liver as the former preparation, also injected by Mr. KIERNAN. In this specimen a larger portion of the carcinomatous deposit is of a dark or melanotic character.

308. Portion of liver uniformly of a very dark brownish or reddish black colour, excepting here and there where roundish masses of carcinomatous material, generally of the size of a pea, existed. The whole tissue, when hardened in spirit, had much the aspect of some very dark wood, and here and there resembled a piece of logwood.

Microscopical Examination.—This intensely dark colour was found to be the aggregate result of numbers of small oval, round, and irregularly shaped bodies, of about the size of pus-cells, containing a brownish colouring matter, clearing somewhat on the addition of acetic acid. Along with these bodies, others existed also, much smaller and paler; and a few of very much larger size, and of quite a black colour, chiefly of a rounded shape, and quite opaque. These various cell-elements had granular and fatty material mixed with them, and were indiscriminately interposed amongst the hepatic cells. In the dark rounded masses before spoken of, the larger and darker coloured cells greatly predominated.

The specimen was removed from the body of a middle aged woman, in whom the whole skin, and several viscera, as well thoracic as abdominal, and also certain parts of the bony system, were the seat of similar deposit. Moreover, a large quantity of serum and fibrinous exudation found in the pleural and peritoneal cavities was of an unusually dark brown colour. The patient had been operated on for a melanotic tumour. The preparation showing the presence of the deposit in the head and shaft of the humerus, will be found described in a former Series. *Presented by* C. DE MORGAN, Esq.

309. Portion of liver containing rounded masses (of various sizes) of carcinomatous material, of somewhat firm texture, and called, when recently examined, 'scirrhus.'

Microscopical Examination.—After immersion for many years in spirit, these masses were found to consist almost entirely of a delicate fibrous material of rather a wavy character, and in places so disposed as to include a kind of mesh containing aggregations of round and oval cells, forming an oval body, which became much clearer on the addition of acetic acid. Isolated cells were seen to be chiefly oval in shape, and to contain a single nucleus, in addition to a quantity of granular material. A considerable amount of fatty material in the shape of oil-globules also existed, and many of the oval cell-masses were seen to have undergone fatty changes. In addition, these affections of the liver were in many places depressed in the centre, and at these parts were much softer than elsewhere.

An indurated form of carcinoma also existed in the left mammary gland, as well as within the anterior mediastinum. The surfaces of the lungs (sub-pleural tissue chiefly, but not entirely), the mesenteric glands, and the uterus, were seats of similar growths. The carcinomatous deposit within the lung had all the characters of 'true melanosis.'

The specimen was removed from the body of Sarah H., aged 50, who was brought into the Hospital September 1st, 1841, and died October 16th. For further details, see *Post Mortem and Case Book*, 1841. p. 169.

310. Portion of liver containing a mass of very light yellow-coloured firm carcinomatous material (the scirrhus form). This mass is of about the size of a small orange, and occupies the margin of the organ, being on its surface greatly depressed or cupped. It has no investing fibrous tissue, but the peritoneum covering it, as well as that of the neighbouring part of the viscus, is greatly thickened.

Microscopical Examination. — The morbid material was found to consist of delicate fibrous tissue and granular stroma, in many places so arranged as to form alveoli or mesh-work, whose spaces were of various forms and sizes, along with numbers of clearly defined cell-elements, with slightly granular contents, ranging about the size of pus-globules. These were chiefly rounded and oval, but a few were elongated; and here and there were delicate, pale, and large epithelium-like bodies. In many places these small cells could be seen accumulated within the meshes.

The specimen was removed from the body of Charlotte B., who was admitted into the Hospital March 11th, 1841, with hard tubercles in many parts of the skin, especially about the mammæ and axillæ, and who died April 20th. On post-mortem examination, similar carcinomatous material was found in the sub-peritoneal tissue, the walls of the intestines, the ovaries, and lumbar glands. A peculiar tumour, with calcareous walls and containing hair, was also found in one of the ovaries. The preparation showing the carcinomatous tumours of the skin is seen in the Series allotted to the diseases of the skin. For further details, see *Post Mortem and Case Book*, 1841. p. 70.

311. Portion of liver containing a large cavity of about the dimensions of a middle-sized orange, surrounded by thick parietes consisting of carcinomatous material of a light-yellow colour, tolerably firm in texture, and almost uniformly of about half an inch in thickness. It possessed no distinct investing capsule, but its outer boundary was defined. At one part (being quite superficial) it formed a portion of the surface of the liver. The walls of the cavity are very shreddy, and when recent, it was full of a quantity of fluid of a light

colour, containing particles of broken down carcinomatous material. The cyst was at one part very near the surface of the liver, being only separated from its capsule by the carcinomatous deposit. Masses of carcinomatous material were also found in other parts of the liver, and at the pyloric end of the stomach.

The *Microscopical appearances* of the thick walls of the cyst were those of ordinary encephaloïd material; the small flakes floating in the fluid presented the same characteristics.

The specimen was removed from the body of J. P., aged 50, who was admitted into the Hospital complaining of vomiting, and a 'stoppage' at the pit of the stomach. Some fulness, but no hardness, was felt in this region. He had never vomited blood. The hepatic dulness was increased. Coma preceded death, which was apparently the result of inanition. For details, see *Post Mortem and Case Book*, 1854, p. 60; also *Path. Soc. Trans.*, Vol. IX., p. 237.

312. Portion of liver containing large masses of carcinomatous material (melanotic form) removed from a patient who had a similar affection of the eye. The patient died some time after an operation upon the eye.

313. Portion of liver containing several masses of a fibroïd material, of a roundish form and lightish-yellow colour. These masses are of various sizes, the largest, which has rather the appearance of being formed by the union of two or three subordinate ones, presenting a sectional surface of about the size of a small orange. The others seen at the margin of the liver are very small in size, and in one place rise above the surface of the organ as small nodules. All these deposits are surrounded by dense and firm fibrous tissue, which is especially abundant around the smaller masses, and is here greatly contracted and unusually indurated, causing complete contraction of this part of the organ. One or two of the small deposits are very softened, and have evidently undergone secondary changes. *Microscopical Examination.*—The yellow deposits were found to consist of amorphous and granular material, along with a slight amount of fatty and occasionally slightly fibrillated material, and a few delicate small cell-formations. Where the parts had undergone softening, much fatty material was found. The surrounding fibrous structure presented the usual elements of firm fibrous tissue.

The specimen was removed from the body of Sarah G., aged 50, who was brought into the Hospital December 25th, 1844, with pleurisy and pain at the epigastrium relieved by taking food. A small tumour could be felt in the right hypochondrium and epigastric region, and there was constant vomiting and great emaciation, with passage of blood

per rectum. She died January 18th, 1845, and on post-mortem examination, the tumour, which consisted of the altered part of the liver as above described, was found to press considerably upon the duodenum. The stomach was healthy, but the mucous membrane of the large and small intestines presented marked traces of chronic inflammation. For further details, see *Post Mortem and Case Book*, 1845. p. 19.

314. Portion of the right lobe of the liver, containing, immediately beneath the surface, a mass of cretaceous matter as large as a walnut, probably the result of an abscess which had gradually become indurated. This was covered by the capsule of the liver, which was thickened by old inflammatory action, and adherent to all the neighbouring parts. The liver itself was in an early stage of cirrhosis.

The patient from whose body this preparation was taken had been an hotel waiter, aged 31, and much addicted to drinking. Five years previously he had had an attack of ascites. Shortly before his death the same symptoms returned, with general œdema and slight discolouration of the skin. Frequent vomiting then came on, and he sank. For further particulars, see *Post Mortem and Case Book*, 1861. p. 233.

315. Specimen showing a cyst, which originally contained clear fluid, in the substance, and appearing on the surface of the liver. It is of about the size of, and rather in shape resembling, an almond. Its origin is quite obscure. *Presented by* Cæsar Hawkins, Esq.

316. Large sloughing ulcer of the skin of the epigastric region, connected apparently with a cyst of the liver.

The specimen was removed from the body of Mary M., aged 22 years, who was admitted into the Hospital, April 30, 1832. Three months previously, after an attack of what she called a cold, she suffered great pain in the region of the liver; and about a month subsequent to the commencement of the pain, she observed a swelling of small size, about three inches above the umbilicus and midway between the linea alba and the edge of the lower ribs on the right side. The swelling had been enlarging since that time, attended by very considerable pain; she had become jaundiced, and her general health was much disordered. She had been bled, and leeched. When she first came into the Hospital, there was a large fluctuating tumour situated at the under margin of the liver, and, apparently intimately connected with it, along with considerable induration around the swelling, which prevented the outline of the liver itself from being distinguished. There was also much pain on pressure. The pulse was low and weak, and very rapid; the tongue was dry, and covered with a foul brown fur; the countenance was anxious, and the

whole surface of the body and the conjunctivæ were of a very light yellow colour. On the 1st of May the swelling was punctured, and about eight ounces of fluid were evacuated. This fluid was thin, of a light brown colour, and could scarcely be called purulent; the presence of bile within it was not satisfactorily made out by the re-agency of nitric acid. Considerable relief to pain and fever followed, and she became, on the whole, less jaundiced; her symptoms recurred at times, but were always relieved by a purge. The discharge continued to be of the same kind, but was occasionally mixed with blood. In the beginning of June, although her general health was, on the whole, improved, the discharge became nearly constantly dark, as if mixed with blood; excoriation came on in the skin around the puncture, which by June 26th extended over a surface as large as an orange, but was unattended by much pain, and the integuments below the excoriated part were hard and prominent; the depth and circumference of the cavity were, however, a good deal diminished. In a few days after this report, the hardness was succeeded by sloughing of the aperture, which spread slowly and gradually, but with occasionally increased rapidity, to a considerable extent. The hardness and redness of the skin, and separation of the cuticle around the ulcer, always preceded the sloughing, and it was observed that a deeper orifice, probably that in the lower tendon of the 'rectus' muscle near the sac, increased slowly in size, while the sloughing of the integuments and abdominal muscles above took place to a much greater extent. The discharge still continued thin and watery, and occasionally mixed with blood, the smell being peculiarly nauseous and disagreeable, and the excoriation of the skin always greater if the discharge was allowed to rest upon the surface. Masses of white fungous projections were sometimes seen in the areolar texture where it was exposed by the sloughing of the skin. Various applications were in vain employed, and the patient died Oct. 26th.

On post-mortem examination, it was found that the sloughing had nearly destroyed the whole thickness of the abdominal muscles in the centre of the sore, the peritoneum lining them being loosely adherent to the surface of the liver, and both layers of this membrane being dark coloured, and almost, if not quite, dead. The cavity of the peritoneum was, however, entire, and there was no trace of inflammation, except to a slight extent around the central opening. The structure of the liver was remarkably healthy throughout, and it was of its natural size. On making a section of it from behind towards the slough, the line of its natural surface was also seen to have been preserved; but close to the peritoneal covering was a

yellowish-white mass of about the size of a small nut, with slight condensation of the surrounding liver to the extent of an inch. This substance was broadest towards the slough, and its apex extended about half an inch into the substance of the liver. There was no appearance of any cavity in which the matter was originally confined, unless the white substance above described is to be looked upon as a cicatrix left by the complete obliteration of the cavity. The other viscera were healthy. For further observations see a paper in the *Trans. of the Royal Med. and Chir. Soc.*, Vol. XVIII., p. 98. "On Encysted Tumours connected with the Liver," by CÆSAR HAWKINS, Esq.

317. Portion of a membranous cyst (of an opaque white colour) passed by the rectum, and supposed to have been connected with a serous cyst of the liver.

Microscopical Examination.—After immersion for many years in spirit, this membrane was found to consist of fibrillated material, having a quantity of granular matter admixed. In many places the fibres were very strong and coarse, and on the addition of acetic acid much refracting fatty material, before visible, became more apparent, and in many places was seen disposed in small elongated masses. Nothing like lamination or concentric arrangement was anywhere met with.

The specimen was passed by a little girl, who was admitted into the Hospital, with a large tumour, apparently connected with the liver, and from which, by means of a trocar, two or three pints of clear watery fluid were evacuated. A short time afterwards the patient became very ill, and much purulent fluid was discharged by the rectum for a length of time. Ultimately the membrane above described was voided.

318. Preparation consisting of the gall bladder, with the hepatic and common bile ducts, part of the pancreatic duct, and the duodenum, showing extensive dilatation of the ducts mentioned. The hepatic duct is so dilated that the thumb may be introduced with great ease. The gall bladder is enlarged, but not at all in proportion to the ducts. The walls of the ducts are themselves healthy, except at the lower part of the common bile duct, where the canal is seen to be constricted; and at the constricted part the canal is perfectly occluded by what now appears to be a thin membrane of a cup shape, with the convexity directed upwards towards the bile duct. This cup-like depression admits the end of the middle finger, and most probably served originally for the lodgement of a calculus of some kind; no trace, however, of such a body, if it ever existed, has been preserved. The dilatation of the pancreatic duct was most likely caused by the presence of such a body pressing upon but not blocking up the opening of the duct into the duodenum.

On making an opening into the common bile duct, a quantity of hard, reddish brown dry material was found, which came away in fragments (four or five), of which one was of about the size of a pea, and one somewhat larger. On minutely examining these substances, the following results were obtained: They proved to be very friable, a sectional surface being of a much lighter and brighter colour than the outer one. On the addition of water or dilute acetic acid, portions easily broke down, and, under the microscope, were found to consist of accumulations of small amorphous masses, of a brown and yellowish-brown and green colour, nothing like cell or fibre formation or blood corpuscle appearing. Here and there, however, small irregularly shaped masses existed, of a brightish-red or garnet colour, not unlike what is often seen in old blood clots; again some of these masses were of considerable size, and quite black and opaque in character.

319. Preparation consisting of a portion of the liver, with the curve of the duodenum and the head of the pancreas, and displaying excessive dilatation of the biliary passages, as well within as external to the substance of the liver. This enlargement of the biliary passages (including the gall bladder) was caused by obstruction of the termination of the common bile duct, resulting from condensation and thickening of the walls of the duodenum, due to the presence of scirrhus formations therein, and to the pressure of lymphatic glands greatly enlarged and indurated, owing to their occupation by the same material. The 'vena portæ' is much distended as a result of pressure upon the enlarged glands. The pyloric part of the stomach was extensively affected with 'scirrhus' ulceration, which also extended into the duodenum, the surface of the ulcerated part being very rough and uneven. The other parts of the bowel, beside the small intestine above mentioned, presented nothing unusual. The pancreas was unaffected. The liver was congested, but of natural size. The hepatic cells were loaded with bile, and the dilated bile-ducts when recently examined, were found full of greenish yellow bile. Extensive pleural adhesions exist.

The specimen was removed from the body of James H., aged 43, who was admitted into the Hospital June 27th, 1849, and who stated that his illness had only commenced three months previously, with dyspeptic symptoms, followed by frequent vomiting, a small quantity of 'solid' food having the best chance of being retained. On admission there was excessive epigastric pain, and a yellowish tinge of the conjunctivæ, but no appearance of enlargement about the liver. There was constipation, which was overcome by strong aperients. The skin became deeply tinged yellow, and the vomiting per-

sisted. He died from exhaustion and want of food July 10th. For further details, see *Post Mortem and Case Book*, 1849, p. 138.

320. Specimen of a liver, showing enormous dilatation of the bile-ducts within the gland, together with cicatrisation and consequent narrowing of both the hepatic and gastric ducts for some distance above their point of junction. The common bile-duct is healthy, and has been left with the corresponding part of the duodenum in order to show that no obstruction existed there. One of the bile-ducts within the liver is laid open, and is about equal in size to the vena cava; the open mouths of similarly enlarged ducts can be seen joining it. The cicatrisation and consequent narrowing of the ducts was referred conjecturally to injury caused by the passage of gall-stones, but no gall-stones were found in the body, nor was there any history of the patient having ever suffered from any symptoms referable to such a cause. For details, see *Post Mortem and Case Book*, 1860, p. 36; also *Path. Soc. Trans.*, Vol. XI., p. 130.

321. Portions of the liver, with the gall-bladder and the neighbouring ducts. The common duct is obstructed by a shrivelled and torn hydatid cyst, which has passed into it from the right hepatic duct, where it had originated, and which had become dilated by it. The preparation shows the common duct laid open, with the hydatid cyst which had filled it lying suspended near. The section passes into the right hepatic duct, which was similarly affected, and a large globular cyst, which is evidently caused by a dilatation of the duct, is seen in connection with that channel, which still contains the remnants of hydatids. The gall-bladder is seen thrust out of its place by this dilatation. A red bougie marks the position of the cystic duct.

The preparation was afforded by a girl 16 years of age, who was admitted into the Hospital with an extreme degree of jaundice. Leeches were placed over the left hip to relieve pains there, and a large quantity of blood was lost from the bites. She then assumed a very anæmic appearance, and blotches of purpura appeared on different parts of the body. After death, effusion of blood was found to have occurred beneath the left iliacus muscle, and it was thought that this had been the cause of the pain over the hip. See *Post Mortem and Case Book*, 1861, p. 242; also *Path. Soc. Trans.*, Vol. XIII., p. 104.

322. Portion of liver, with the gall-bladder attached, showing the deposition of a quantity of calcareous matter in the thickness of the fundus of the latter. The tissues at this part are generally very thickened by a fibroïd deposit, and the inner surface

of the gall-bladder here is lined by a thin film of yellowish red and light-coloured fibrinous material, easily removeable by the finger.

Microscopical Examination.—The fibroïd exudation, among which was the calcareous matter, had all the ordinary appearances of what is often termed atheromatous deposit. The calcareous deposit existed chiefly as a kind of small scale, roughened on its outer surface.

323. Specimen showing carcinomatous deposit (the encephaloïd form) in the coats of the gall-bladder, specially observable at the lower part of the bladder in the neighbourhood of the efferent duct, which, close to the gall-bladder, is entirely occluded, its parietes being greatly thickened. The entire extent of the cystic duct and the other biliary passages were affected, as to their walls, in a similar manner; but, excepting the cystic duct at the part above mentioned, these canals were quite pervious. The mucous membrane generally of the gall-bladder was very vascular, the cavity being distended by a quantity of light green-coloured tenacious fluid. On minute examination, it appeared that the sub-mucous tissue of the gall-bladder was the original seat of the deposit, but doubtless it had extended to this part from neighbouring portions of the liver, which were the seat of considerable encephaloïd deposit, as were also the pancreas, lumbar glands, etc., as well as the greater curvature (but not the pyloric extremity) of the stomach. The peritoneal cavity contained traces of previous inflammation. The various thoracic viscera were natural.

The specimen was removed from the body of Matthew R., who was admitted into the Hospital December 4th, 1850, and died January 1st, 1851. For details, see *Post Mortem and Case Book*, 1851. p. 1.

324. Specimen showing a large mass of cancer (encephaloïd form), occupying the situation of the gall-bladder, and enclosing a number of gall-stones.

Removed from the body of Sarah R., aged 69, who died from ascites and malignant disease of both ovaries. For details, see *Post Mortem and Case Book*, 1859, p. 38.

325. Specimen consisting of a portion of the liver, with the gall-bladder exceedingly large and almost filled with light-coloured gall-stones of variable size and shape. The gall-stones possess numerous 'facettes,' evidently the result of mutual pressure; and in places their surfaces, instead of being almost quite white, are of a brown colour, and have the appearance as if the outer white surface had been worn away, allowing the interior to become visible. This appearance was, however, in reality owing to the staining of the biliary calculi irregularly by the

colouring matter of the bile. The gall duct, and the biliary duct of the liver, are dissected out, and are scarcely if at all enlarged in calibre. *Presented by* CÆSAR HAWKINS, Esq.

326. Specimen showing biliary calculi within the gall-bladder, the cystic duct, and the common bile duct of the liver. The several calculi which existed within the gall-bladder are seen at the bottom of the bottle; but one impacted in the commencement of the cystic, is well seen in sitû. The walls of the gall-bladder are much thickened, and the calibre of the various bile-ducts enlarged, their coats being thickened. The liver was enlarged and congested, as was also the uterus. The kidneys were healthy.

The specimen was removed from the body of a lady who for 4 years had been subject to attacks of jaundice, and had had severe pain in the epigastrium, and vomiting, etc. On two occasions she had passed gall-stones. Excessive pain, with great depression of the circulation, preceded death. *Presented by* W. POTTER, Esq.*

327. Pancreas containing small masses of carcinomatous material in its substance. Two or three of these have been cut through, and were found, on *Microscopical Examination*, to present the ordinary appearances of soft, encephaloïd masses.

The specimen was removed from the body of Anne B., aged 30, who died in the Hospital with carcinoma of various parts of the body. For details, see *Post Mortem and Case Book*, 1852, p. 13; also *Path. Soc. Trans.*, 1851-2, p. 226.

328. Specimen showing extensive occupation of the duodenal extremity of the pancreas by hard carcinomatous material.

Microscopical Examination.—The growth was found to present the ordinary characteristics of the fibrous form of carcinoma, but very few cell-forms appearing in any part.

The specimen was removed from the body of John M., who was brought into the Hospital October 5th, 1842, with jaundice and ascites, and died ten days subsequently. After death, very extensive hard cancer of the liver, with carcinomatous growth in the sub-peritoneal tissue of the abdomen, also in the sub-serous tissue within the chest and in the bronchial glands, was found. For details, see *Post Mortem and Case Book*, 1842-3, p. 55.

329. Specimen showing a large cyst the size of a hen's egg, situated in the splenic portion of the pancreas, and apparently formed by obstruction of the pancreatic duct, owing to pressure of carcinomatous substance upon it. The walls of the cyst are thick and firm, and on their inner surface roughened. At one part on the inner surface, a mass of softish brown-

* The description of other Specimens of Biliary Calculi will be found in the Series illustrating Concretions.

coloured substance is seen, which proved to consist of encephaloïd material; and one or two rounded and flattened masses of a similar material, but lighter in colour, exist on the external surface of the cyst walls. The cyst, when recent, was full of a dark-coloured fluid.

Microscopical Examination.—The brown-coloured material inside the cyst, and the masses on the external surface, were found to consist of granular and fatty matter, containing great numbers of chiefly round and oval nucleated cells, but few attaining any large dimensions.

The specimen was removed from the body of Elizabeth R., aged 52, who died in the Hospital July 17th, 1845, with encephaloïd matter deposited to a very large extent on the peritoneum, but especially abundant in the areolar tissue surrounding the aorta and vena cava, and in the region of the pancreas. None of the viscera, except the pancreas, were the seat of the morbid deposit. For particulars, see *Post Mortem and Case Book*, 1845, p. 173.

330. The cæcum and adjoining part of the colon, from a case of fatal obstruction of the large bowel.

The specimen shows the effects of extreme distension. The peritoneal coat has been ruptured, and torn from the rest of the bowel, which has expanded in the rent. Thus over a considerable extent of the cæcum, and a small part of the colon, the wall of the intestine consists only of the mucous coat, with, perhaps, a portion of the muscular. This is extremely thin, and is, in some places, quite transparent. One or two minute perforations are seen in the thinnest places.

331. Specimen showing an unusually large abscess of the liver. The organ is converted into a globular cyst, which in the recent state contained about a gallon of pus. The left lobe was not implicated. The upper wall of the abscess is about an inch thick, and consists of liver substance; the lower wall is extremely thin, and consists chiefly of the omentum, the right kidney and supra-renal body, and the various layers of omentum, with adhesions. The upper part of the large intestine was in a state of dysenteric ulceration.

The preparation was taken from the body of Sarah B., aged 37, who died in the Hospital, March 27th, 1862. When admitted, she was much emaciated, and had a sallow complexion, and pain in the right hypochondrium: on examination, a tumour was felt in that region, which reached below the umbilicus. She denied ever having had any symptoms of dysentery, and while in the Hospital her bowels required aperient medicines. She had never been out of England. For further particulars, see *Path. Soc. Trans.* Vol. XIII., p. 120; also *Post Mortem and Case Book*, 1862, p. 85.

332. Specimen showing stricture of the pylorus of the stomach, owing to its occupation by carcinoma. This part of the stomach, and the adjoining part of the duodenum, are thickened by a deposit of encephaloïd matter, which has extended about two inches from the pylorus in each direction. The thickening was so great, that when the stomach was cut into, no opening was visible. A probe could not be passed through the pylorus without displacing the obstruction, and a middle-sized urethral bougie could not be got through without some force. Towards the bowel the mucous membrane is raised into a sort of frill, which surrounds the scarcely perceptible orifice. No other organ was diseased, excepting that the apex of the right lung contained a mass of crude tubercle.

This preparation was taken from the body of Richard R., 47 years of age, who died in the Hospital, Jan. 6th, 1864. He had been in India, and had long suffered from dyspepsia and vomiting. For five months before his death he had vomited once or twice every day, and had rapidly lost flesh, and when admitted, two months before his death, an ill-defined hardness was felt below the ensiform cartilage. The vomiting continued, with more or less persistency; the emaciation increased, and he gradually sank. See *Post Mortem and Case Book*, 1864, p. 7.

333. A coil of small intestine, the peritoneal surface of which is covered with a uniform layer of soft material, which has a sort of coarse 'pile' attached to it, as if made of thread. This appearance, however, did not exist when the specimen was fresh. The whole surface of the peritoneum was evenly coated with what looked like a precipitate of yellow mud. This, under the microscope, proved to consist of loops of blood vessels, which were clothed with corpuscules and lymph. In the preparation, the soft lymph has become detached, and the vascular loops remain, giving the villous appearance above mentioned.

The specimen was taken from the body of Margaret M., 15 years of age, who died of malignant disease of the ovary. The organ on the right side had become converted into a kidney-shaped mass of encephaloïd material, of great size. See *Post Mortem and Case Book*, 1863, p. 129.

334. Specimen showing perforating ulcers of the sigmoïd flexure of the colon. This portion of the bowel is laid open so as to display about half a dozen ulcers, which penetrate all the coats. These are oval, with the long diameter transverse, the largest of which might be concealed by a sixpence, whilst some are merely slits. There is no thickening in the neighbourhood. The coats of the bowel have the appearance of being cleanly punched out, excepting that the mucous coat is more widely destroyed than the serous. This part of the intestine

was found after death in communication with a circumscribed fœcal abscess of the size of a cocoa-nut. The bowels were generally bound together by adhesions, but their interior was natural, excepting in the particular described. One of the kidneys was the seat of tubercular deposit.

The preparation was obtained from the body of M—— H., 42 years of age, who was admitted into the Hospital, July 20, 1863, with the symptoms of circumscribed peritonitis. She had been out of health, and the bowels had been sluggish for two months. She remained in a state of great prostration, and the irregularity in the action of the bowels continued. Her death was preceded by an attack of erysipelas. See *Post Mortem and Case Book*, 1863, p. 206.

335. Cretaceous deposits of considerable size, from the peritoneum. Of these, the largest, two inches in length, was connected with the fold of peritoneum between the bladder and the rectum: another was attached to the under surface of the liver, and was very near the gall bladder. Many smaller cretaceous masses were found in the mesentery, beneath the parietal peritoneum, and in the supra-renal capsules. No scrofulous deposit in its recent state was discovered in the neighbourhood of the peritoneum, though it was probable that the cretaceous formations were altered tubercle. The cause of death was scrofulous disease of the vertebra, resulting in psoas abscess.

The preparation was taken from the body of W—— M., a man, 28 years of age, who died in the Hospital. There was nothing in his history to throw light upon the cretaceous formations. See *Path. Soc. Trans.* Vol. XIV. p. 163; also *Post Mortem and Case Book*, 1863, p. 54.

336. Specimen showing villous tumour of the anterior surface of the rectum, occupying a space about three and a half inches in diameter. The bowel is laid open so as to display it, and the bladder is left in connection with the opposite surface of the gut. The tumour is divided into a number of small lobules, which have a fringe-like appearance.

The preparation was obtained from the body of an elderly gentleman, who had experienced difficulty in passing fæces for four years. He underwent thirty-three operations, which consisted of pulling away a part of the tumour with forceps, and cauterizing what remained with nitric acid. Each time temporary benefit resulted. He at last died, exhausted by a copious discharge from the tumour. For further particulars, see *Path. Soc. Trans.*, Vol. XII., p. 120. Presented by the late H. C. Johnson, Esq.

337. The stomach from a case of poisoning by corrosive sublimate. The cardiac end is nearly natural, but along the great curva-

ture are many dark lines, more or less parallel, which show the charring effect of the poison upon the prominent folds of membrane. These become more marked towards the pylorus, in the immediate neighbourhood of which the membrane is roughened and eroded. The upper part of the duodenum is of a rusty colour, as if superficially charred. The mouth and upper part of the œsophagus were natural, but about half-way down this tube the membrane began to assume a brownish colour, which became very deep close to the stomach, where the membrane was slightly corroded. The upper five inches of the duodenum were discoloured like the œsophagus. Below this the surface appeared as if sprinkled over with a fine white powder, which could not be removed ; and this appearance existed through the whole of the small intestine. The powder was most abundant towards the lower end. The valvulæ conniventes towards the lower end of the bowel had their edges streaked with yellow or brown. The large intestine is preserved, and constitutes the preparation following the present one (No. 338).

This specimen was taken from the body of Thomas T., 44 years of age, who was admitted into the Hospital, May 17, 1862, having three hours previously swallowed a table-spoonful of corrosive sublimate, in a teacup of vinegar. A quarter of an hour after doing so, he was seized with vomiting and purging of bloody fluid, with intense pain in the œsophagus and epigastrium. Eggs and milk were given without apparent benefit. When admitted, he had a dusky skin and anxious countenance, and a nervous tremor pervaded the limbs. The surface was cold and the pulse imperceptible, he constantly vomited bloody matter, and passed blood also by stool. Subsequently he appeared to rally for a time, the vomiting and purging diminished, the pulse became natural, and the pain ceased. Two days after taking the poison, however, the purging returned, and he became collapsed, and died sixty hours after the act. See *Post Mortem and Case Book*, 1862, p. 137.

338. A part of the transverse colon, from the case of poisoning by corrosive sublimate, which is detailed above (No. 337). The whole of the large intestine from the ileo-cæcal valve to the anus was evenly coated with a thin elastic layer, which had the colour and smell of fæces. This adhered to the bowel like india-rubber, and showed every fold and ridge in the mucous membrane. It could be torn off in small flakes, but with difficulty, displaying a surface of mucous membrane, which was rough, raw, and congested. Some irregular shreddy matter adheres to many of the prominences on the surface of the specimen, and in the same situations the membrane is here

and there slightly eroded. See *Post Mortem and Case Book*, 1862, p. 137.

339. Portions of the small intestine, from a case of typhoïd fever. The portions kept, which include the length of a foot close to the ileo-cæcal valve, and a similar piece from the middle of the ileum, display a remarkable prominence in the solitary glands. The two Peyer's patches next to the valve are superficially ulcerated; elsewhere, these structures are merely elevated. The solitary glands are converted into prominences larger than mustard seeds. In the fresh state they were considerably larger, and had a pedunculated appearance. They were closely sprinkled over the bowel, so that every solitary gland that existed seemed to have undergone the change. They became more prominent towards the ileo-cæcal valve.

The preparation was taken from the body of Samuel W., a sweep, aged 16 years, who died in the Hospital, November 24th, 1863, three days after admission, and the tenth day of the disease. There was no eruption, but diarrhœa was present, and the symptoms were those common in typhoïd fever. See *Post Mortem and Case Book*, 1863. p. 281.

340. Specimen showing stricture of the sigmoïd flexure of the colon from carcinoma. The constriction is so tight as almost to close the passage, and in the recent state, when the upper part of the bowel was distended with water, the fluid passed in drops through the bowel. There is a very small amount of new formation immediately external to the mucous coat, which is thereby pressed inwardly as an annular projection.

The preparation was taken from the body of Maria B., aged 66, who was admitted on the 9th of April, 1864, having had a stoppage of the bowels for 15 days. The attack had come on suddenly, and she had once before been affected in the same manner. In the Hospital the bowels were scantily moved by aperients, and continued to act more or less up to the time of her death. Her chief distress was caused by the accumulation of flatus. She gradually sank and died. See *Post Mortem and Case Book*, 1864. p. 119.

341. Specimen showing perforation of the vermiform appendix of the cæcum. The appendix has an ulcerated opening towards its extremity, and about half its circumference for the length of a quarter of an inch is destroyed. The part nearest to the cæcum has been laid open, and the mucous membrane ascertained to be natural. Just inside the perforation described, lay a small oval body, which might have passed for a date-stone, but which, on examination, proved to be a fœcal plug. It was composed of concentric laminæ of a brown friable material. The concretion lies at the bottom of the bottle. At the post-mortem examination, the whole of the

peritoneum was covered with thick pus, and about the cæcum was a quantity of recent lymph. No fæces had been extravasated.

The preparation was taken from the body of John M. B., aged 17, who was suddenly attacked with acute peritonitis, which proved fatal in 9 days. See *Post Mortem and Case Book*, 1863. p. 62.

342. Loose body (of the size of an ordinary pea), found lying among the intestines after death. The patient died of disease of the spinal cord; and it was impossible to discover where the small body in question had been attached. *Presented by* Dr. JOHN W. OGLE.

343. Specimen showing carcinoma (the colloïd form) of the bowel and peritoneum. Removed from the body of Mary C., aged 47, who was admitted into the Hospital, September 9th, 1863, and died September 22nd. For details see *Path. Soc. Trans.*, Vol. XV. p. 3; also *Post Mortem and Case Book*, 1863, p. 228

344. Specimen showing non-malignant ulceration of the œsophagus, and consequent communication with the larynx by means of a very large aperture. Removed from the body of John A., aged 76, who was admitted into the Hospital July 20, 1853, and died three days afterwards. See *Post Mortem and Case Book*. 1853. p. 156; also *Path. Soc. Trans.*, Vol. XVI.

345. Preparation showing laceration of about an inch and a half of the mesentery, along with laceration of the corresponding part of the bowel (peritoneal and muscular coats).

END OF SERIES IX.

INJURIES AND DISEASES OF THE SPLEEN, THYROÏD GLAND, SUPRA-RENAL CAPSULES, LYMPHATIC GLANDS,* AND LACTEAL VESSELS.

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1. Mass of enlarged mesenteric glands, containing a quantity of scrofulous material; removed from the body of a patient in the Hospital, who died of pulmonary phthisis. *Presented by* SIR B. C. BRODIE.
2. Specimen of the same nature as the above. *Presented by* SIR B. C. BRODIE.
3. Specimen of the same nature as the above; removed from the body of William H., aged 15, who died in the Hospital March 23rd, 1845, with phthisis pulmonalis and ulceration of the bowels. For details see *Post Mortem and Case Book*, 1845. p. 73.
4. Specimen consisting of the larynx, base of the tongue, and a large mass of cervical glands, much occupied by scrofulous deposit. The glands are 'in sitû' surrounding the large vessels of the part to a greater or less degree. It will be seen that this mass has been the seat of a collection of purulent matter, the walls of the cavity presenting a rough and shreddy aspect. The edge of the chink of the glottis on the side affected by the scrofulous deposit is much thickened; not so on the opposite side. *Presented by* SIR B. C. BRODIE.
5. Three enlarged cervical glands occupied by scrofulous deposit; of which one has suppurated in the centre.

   Examined Microscopically.—Nothing more was met with than is ordinarily found in such glands which have become the seat of this deposit. These glands, more or less distinct, and having a lobular surface, formed a tumour at the side of the neck, which was removed by Mr. CÆSAR HAWKINS from the person of James C., aged 19, from whom it was said that twelve years previously a mass of enlarged glands had also been removed from the neck, the scar of which remained. The wound healed well. For further details see Mr. HAWKINS' *Case Book*, No. 15. p. 150. *Presented by* CÆSAR HAWKINS, Esq.
6. A cervical gland, containing isolated masses of tubercular deposit. Three masses are seen in the section, and project on the exterior of the gland, giving it a nodular outline.

   The specimen was removed by Mr. TATUM from a girl 18 years of age. Eleven years previously, after a slight blow upon the side of the neck, a small lump appeared, just below the angle of the jaw, which gradually increased in size for some time afterwards. When she came into the Hospital none of the other glands appeared to be affected, and the patient's health was very good. The gland was dissected out, and the girl soon left the Hospital perfectly well.
7. Large mass of mesenteric glands occupied by carcinomatous growth (the form known as Fungus Hæmatodes). The aorta and inferior vena cava are quite surrounded by the mass, and

the vein has in one part been encroached upon by the growth, as may be seen where it is laid open. The cut surface of this mass in many places presents a quantity of trabecular fibrous work, the meshes of which have been deprived of their contents by maceration, giving the appearance of a spongy tissue. The contents of the alveoli formed by the trabecular work is mostly of a reddish-brown colour.

Microscopical Examination.—The basis of the growth was found to consist of a fibrous stroma, in some places coarse and strong, partly undergoing granular and fatty changes, and in other places very fine and transparent, and delicate in character. The contents of the alveoli were chiefly round and oval brightly refracting granular cells, containing nuclei, and of about double the size of pus-corpuscles. Many of these were arranged in thin lamellæ, like a tesselated pavement. Besides the above, occasional round and oval very large bodies were found, opaque and granular in character. Here and there, the above-named bodies observed a nest-like arrangement.

The specimen was taken from the body of a patient from whom the testicle had been removed some time before his death, for an affection similar to that of the glands.

8. Chain of cervical glands occupied by carcinomatous material (the encephaloïd form), and removed after death.

Microscopical Examination.—After maceration in spirit for many years the structure was found mainly to consist of a stroma of coarse and fine fibres, observing, though rarely, a slightly alveolar arrangement, and from which a quantity of creamy juice could be easily squeezed, containing multitudes of small round and oval cellules, with a great many large round cells, three or four times the size of pus corpuscles. The latter were slightly granular, and contained nuclei or cellules like those above mentioned. Some were caudate, others were thickened at one part of their walls only, and others had the appearance of fibre-cells. Small masses of fatty material were, in places, seen.

The specimen was removed from the body of Mark N., aged 31, who was admitted into the Hospital, September 14, 1842, with the glands all down the neck, on both sides, so prominent as to give him the appearance of wearing a large collar. Very few of the glands were at all distinct. The disease had existed about nine months, and began equally on both sides. The patient had never had enlarged glands when young. At first, treatment appeared to do good, but this was only temporary. The skin became yellow and dingy-looking, the voice husky, the tonsils œdematous, and the act of deglutition difficult. Head-ache and loss of flesh came on; and finally, erysipelas of the head and face, with enlarged

tonsils. The patient died February 16, 1843, with symptoms of urgent dyspnœa. Carcinomatous growths were also found in the mesenteric glands, and connected with the peritoneum. The œdema of the larynx is shown as preparation No. 91 in Series VII. For further details, see *Post Mortem and Case Book*, 1843. p. 33.

9. Cervical gland occupied by carcinomatous material (encephaloïd form) removed from the neck near the os hyoïdes (from a patient aged 45).

Microscopical Examination.—After maceration for many years in spirit, the foreign material was found to be composed entirely of an indistinct irregular kind of fibrous stroma, in which multitudes of very small brightly shining (for the most part) nuclear bodies were embedded. These were mostly round and somewhat less (about one-third) in size than a pus corpuscle, enlarging on the addition of acetic acid. Very rarely, indeed, were cell-forms of any other shape or size met with.

The tumour had existed for some time, but latterly it had increased very rapidly.

10. Mass formed by a number of cervical glands, with thickened sub-cutaneous tissue occupied by carcinomatous material (encephaloïd form).

Microscopical Examination.—The growth was made up of a firm fibrous stroma, containing great numbers of small nuclear bodies round and oval and elongated (perhaps the oval ones predominating). These were mostly not larger than pus-globules, and many were not nearly so large.

The specimen was removed from the body of Joseph B., aged 66, who was admitted into the Hospital August 22, 1838, with numerous swellings, composed of round separate masses, extending from the cheek to the clavicle on the right side, preventing him opening his mouth. These also projected into the mouth. The skin covering the mass was red, but not adherent to it. It was clear that some of the tubercles composing the entire mass were enlarged cervical glands, whilst others were masses superficial to the fascia. The patient had first noticed the enlarged glands about a year and a-half previously, but during the last six months, they had increased very rapidly; the first which attracted attention having been a mass on the same side of the neck behind the mastoïd process (see preparation in series devoted to Diseases of Skin). This last-mentioned mass was evidently between the skin and the fascia. All these tumours were very painful, and the patient had begun to fall away, and to have the aspect of suffering. He was suddenly seized with coma September 1, and died in about eighteen hours. After death,

the diseased glands at the upper part of the neck were found adherent to the periosteum of the vertebræ; and some enlarged glands existed behind the sternum, but they did not extend into the root of the lungs. The lungs were congested, and the pericardium was universally adherent. The heart was very flabby, and all its cavities dilated. The walls of the left ventricle were very soft, containing numerous ecchymoses of blood. The brain was congested, and generally rather soft. Above and around the lateral ventricles the brain-substance was especially softened and very vascular. Bloody serum existed in the ventricles, and their lining membrane was thickened and lacerable. For further details see Mr. HAWKINS' Case Book, XV., p. 197. *Presented by* CÆSAR HAWKINS, Esq.

11. Portion of a mass removed from the axilla, consisting of lymphatic glands occupied by carcinomatous material (encephaloïd form).

Microscopical Examination.—The morbid structure was found to consist of an undefined stroma, containing great numbers of brightly refracting nuclear corpuscles, round, oval and angular, and chiefly somewhat larger than pus corpuscles, although many were very much smaller. Occasionally one or two bodies were seen four or five times larger, and very opaque, but nothing more worthy of note was met with.

The specimen was removed from the body of Mary H., aged 59, who was admitted into the Hospital, December 10th, 1845, with carcinoma of the breast, of six months' standing, and slight enlargement of the axillary glands in the neighbourhood. The patient died, January 21st, 1846, after urgent dyspnœa and partial syncope. For further details see description of the heart which was affected by carcinomatous material, No. 59 in Series VI.; and also the *Post Mortem and Case Book*, 1846. p. 21.

12. Lymphatic gland occupied by carcinomatous (firm encephaloïd) deposit, along with the skin covering it. This was removed from the sub-cutaneous tissue, behind the sterno-cleido-mastoïd muscle, and near the central part of the neck behind.

Microscopical Examination.—The juice which, after immersion for many years in spirit, could to a certain extent be squeezed from the gland, was found to contain multitudes of oval and round small cell bodies, with occasional bodies of various shapes, such as crescentic and fusiform, of about the same size, and, here and there, much larger rounded nuclear forms. The solid gland, besides these various corpuscles, was occupied by a good deal of fibroïd and granular material, some of which was very light-refracting.

The specimen was removed after death, along with a chain of glands occupied by similar material below the clavicle and

beneath the pectoral muscle, extending into the axilla on the right side. The patient was a man, who had noticed the enlarged glands for one and a half years. They had increased, however, most rapidly for six months, and were all very painful. He had begun to lose flesh, and had the aspect of much suffering. There was also much dulness on percussion at the right side of the chest below the enlarged glands, and slight cough, with muco-purulent sputa. He was suddenly seized with coma, and died in eighteen hours. After death, the brain was found to be generally of diminished consistence, and around the lateral ventricles very highly softened; the ventricle also contained bloody serum, and their lining was thick and lacerable. The pleural and pericardial adhesions contained numerous adhesions, and both lungs were congested. The heart was soft and flabby, the walls of the left side being the seat of numerous bloody ecchymoses. *Presented by* CÆSAR HAWKINS, Esq.

13. Specimen showing carcinoma of the mesenteric glands (fungoïd form).

14. Two large rounded masses of calcareous matter, removed from the mesenteric glands of a patient who died of fever and ulceration of the intestines. *Presented by* CÆSAR HAWKINS, Esq.

15. Chain of enlarged glands, removed during life from the neck, some being much larger than a hen's egg, the result of their occupation by a peculiar deposit.

Microscopical Examination.—After maceration in spirit for many years, these glands were found to contain, besides the elements of their ordinary structure, a quantity of material infiltrating them equally, in which were seen multitudes of small round and oval brightly refracting nuclear bodies, with also numbers of larger round, chiefly opaque, cells, like 'leucocytes.' In the smaller of the glands, fibre-tissue, with occasional fibre-cells, were found much more plentifully than in the larger ones, mixed with gland cells. Many remedies had been unsuccessfully employed in the treatment of the tumour. The boy quite recovered from the operation. The case is mentioned in the *Path. Soc. Trans.*, Vol. XI. p. 255.

16. Large mass of lumbar glands (surrounding the abdominal aorta and inferior vena cava, which are slightly compressed thereby), occupied by material having a peculiar appearance when examined minutely. The glands were firm but not indurated, and easily breaking down by pressure into a pulp. Outwardly they were of a yellowish hue, but a sectional surface was of a bright red colour.

The specimen was removed from the body of Richard W.,

who was admitted into the Hospital December 18th, 1850, with enlargement of the cervical, axillary and inguinal glands, and with evident constitutional symptoms of debility. The countenance was anxious and depressed, and the pulse quick and irritable. He stated that about seven years and three quarters previously he perceived that one of the glands about the angle of the jaw on the right side had become enlarged. A few weeks subsequently a similar enlargement took place on the left side. About nine months before admission, the axillary glands of one side, and one month later, the same glands on the opposite side became enlarged, and six months before admission the inguinal glands became enlarged. After admission he took sarsaparilla and nitric acid. Shortly after, cough and frothy expectoration came on, and these chest symptoms were quieted by morphia and counter-irritation. Debility increased, and the glands became more enlarged, the expectoration being tinged with blood. The heart's action became very irregular, and the patient died February 18th, in a state of stupor. After death, besides the various glands above mentioned as being affected, those in the anterior and posterior mediastinum were greatly enlarged, encasing the pneumo-gastric on the right side ; and the glands at the root of the lung were enlarged. The lungs were congested at their lower and posterior parts, portions sinking in water. For details see *Post Mortem and Case Book*, 1851, p. 39 ; also *Path. Soc. Trans.*, Vol. XI. p. 250.

17. Mesenteric glands occupied by the same material as the glands in the preceding preparation, No. 16, and removed from the same patient.

18. Portion of the thyroïd body, showing a growth of fibrous tissue in its substance. This has chiefly occurred towards the central part, where the tissue is seen to present an opaque white colour. Here the substance was very dense and tough. A great portion of the gland was quite healthy looking.
Microscopical Examination.—The growth was found to consist of ordinary fibre-tissue, of coarse as well as very delicate character, observing no particular arrangement, but having the ordinary elements of the gland-tissue indifferently mingled with it. No fibre-cells or other bodies were met with. *Presented by* SIR B. C. BRODIE.

19. Portion of the thyroïd body, greatly enlarged and indurated, owing to its extensive occupation by fibrous tissue. No cystic formation was observable, but in one part is a species of softening, giving to the sectional surface a rough and granular character. Here and there a white calcareous deposit is seen in the substance.
Microscopical Examination.—After maceration in spirit for

some years, the gland was found to be occupied by a dense fibrous substance in many places, whilst in others a kind of semi-transparent, granular or slightly striped material existed. In many parts, especially where the softening had occurred, much of the fibrous dense tissue was the seat of fatty and granular material, which quite resisted the action of hydro-chloric acid. *Presented by* CÆSAR HAWKINS, Esq.

20. Specimen showing occupation of the entire thyroïd body, including the isthmus, though chiefly of the left lobe, by carcinomatous deposit. Here and there, small portions are the seats of a cystic development; but the whole substance elsewhere is of a rather soft character, in some places quite diffluent and in others deeply blood-stained. A cream-like juice could be expressed from most parts.

Microscopical Examination.—The cream-like juice was found to be full of cells, of almost every size and shape, excepting that scarcely any were seen branching out at more than one part. The majority of the cells were round and nucleated, and great numbers were five or six times larger than pus-corpuscles. Occasionally forms were seen of a club shape, and connected with, as if sessile upon, a kind of basis of granular and amorphous material. At the softer parts, the juice showed nothing but numbers of bodies like pus-corpuscles, which probably were so. A similar state of the enlarged lymphatic glands in the neighbourhood was found also. Where the cystic development existed, the microscope showed numbers of irregularly-shaped cysts, containing a kind of gummy matter, in large masses of a rounded form, containing round, small cell-bodies somewhat larger than pus cells. It will also be seen that the carcinomatous growth projects beneath the mucous membrane of the trachea in three or four nodules, elevating that membrane, but there has been no rupture of the surface. The calibre of the trachea is narrowed from the pressure of the growths. The specimen was removed from the body of Caroline P., aged 44, admitted May 16th, 1849, who stated that the enlargement of the thyroïd was of six months' duration, and had produced great pain in the left side of the head, face, and left shoulder, and latterly much giddiness and dimness of vision. Shortly before admission, great dyspnœa was set up, but when she was admitted no pain or tenderness of the part existed. The peculiar expression so common in malignant disease was noticed. After admission, the inspiration became attended by a crowing noise. Deglutition was unaffected. The action of the heart became greatly affected, and the patient died May 23rd. After death, the lymphatic glands in the neck were found enlarged and infiltrated by material like that in the thyroïd, and a

small quantity was also found beneath the muscular coat of the œsophagus. The lungs contained similar growths. For details, see *Post Mortem and Case Book*, 1849, p. 108.

21. Specimen showing occupation of the right lobe of the thyroïd body by carcinomatous material. In one place only can any natural trace of the organ be found, the other parts being dense and tolerably firm for the most part, and in one place much blood-stained. The other lobe is quite unaffected, but one or two lymphatic glands exist, greatly enlarged and softened.

Microscopical Examination.—The mass was found to be made up of a quantity of granular and amorphous material, containing numbers of small oval, rounded and irregular bodies, similar to very small nuclei, very like the scrofulous form of deposit. Scarcely any other variety of cell-formation existed, but there was much fatty matter in the shape of refracting bodies. Similar appearances were presented on examining the enlarged neighbouring lymphatic glands.

The preparation was removed from the body of Anne C., aged 55, who was admitted into the Hospital for the swelling of the neck, supposed to be bronchocele. A fibrous and softened growth of the dura mater also existed, and the patient died of coma on the third day after admission. The disease of the dura mater and of the cranial bones corresponding, are catalogued as No. 89 in Series VIII. For further details see description of the specimens last alluded to.

22. Specimen showing extensive occupation of the thyroïd body by carcinomatous growth (scirrhus form). The left lobe is but slightly involved, the disease chiefly affecting the opposite one. The neighbouring carotid artery, jugular vein, and pneumo-gastric nerve, are seen 'in situ,' considerably pushed out of their position by the growth. The vein is closely adherent to the growth, and its coats, at one place, have been absorbed, allowing a portion of the growth to project into its interior, where may also be seen a large clot of blood still adherent. The artery was deeply embedded in the tumour, and the pneumo-gastric nerve much flattened, its fibrils being so separated as to form a plexiform appearance. Posteriorly the disease existed both in the pharynx and œsophagus, in the shape of a large, irregular, ulcerated mass, of a dark green colour, covered with fœtid shreds and portions of lymph. The larynx and trachea, much pushed out of their place, formed a curved line, and the right arytæno-epiglottic ligament is much thickened and altered in structure; and immediately below the cricoïd cartilage a large ulcerated opening leads into the trachea.

Microscopical Examination.— The growth was found to con-

sist entirely of coarse fibres, having mixed with them, irregularly, a few fibre-cells, and occasional round and oval and caudate nucleated cell-forms. Here and there loose nuclear forms also existed. No fluid could be expressed from the tumour.

The specimen was removed from the body of Thomas H., aged 50, who was admitted into the Hospital May 17th, 1843. The growth was said to have been only of five weeks' duration. In spite of remedies the growth increased, and at the end of two months had doubled its size. The patient died, greatly emaciated, July 23rd. After death, growths of encephaloïd carcinoma were found in the lungs and sub-pleural tissue, but no carcinomatous disease in any other parts. The case is published in the *Med. Chir. Soc. Trans.*, Vol. XXVII. p. 29, along with two plates of the preparation. See also *Post Mortem and Case Book*, 1843, p. 145.

23. One of the lobes of the thyroïd body greatly enlarged, and occupied by a number of cystic formations, as well as a tough fibrous growth. All the smaller cysts are full, but one very large one of the size of a large chestnut, which, when recent, contained yellowish thick fluid, exists in an empty condition. The walls of this large empty cyst are quite smooth, and of an opaque white colour, and, in two or three places, present projections, the largest being of the size of a small bean, which, on section, appeared to be portions of natural but dwindled gland-tissue. Almost but not entirely all the gland was the seat of the cystic formations. These, on examination, were seen to be of various sizes and shapes, and, excepting very few which were empty, contained a quantity of soft glue-like firmish material; of this, some was quite translucent, some quite opaque and white, and some red or even quite dark brown in colour. Here and there, among the thickened fibrous parts, hard cretaceous matter existed.

Microscopical Examination.—The transparent hyaline material forming some of the cystic contents presented only very occasional cell or other definite formations, the only bodies visible being very delicate globules, with apparently fluid contents. In other cysts, many round granular bodies, somewhat less than pus-globules, existed in great numbers; bodies also of three times the size were occasionally met with. In the darker-coloured contents, remains of blood-corpuscles were seen, and a great number of large oval and rounded granular dark bodies, like the so-called exudation corpuscles. These were very slightly indeed affected by æther. In one or two cysts, soft gritty calcareous matter existed, like moist putty.

The specimen was removed from the body of Mary T., aged

57, who was admitted into the Hospital September 11th, 1844, with ascites and anasarca. She died in a fit of passion, September 28th. On post mortem examination, the trachea and vessels on the right side of the neck were found flattened and displaced by the growth. The isthmus and other lobe of the gland were natural. For details, see *Post Mortem and Case Book*, 1844. p. 212.

24. Specimen showing excessive enlargement of both lobes and also the isthmus of the thyroïd body, as seen in their relation to the trachea 'in situ,' owing to extensive occupation by cystic formations. As in the former specimen, one of the cysts, a very large and irregularly-shaped one, is quite empty. The others, of very variable size and shape, contained material very similar to the contents of the cysts described in the above preparation, No. 23.

Microscopical Examination.—After maceration for many years in spirit, the same appearances were met with in this as in the above specimen, the darker contents of the cysts, in some instances, containing scarcely anything, but so-called exudation cell matter, within meshes of delicate fibre-tissue. The soft melicerous substance seen in some of the cysts, consisted almost entirely of a highly refracting substance of a granular amorphous nature. Occasionally, gritty calcareous matter existed in some of the cysts.

The preparation was removed from the body of Charlotte L., aged 75, who was admitted into the Hospital, March 14th, 1849, with anasarca, ascites, dyspnœa, and albuminous urine. No history could be ascertained as to the origin or progress of the tumour in the neck. She died March 23rd. On post mortem examination, a cystic condition of the kidney, and an incipient state of the liver were found, as also a block of fibrinous material in the spleen. There was also some disease of the cardiac valves. For further details, see *Post Mortem and Case Book*, 1849, p. 56.

25. Specimen showing excessive enlargement of every part of the thyroïd gland, owing to its occupation by cystic formations, scarcely any trace of healthy substance remaining. The cysts or cavities are of various sizes and shapes, and their contents very various. They are chiefly filled with firmish and rather dry gelatinous material, but here and there deposits of calcareous substance are seen in the cysts, giving to these parts a bony character.

Microscopical Examination. — After maceration for many years in spirit, this gelatinous material was found to contain, to a great degree, finely reticulated meshes, including colloïd material. In many cases, great numbers of round and oval cell-forms, and in others only glittering masses, were seen. In

some places the gelatinous material contained scarcely any of these microscopical bodies. Generally speaking, the contents could be enucleated from the cyst's walls, like round, glue-like masses. In many cysts whose contents were very dark, great numbers of blood-corpuscles were seen, and here and there meshes with opaque yellow contents existed, showing granular and indistinct stroma, with occasional old blood-corpuscles. The enlargement of the gland had very greatly altered the shape of the trachea, constricting it at one part, and here, when recent, the mucous membrane was very livid.

The preparation was removed from the body of William C., aged 38, who was admitted into the Hospital January 26th, 1846, owing to the fall of a large engine wheel on his foot. He had been suffering, for two years, from palpitation and dyspnœa, with occasional cough and expectoration. He died, February 11th, of mortification of the toes, owing to the injury. For further details see *Post Mortem and Case Book*, 1846. p. 44.

26. Portion of an enlarged thyroïd gland, occupied extensively by cystic formation. That portion which is most obviously affected is surrounded by a kind of capsule, which is dense and firm in some places, but in others evidently the seat of the general cystic growth.

Microscopical Examination.—The cavities, which varied very greatly in form and size, were found to be composed of trabeculæ of variable strength. The contents of these cysts or cavities were chiefly of a gelatinous consistency, and showed a quantity of amorphous substance, containing innumerable small round corpuscular forms. In some parts, the whole contents consisted almost entirely of these bodies, whilst in others scarcely any were seen. In some of the cysts, dense fibrinous deposits existed, giving an opaque yellow character to the whole, in places having a laminated character. In others, blood-cells were seen in plenty.

27. A cyst connected with the right lobe of the thyroïd body, through which a seton of one thread was passed, for the purpose of setting up inflammation, and so obliterating the cyst. This trifling operation was followed by erysipelas of the neck and chest, terminating in gangrene of the integuments, and she died on the 5th day. The patient was a young, and apparently healthy woman, aged 23. Post mortem examination however revealed disease of the kidneys. Recent double pleurisy and pericarditis existed. The seton may be still seen in position. *Post Mortem and Case Book*, 1856. p. 276.

28. Specimen showing extensive extravasation of blood into the substance of the supra-renal capsule. The whole texture is

seen much occupied by the blood, but the central part is quite broken down by it.

The specimen was removed from the body of a man, aged 43, who for some time had been an idiot and epileptic. For two weeks before death he had almost had a continuation of epileptic seizures night and day, and immediately previous to death was extremely comatose. After death, in addition to the diseased supra-renal capsules hepatization of the lungs and great congestion of the blood-vessels of the scalp and brain existed.

The specimen following this is from the same patient.

29. Specimen showing extensive extravasation of blood into the substance of the supra-renal capsule, presenting the same appearance as the above specimen, and removed from the same patient. See *Path. Soc. Trans.*, Vol. XI. p. 286.

30. Specimen of a supra-renal capsule in a cirrhosed and partly fatty condition. When recent it was of a pale gamboge colour. It is very large and thickened, and the outer surface is very rough and nodulated, having much surrounding areolar tissue adherent to it. On section this body was found to be very consolidated and firm, all indication of a central space or cavity being destroyed, as well as all distinction between cortical and medullary parts.

Microscopical Examination.—Scarcely any natural cell-structure could be distinguished, every part of the organ being occupied by granular and molecular fat, and some fat globules mixed with a quantity of opaque fibroïd material obscuring greatly the ordinary characteristics of the organ. Occasionally large round and oval bodies were seen, apparently ordinary cells distended with granular material. In places where the cells were seen having their natural arrangement, they were found to contain large drops of oil-like material.

The specimen was removed from the body of a man, aged 62, who died with hemiplegia and coma following a "fit;" but in whom "no bronzing of the skin" had existed. Extensive softening of a large part of the left cerebral hemisphere, with considerable disease of the kidneys, were found after death. For details, see *Path. Soc. Trans.*, Vol. IX. p. 407.

31. Specimen of a supra-renal capsule, occupied by several masses of a light-coloured fibroïd deposit, occupying mainly the central parts of the gland. No discolouration of the skin existed. *Presented by* Dr. JOHN W. OGLE.

32. Specimen showing a mass of scrofulous deposit, occupying almost the whole supra-renal capsule; but a very small amount of apparently natural tissue existing. The supra-renal body altogether weighed eight scruples.

The specimen was from the body of a girl, aged 14, who died of phthisis and scrofulous deposit in the walls of the bladder and one kidney. The colour of the skin was observed to be quite natural. The following specimen was removed from the same patient.

33. Specimen of the same nature as the above, and removed from the same patient. For further details, see *Post Mortem and Case Book*, 1856, p. 256; also, *Path. Soc. Trans.*, Vol. VIII. p. 330.

34. Specimen showing extensive deposit of scrofulous material in one of the supra-renal capsules. At the posterior part the deposit was very softened and broken down into a pus-like fluid. The capsule was adherent to the kidney and liver adjacent, and its investing membrane was very thickened and indurated. The other supra-renal capsule was natural. The lungs were emphysematous, and the seat of scrofulous deposit.

The specimen was removed from the body of a man who died in the Hospital of pulmonary phthisis. No mention in his history exists of any bronzing of the skin. For details, see *Path. Soc. Trans.*, Vol. VIII. p. 332.

35. Specimen showing occupation of a supra-renal capsule by a large mass of carcinomatous material (encephaloïd form). The central part of the diseased mass presents a large cavity of the size of a small hazel nut, the result of a quantity of very softened material which has escaped in the preparing of the specimen.

The specimen was removed from the body of a woman aged 62, who died in King's College Hospital, with cancer of the lungs, liver, and glands of the neck. The other supra-renal capsule was of normal size and healthy appearance. There had been nothing unusual about the colour of the patient's skin, except that it was pale and anæmic. For details, see *Path. Soc. Trans.*, Vol. IX. p. 400.

36. Specimen showing a supra-renal capsule of unusual form, and occupying a very unusual position (in sitû,) as regards the kidney. This body is very firmly adherent to the corresponding kidney, and can only be separated with much difficulty. Instead of being above, and as it were capping the kidney, it is placed in apposition with the anterior and upper portion of the organ, its upper margin scarcely appearing above the upper tip of the kidney, and its lower margin reaching to the hilus of this organ. The supra-renal capsules of both kidneys were in the same condition. Moreover, the capsules were very flattened, and so thinned that in parts their edges were not thicker than a piece of pasteboard: they were also very firm, but no morbid changes could be traced in their structure by the *microscope*.

These specimens were accidentally met with in the body of a patient who died of pyæmia, in connection with disease of the bones. For details, see *Post Mortem and Case Book*, 1856, p. 283; also, *Path. Soc. Trans.*, Vol. IX. p. 406.

37. Specimen showing extensive rupture of the spleen, affecting chiefly its concave surface, but also extending through the entire substance of the organ; and, to a slight degree, showing itself on the opposite surface. The investing peritoneum was also extensively lacerated, and the whole organ was imbedded in a large quantity of semi-coagulated blood. There was, moreover, rupture of the kidney, which exists as a preparation in the series devoted to that organ, and also of the lung with fractured ribs, etc. From the body of Thomas T., aged 31, who was admitted into the Hospital January 18th, 1851, after a fall from a great height. He died two days afterwards. For further details, see *Post Mortem and Case Book*, 1851, p. 12.

38. Spleen, presenting considerable destruction of its upper part, which was occasioned by abscess. The investing fibrous capsule is very thickened and opaque; and, in one or two places, occupied by masses of albumino-fibrinous material mixed with calcareous matter. The whole viscus is adherent to a part of the Diaphragm.

39. Specimen showing masses of carcinomatous growth (encephaloïd form) in the spleen, injected with size and vermilion. The masses are of a rounded form and are more injected, at least in their outer parts, than is the main tissue of the viscus: they are chiefly situated near the surface of the organ. In one or two places the masses are apparently capsulated, but this is merely owing to thickening of Glisson's capsule in the neighbourhood: and in some places the morbid masses are softened and broken down, chiefly where the injection has run the most.

Microscopical Examination. — The chief elements of the growth were oval, and rounded nucleus-like formations. A few of these were elongated at one pole, or even apparently running into fibres. But rarely, larger rounded cells containing single nuclei were met with. Where the injection had 'run' the best a good deal of matrix-like fibrillated material existed, containing very minute nuclei. In one or two parts of the growths where blood had become extravasated, the usual débris of blood, with cholestearine intermixed, was found. In addition to the obvious morbid growths, the tissue of the spleen in the neighbourhood of the masses especially, but also throughout the entire organ, was seen to contain great numbers of nuclei running into fibre-formation.

The specimen was removed from the body of James J.,

aged 38, who died in the Hospital February 15th, 1843, and in whom carcinoma of the lung, liver, lumbar, and mesenteric glands, etc., was found. No life history exists. For other details, see *Post Mortem and Case Book*, 1843, p. 30.

40. Section of a very large spleen occupied by an albumino-fibrinous material, chiefly infiltrated through the entire texture, but also accumulated in masses in one or two places. When recent, it measured about 14 inches in length, and in circumference 26 inches at its broadest part (*i.e.*, towards the iliac fossa). It weighed 5½lbs. Its capsule was very thickened, and at one part where it was cartilaginous in consistence, it measured two lines in thickness. When cut into, it was found to be very firm, and in places of a variegated colour, being of a deep brown-red and pale brick hue in various parts. When the vessels were examined, both the arteries and veins were found to be full of soft semi-coagulated bloody substance, like that which may be squeezed from what is often called a 'pulpy spleen.' Almost all the veins forming the portal system contained similar material, as well as, also, the vena cava inferior and venæ iliacæ.

Microscopical Examination.—After maceration in spirit for many years, the entire organ was found to be the seat of amorphous granular material, containing very small round and oval nuclear bodies, with occasional bodies like leucocytes. In places quantities of dark-red granular material could be squeezed from the open veins, and this was seen to consist of granular and amorphous material, containing occasional oval and round semi-transparent bodies, some being like simple vitreous bodies, others being laminated, and regularly or irregularly concentric on 'focussing'; some possessed a dark centre. None were affected by hydrochloric acid, and none became blue on the addition of iodine. Nothing like positive fibrillation existed. Here and there the apparent remains of old dwindled corpuscles were met with.

The specimen was from the body of Thomas W., aged 22, who was brought into the Hospital December 31st, 1845, with a tumour in the left side of the abdomen, which had first shewn itself seven months previously, and had for the last three months increased very rapidly. During this time the patient was very subject to epistaxis, and had had very much pain in the left of the abdomen. He had never had ague, and always enjoyed good health until the tumour appeared. An examination of the blood during life, showed that the white colourless globules constituted about a *fifth* of the entire blood corpuscles. For further particulars, see *Post Mortem and Case Book*. 1846, p. 7.

41. Portion of a very large spleen, containing masses of an albumino-

fibrinous material, which appear to occupy almost the entire substance. The parts thus occupied vary much in colour, some being quite white and opaque; others punctated with blood-vessels; and others of a mottled red and white colour.

Microscopical Examination. — Occasional curled nucleated fibres, mixed with granular matter, were found, and at times spindle or club-shaped cells; but numbers of large and small leucocytes were chiefly met with. In many cases numbers of these were aggregated and surrounded by a sort of cell-wall. Here and there large granular yellowish forms, five or six times the size of pus-cells were seen; and here and there also masses of hæmatine. Where the punctate vessels were most numerous, proper spleen-tissue mostly abounded.

The specimen was removed from the body of Ellen K., aged 28, who was admitted into the Hospital November 11th, 1846. Having previously been in good health, she had, three years before admission, vomited much blood; since then, palpitation and head-ache and giddiness had come on. On admission, evidence existed of enlarged heart, with disease of the valves, and the urine was albuminous. Anasarca and dyspnœa preceded death, which occurred on the 6th January, 1847. After death some degree of consolidation of the lungs was found, and quantities of recent fibrinous deposit on the mitral valve-flaps, projecting much into the left auricle and ventricle. The aortic valve-flaps were unaffected. The kidneys were dwindled, and under the serous covering of the liver numbers of very small fibrinous deposits existed. For further details, see *Post Mortem and Case Book*, 1847. p. 10.

42. Section of a very large spleen, the whole of whose texture was infiltrated by a quantity of granular amorphous material, containing, as seen by the *microscope*, very small round and oval nuclear bodies, with occasional leucocytes. No peculiar reaction was obtained by iodine. No large masses or blocks of deposit existed, but one thin, larger mass, in a laminar form, was found at one part near the surface. The circumference of the spleen lengthwise was 27½ inches, and round the middle it was 18 inches. The cut surface, when recent, was very firm and mottled. Two additional small spleens affected like the large one, were connected with it, but only by areolar tissue.

The specimen was from the body of William G., aged 42, who was admitted into the Hospital February 10th, 1847, with sallow complexion, anasarca, and slightly bloody expectoration. He had been in good health, but subject to attacks of epistaxis, until a few weeks previously, when he was attacked by pleurisy, after which he perceived a swelling under

the left ribs. The left half of the abdomen was found occupied by an enormous tumour. There was albumen in the urine, and much mucous râle existed in the lungs. Hæmoptysis followed, with profuse perspirations and epistaxis. He sank and died March 10th. After death, small quantities of scrofulous matter were found in the lungs. For further details, see *Post Mortem and Case Book*, 1847. p. 69.

43. Portion of spleen containing masses of fibrinous deposit, as well as albumino-fibrinous material infiltrated throughout its texture. The capsule is slightly thickened and opaque, and the splenic artery may be seen to contain much atheromatous deposit in its walls. Numbers of false adhesions existed between the spleen and neighbouring surfaces.

Microscopical Examination showed a few inky spots to be brought out by the addition of iodine. After death evidence of considerable pleurisy and disease of the kidneys was found.

The specimen was from the body of H. P., aged 41, who was admitted into the Hospital Nov. 5th, 1851, and who died Jan. 22nd, 1852. For details, see *Post Mortem and Case Book*, 1852, p. 22. This and the three previous specimens are also described in the *Path. Soc. Trans.*, Vol. XI, p. 269—276.

44. Section of a spleen containing several masses of albumino-fibrinous material distinctly circumscribed, as well as infiltrated in places throughout with similar material. The white masses or blocks were seen to contain numbers of leucocytes, and some of these blocks were surrounded by dark blood-lines or fringes. On removing the spleen, the main artery readily tore through as if brittle, and is now seen to be full of fibrinous and bloody coagulum. The spleen measured 10½ inches in length, and 15 inches in circumference, and weighed 3 lbs. 6 ozs. The liver was also very firm and bloodless, containing scarcely any natural structure. It weighed 6 lbs. 5 ozs.; and, moreover, the great omentum was very hard, and thickened by fibrinous deposit. The kidneys were in a waxy condition, as to their cortical parts, and contained several miliary fibrinous deposits. Their arteries were very atheromatous.

The specimen was removed from the body of Charlotte K., aged 57, who had been ill for 7 months, suffering from ascites and anasarca, following jaundice. When admitted, April 14, 1852, into the Hospital, the liver and spleen were felt enlarged. She died from exhaustion, following vomiting, April 29. For details, see *Post Mortem and Case Book*, 1852, p. 105; also *Path. Soc. Trans.*, 1851-2, p. 355.

45. Portion of spleen showing numbers of small scrofulous deposit in its substance. These have mostly softened in their centres, but no other change has occurred in them. Scrofulous deposit also existed in the lungs.

46. Portion of spleen occupied by scrofulous deposits of rather large size. When recent, this viscus was hard and dark in colour.

The specimen was removed from the body of Thomas M., aged 22, who was admitted into the Hospital May 27, 1846, with symptoms very like fever. It was soon evident that he was phthisical, and he died from pneumo-thorax, in connection with vomicæ in the lung, July 29. For details, see *Post Mortem and Case Book*, 1846. p. 170.

47. Portion of spleen containing at one extremity and projecting from its surface a rounded mass of light-yellow gritty substance of an uncertain nature, surrounded by a thick firm capsule. No other deposit of a like kind exists in the spleen, which was unusually firm, and darkish in colour.

Microscopical Examination.—The greater part of the mass was found to consist of granules and globules of fat and granular amorphous albuminous material containing a great number of large and small leucocyte-looking bodies, and also brightly-refracting nuclear bodies, as well as, occasionally rounded granular opaque bodies, some only containing nuclei.

The specimen was removed from the body of Eliza W., aged 40, in whom was found disease of the liver (nutmeggy state), granular kidneys, and recent fibrinous exudation into the serous cavities. No scrofulous deposit was met with in any part. The patient died January 31st, 1851. Most probably the deposit shows ultimate changes in one of these blocks or albumino-fibrinous masses met with in the various viscera. For further details, see *Post Mortem and Case Book*, 1851, p. 20 ; also *Path. Soc. Trans.*, Vol. XI. p. 273.

48. An enlarged spleen showing a cavity of the size of a large chestnut, containing a number of shrivelled-up so-called hydatid cyst walls. They are involuted, and hard and crisp in texture, having, in many cases, a quantity of white friable material connected with them. Also, attached to the posterior part of the spleen, is a light-coloured membranous cyst of the size of a hazel nut, which has been laid open, containing an inner cyst, whose walls are of a darker colour than those of the containing one. The inner cyst is quite empty.

Microscopical Examination.—Nothing like "hooklets," etc., existed. The friable material was seen to consist of granular fatty substance, with a quantity of shining calcareous matter intermingled, unaffected by hydro-chloric acid.

The specimen was removed from the body of John F., aged 22, in whom hydatid formations were found in many organs, as in the liver and omentum. See Series IX., Nos. 252, 272, 274, and 275. For details, see *Post Mortem and Case Book*, 1843. p. 71; also *Path. Soc. Trans.*, Vol. XI. p. 295.

49. Specimen showing thickening of the capsule of the spleen, owing to deposit of fibrin, which, to a great extent, had become converted into a mass of the consistence of cartilage, but had partly become the seat of calcareous material. The calcareous matter is especially collected into a thick quill-like process. The spleen itself was much reduced in size, and very firm in structure. There was also found a "granular" state of the liver, and "tuberculosis" of the lung.

From the body of William C., aged 82, who died in the Hospital June 20th, 1851, with erysipelas, following fracture of the femur, etc. For further details, see *Post Mortem and Case Book*, 1851, p. 128.

50. Portion of the capsule of a spleen, containing three or four large plates of calcareous matter; one being equal in size to a shilling. Their outer surfaces are very smooth, but their inner surfaces are rough, and, in places, very prominent. *Presented by* CÆSAR HAWKINS, Esq.

51. A large encephaloïd malignant tumour which took the place of the left supra-renal capsule. The mass weighed, when fresh, 2lbs. 5ozs., and measured 6 inches vertically, 5 from side to side, and the same from before backwards. It is nearly spherical, but is somewhat lobulated externally. On section it appears to be somewhat spongy in texture, and has the structure belonging to soft encephaloïd. Under the *microscope* it was found to consist of cells, which were evidently cancer-cells in a state of fatty degeneration. These were large, nucleated, very various in shape and size, and more or less loaded with oil.

In the body the mass lay below the stomach and spleen, and in front of the left kidney, to which it was attached by the blood-vessels, which were common to both. Branches passed from the renal artery and vein to the morbid growth. The right supra-renal body was natural. A small mass of encephaloïd carcinoma existed in the liver. All the remaining viscera were natural.

The preparation was taken from the body of a child named Sarah W., who died in the Hospital at the age of 3 years. She had been an out-patient for a week or two, and she was admitted as an in-patient October 27th, 1864, and died on the same day. The skin was then somewhat of a gipsey colour, but there was nothing which could be described as bronzing. The most remarkable thing about the child was a plentiful development of hair over the whole body. It was short and dark, and spread with uniformity, except that it was in increased quantity on the upper lip, where it formed a small moustache, and was extremely long, thick, and bushy upon the genital organs. When she was brought to the Hospital she was suffering from frequent vomiting, which was the immediate

cause of death. This had come on after a hearty meal four days previously. The child, when born, was natural in appearance. It began to get hairy when a year old. The abdominal tumour had been observed for five weeks; its appearance was accompanied by an increase in the child's appetite. The child was said to have been docile and intelligent; but when in the Hospital it was rude in demeanour, and was thought to be half idiotic. The voice was very harsh. *Post Mortem and Case Book*, 1864, p. 280. See also a water-colour drawing of the body.

52. Two supra-renal bodies, occupied by a peculiar deposit. The right one, which is the larger, weighed 6 drachms, the left 2. Both were nodular externally, firm in texture, and of a light buff colour, and no part remained which bore any likeness to the natural structure of the organ. The outer portions were hard, and somewhat elastic, like a fibro-plastic tumour. In the centre of each was a little softer yellow matter, not unlike crude tubercle to the naked eye. Under the *microscope* the outer parts were seen to consist of large cells nucleated, and very various in shape. Some were angular, and some were rounded. The central yellow part of each capsule contained oil-globules, granular matter, and imperfectly-formed pus. There were some minute millet-seed deposits under the peritoneum, which, to the eye, and under the microscope, resembled the outer parts of the supra-renal bodies. In the apex of the right lung was a single small lump of crude tubercle. All the other parts of the body were natural.

The preparation was taken from the body of Sarah D., who died at the age of 39 years, with well marked symptoms of Addison's Disease. She had come into the Hospital June, 1864, having been debilitated for 18 months, and had bronzing of the skin for a year. She had lost flesh, and had repeated vomiting. The skin eventually became as dark as that of a Mulatto, and the hair grew of a deeper colour than formerly. She sank, after having been five days in the Hospital. She was slightly convulsed previously, and the vomiting continued to the last. Portions of the skin are preserved in the Series devoted to that organ. See *Post Mortem and Case Book*, 1864, p. 138; also *Path. Soc. Trans.*, Vol. XVI. Drawings of the face and of the supra-renal capsules, in the fresh state, are in the collection.

53. Preparation showing carcinomatous occupation of a mass of cervical glands on the right side of the neck, in connection with carcinomatous ulceration of the œsophagus, the tube of which, as well as the carotid artery, has been displaced by the tumour.

Removed from a patient who was said to have been originally affected with scrofulous enlargement of the glands of the

neck. Much inability to swallow food, attended by spasm, was occasioned by the diseased mass. *Presented by* SIR B. C. BRODIE.

54. Preparation showing enlargement of the mesenteric glands, owing to occupation of their substance by scrofulous deposit; and also small masses of scrofulous deposit beneath the serous covering of the bowel, and in the interior of the lacteal vessels, passing thence to the affected glands before mentioned. A portion of the wall of the bowel has been removed, by which a patch of ulceration of its inner surface is seen at a part corresponding to the deposit on the outer surface. See *Beale's Archives*, Vol. V.; illustrated by a drawing.

55. Preparation shewing the presence of a cyst in the substance of a supra-renal capsule. The cavity of the cyst, which is rather oval in shape, is about equal to a small filbert in size; its walls are partly formed by a thin translucent membrane, which, as the cyst occupies the entire thickness of the capsule, appears to be in fact formed of thin membranous material covering the surface of the organ.

The preparation was removed from the body of Peter O. H., aged 61, who was admitted into the Hospital September 21st, 1857, with fracture of some of the costal cartilages, and ecchymosis of blood into the substance of the spinal cord, and who died September 29th. See *Post Mortem and Case Book*, 1857, p. 234.

56. Specimen shewing carcinoma (the melanotic form) of the inguinal glands.

Removed from the body of George K., aged 35, in whom carcinoma of the brain, heart, lungs, mesentery, etc., was found. The details of the case, and the results of the *Microscopical Examination* of the morbid growths, are given in connection with the description of the brain (No. 45, Series VIII.), and of the mesentery (No. 204, Series IX). See *Post Mortem and Case Book*, 1856, p. 178.

57. Specimen, removed from a child, shewing extensive occupation and consequent enlargement of the bronchial glands, by scrofulous deposit.

58. Portion of the larynx and trachea, with the thyroïd gland attached, from the right lobe of which a tumour (see Preparation in Series allotted to Tumours,) was removed during life. The ligature by which the tumour was removed remains in sitû. The tumour was a solid one, containing a few cysts. The patient died of pleurisy and pneumonia.

From the body of James S., aged 20, who was admitted into the Hospital December 17th, 1846. The tumour was removed January 21st, 1847, and he died February 4th. See *Post Mortem and Case Book*, 1847. p. 37.

59. A portion of a spleen, containing a large fibrinous block. The artery is laid open, and is seen to contain fibrinous matter.

The preparation was taken from the body of Robert W., who died of gangrene of the leg, in consequence of the plugging of the femoral artery by a mass of fibrine which had travelled from the heart.

The particulars are given under Series VI., Preparations 198 and 199, where the heart and femoral artery are described. There is a drawing in the Museum which represents all the pathological appearances. See *Post Mortem and Case Book*, 1862, p. 23.

END OF SERIES X.

Series XI.

INJURIES AND DISEASES OF THE KIDNEYS AND URETERS.

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1. Right kidney, with various ruptures situated in the neighbourhood of its hilus. It was surrounded by an extensive extravasation of blood in the subperitoneal areolar tissue. From a lad aged 15, who, having been run over by a cart a short time previously, was admitted into the Hospital in a state of great collapse from which he did not rally. He died a short time after his admission. The kidney was the only organ which was injured. *Post Mortem and Case Book.* 1845, p. 101.
2. Extensive rupture of the left kidney at its posterior part. The patient, a man aged 67, had been knocked through a trap-door into a cellar by a roll of lead falling upon him, which had caused several very severe injuries of which he died shortly after his admission into the Hospital. *Post Mortem and Case Book.* 1845, p. 224.
3. Rupture of the left kidney occasioned by a fall from a scaffold. There was extensive effusion of blood into the subperitoneal areolar tissue as well as into the cavity of the peritoneum.

   This specimen was taken from the body of Thomas T., who was brought into the Hospital in a state of collapse, having fallen a distance of thirty feet. The spleen was also ruptured (See Series X, No. 37), and there was extensive laceration of the lungs, the result of fracture of the ribs. The patient died, two days after his admission, of pleuro-pneumonia. *Post Mortem and Case Book.* 1851, p. 12.
4. Two kidneys, the subjects of granular degeneration, one of which (the right) shows an old rupture, from an accident eighteen months before death.

   The preparation is from the body of Thomas W., aged 37, who was originally admitted on June 2, 1858, having been kicked by a horse on the right side of the abdomen. His right elbow was in front of his body at the time, and the humerus was fractured by the blow. (The preparation of this fracture is preserved in Series I., No. 97.) He was much collapsed at the time of the accident. Swelling of the belly came on rapidly, with fluctuation, and the case was regarded as one of rupture of the liver with hæmorrhage into the peritoneal cavity. On this hypothesis, large and repeated doses of gallic acid were given, and it was necessary to support him by means of stimulants. Four days after the accident, a course of calomel and opium was commenced, and the fluid was rapidly absorbed. Great bruising now became apparent over the region of the liver. The belly had been very tender ever since the injury, and the diagnosis was that the supposed rupture of the liver had induced peritonitis. The man recovered favourably and was discharged on July 20. Meanwhile, the only symptoms of injury to the kidney were

observed on the day of the accident and the next day—when the urine was mixed with blood—at first in considerable quantity. From this time, no blood was mixed with the urine. The patient was re-admitted on Dec. 14, 1859, for dropsy of six weeks' standing. He gave no history of previous disease, but said that he had had pain in the loins occasionally, and that for a year or two his water had been increased in quantity. He died on Dec. 22.

On examination of the liver, its right lobe was found united to the diaphragm by old adhesions. No very distinct trace of injury was perceptible, but in one part a superficial bruise appeared to have existed. Both kidneys were extremely granular and full of cysts. The cellular tissue around the right kidney was consolidated; and in the section of the gland, a large clot of blood is exposed occupying its pelvis and interior, and communicating also with the exterior, where a large quantity is lying in the subperitoneal tissue. The line of rupture could be faintly traced through the substance of the gland. The ureter where cut across (about $1\frac{1}{2}$ in. from the kidney) was found quite impervious. See *Post Mortem and Case Book*, 1859, p. 284, and *Path. Soc. Trans.*, Vol. XI. p. 140.

5. Atrophy and degeneration of the kidney. The organ is considerably reduced in size, and its section presents no distinction of cortical and medullary portions. Numerous cysts of varying size are seen in the cortical portion. The opposite kidney was nearly twice its natural size. The patient, Henry C., from whom the preparation was taken, suffered from disease of the prostate gland, of which there is a preparation in the following series. *Presented by* Cæsar Hawkins, Esq.

6. Extreme atrophy of one kidney (the right), from a patient, aged 34, who died of peritonitis supervening on renal dropsy. She had only suffered from the latter disease, as far as was known, for three months. The left kidney was found to be granular and cystic, but not diminished in size. The other is seen to be excessively small, so that when taken from the body together with a comparatively large quantity of cellular tissue, vessels, &c., it weighed only ʒiij. The vessels are seen in the preparation, and appear to be in proportion to the size of the organ. The ureter was pervious. The arrangement into pyramids was indistinct, and the distinction between cortical and tubular portions imperceptible. Microscopical examination in the fresh state failed in detecting the characteristic structure of the kidney. It was thought to be a case of congenital malformation. *Post Mortem and Case Book.* 1858, p. 153.

7. Extreme atrophy of the right kidney, probably congenital. This preparation was taken from a woman, aged 28, who died of pneumonia. Some difficulty was experienced in finding the right kidney. It, however, occupied the usual position, but was of extremely small size. It weighed, together with the whole length of the ureter, only 43 grains. The shape was much as usual. The capsule was thick and adherent to a smooth surface. On section the structure was found to be chiefly of fibrous tissue, variegated with patches of brown, which to the eye resembled renal structure. Under the microscope, nothing but fibrous tissue could be discerned. There was a minute pelvis which communicated with a ureter still to some degree pervious. The upper part of the duct would, with some resistance, admit the head of an ordinary probe. The ureter was of about the usual length. It terminated in the cellular tissue near the bladder, after splitting into several filaments. The left kidney was hypertrophied, but not morbidly enlarged. *Post Mortem and Case Book.* 1862, p. 104.

8. Extensive dilatation and absorption of the kidney which is converted into a membranous bag divided into cysts, in which were about two quarts of serous fluid.

   This preparation was taken from a patient, who was admitted into the Hospital with fracture of the lower articulating extremity of the tibia. The case was involved in much obscurity, as the fracture could not be accurately distinguished. He had been able to walk until the ninth day after the accident, when shivering came on, followed by much constitutional excitement, and he died. The day previous to his death, he, for the first time, felt an inability to void his urine, which was drawn off by a catheter. On examination after death it was discovered that one of the kidneys had become extensively dilated, and its cortical and tubular portions entirely absorbed, with the exception of the fibrous septa intervening between separate lobules. The kidney, which has been dried, presents the appearance of a collection of separate cysts, all of which communicate directly or indirectly with the pelvis, which is also extensively dilated. On attempting to pass a probe down the ureter, it was found to be almost impervious just at its junction with the pelvis, hardly admitting the passage of a bristle. The opposite kidney and the bladder were sound. The fracture was found not to extend into the joint, and no pus had formed in the articular cavity. *Presented by* Sir BENJAMIN BRODIE, Bart.

9. A kidney very much enlarged, its cortical and tubular portions being entirely absorbed. The intervening fibrous septa, and outer covering of the organ are much thickened; and form the walls of a number of incomplete cavities of variable size,

which communicate with the pelvis by small openings. The ureter is slightly contracted.

10. A kidney much enlarged. In some parts the tubular and cortical portions have been partially absorbed, in other parts the substance is sprinkled with numerous small transparent cysts. The pelvis and infundibula are much dilated.

11. Kidney from an elderly person who had twice undergone the operation of lithotrity, after which he had a rigor and never rallied. Both kidneys were inflamed, large and soft in texture, but this kidney presented on the lining membrane of its pelvis, a quantity of lymph, and several cysts containing pus were found on the surface of the organ. The bladder is preserved in the following Series.

12. Section of a kidney affected with granular disease. The structure of the kidney is coarse, its surface granular and the cortical portion very considerably diminished in depth. During life the urine was albuminous, but there was no history of any dropsical effusion. The patient had long suffered from stricture of the urethra, of which he died. (Injected preparation). *Post Mortem and Case Book.* 1849, p. 31.

13. Section of an atrophied granular kidney, in which there are several cysts. The urine had been highly albuminous during life, but there had been no dropsy. The patient died in a state of anæmia, with considerable subarachnoïdean effusion. The structure of the kidney was found on microscopical examination to be in a great measure atrophied, and in part replaced by a development of a large number of minute cysts. A small quantity of oily matter existed in the gland in the form of masses lying between the tubes, but there was no appearance of fatty degeneration. It could not be positively asserted that the matrix was thickened. The vein has been injected with red, and the artery with yellow. The capsule has been in part removed so as to show the granular condition of the surface; several thin patches however of it still remain, which could not be peeled off without injury to the glandular tissue beneath, thus showing a state of morbid adhesion. Extravasation has taken place into the tubes. *Post Mortem and Case Book.* 1848. p. 229.

14. The other section of the same kidney.

15. Two kidneys, one of which is seen in section, which together weighed 30½ oz. The capsules are thin and loose, the surfaces smooth, irregularly shaded with buff, and sprinkled with little red spots, which are coils of tubes containing blood. Some stellate veins are also visible. In the section, the cortex is seen to be much increased relatively to the cones. It is of a very coarse texture, and marbled with buff. On microscopical examination it was evident that the increase of

bulk was owing to distension of the convoluted tubes by their own epithelium, which was slightly fatty in character. No intertubular formation could be discovered.

The patient from whom these organs were taken, was a man aged 38. He had been attacked with general dropsy seven weeks before his death, which was immediately due to pleurisy with much effusion of fluid. The urine had been scanty and very albuminous. *Post Mortem and Case Book.* 1862. p. 93.

16. The left kidney of a woman, aged 38. It is much enlarged, weighing 13¼ oz. The right kidney had been destroyed by scrofulous disease: it was excavated so that little more remained than the sac of an irregular abscess. The capsule of the organ which is preserved is thin and loose. The surface beneath is of an uniform light fawn colour, scarcely variegated by any vascularity, though a few stellate veins of large size were seen. A few depressions indicated where, in all probability, some of the superficial tubes had burst, and partial shrinking ensued. For the most part the surface was perfectly smooth. On section, the cortex was of a light buff colour, much resembling the cut surface of a parsnip. Both this and the cones had participated in the increase of bulk. Under the microscope the tubes were seen to be distended with large, full-bodied, epithelial cells. There was no trace of fatty change. There was a general tuberculous condition of the organs. When admitted, this patient had long been out of health, suffering from diarrhœa with much loss of flesh. Two months previously, the legs became œdematous. The urine was mixed with pus, and of course albuminous. It was very scanty, and became gradually more so. She frequently vomited. At last her manner became strange, she became comatose, and so died. This preparation affords an example of a late, the proceeding of an early condition of chronic nephritis. *Post Mortem and Case Book.* 1862. p. 34.

17. A section of a kidney in a state of "amyloïd" degeneration. The organ was of about its normal size. It weighed 4 oz. The capsule was slightly thickened and adherent, and the surface was irregular, but not granular. The cones are very close to the surface. The colour was paler than natural, and mottled with a faint pinkish hue. The tissue was transparent and firm. The application of iodine gave the ordinary amyloïd changes. Under the microscope the epithelium was found to be natural, the nucleus and cell-wall distinct. The tubes, both in cortex and cones, were dilated, of a transparent material, which sometimes imbedded the cells. Some were without epithelial lining, while with others the cells had the appearance of being fixed together upon the walls. The parietes of the tubes were remarkably

thickened. The basement membrane instead of being a mere fibre was of visible substance. On post mortem examination, it was found that the liver was affected in a similar manner. There was also a tumour of the dura mater, which appeared to consist of a collection of "amyloïd" material. The lungs were the seat of crude tubercle.

The preparation was taken from the body of a woman aged 24, who died with symptoms of cerebral disease. No symptoms were detected which had to do with the kidneys. For further particulars, see *Path. Soc. Trans.*, Vol. XIV. p. 264. *Presented by* Dr. DUDFIELD.

18. The right kidney, showing an eroded patch at its upper end, from implication in an empyema. The renal structure is seen to be exposed in the centre of this patch, and ragged from ulceration. This exposed portion is bordered by a rim of lymph. The abscess had made its way from the pleura behind the liver, and diaphragm. The dorsal vertebræ were also eroded. Thomas R., aged 25. *Post Mortem and Case Book.* 1859. p. 113.

19. Large cyst with thin membranous walls, situated in the lower part of the kidney. Part of the cyst is imbedded in the substance of the organ, the remaining portion is free. A smaller cyst about the size of a walnut is seen in the upper part of the organ. No symptoms of disease of this organ existed during life. (Injected preparation.)

20. Thin walled membranous cyst projecting from the outer border of the kidney. It contained several ounces of transparent fluid. The patient never complained of any symptoms about the urinary organs during life.

21. Section of a kidney containing numerous cysts, one of which is very large. There had been no obstruction in the urinary passages; the patient died with scrofulous disease of the sacrum and os innominatum, producing abscess, with peritonitis, pneumonia and a small abscess in an intercostal space occurring secondarily. On microscopical examination no minute cysts could be found in the part selected. The larger ones were filled with contents of various kinds; thus, one contained a fluid in which there were numerous vesicles like blood globules with some nuclei and granular cells; another contained a quantity of dark reddish matter floating in a transparent fluid; a third of less size contained a multitude of corpuscles which were found to be vesicles, containing numerous nucleated particles, or masses of granular matter. The secreting tubuli appeared for the most part in a healthy state; some, however, seemed to have been greatly distended and their diameter was double the usual magnitude, their epithelium consisting of flattened

particles forming a beautiful mosaic work. *Post Mortem and and Case Book.* 1848. p. 218.

22. Kidney enlarged, and its structure, more especially the cortical portion, riddled with cysts, which vary in size from a millet seed to a pea. Some of the cysts are filled with soft sabulous matter. (Injected preparation.)

23. Aqueous cyst of the kidney.

The patient from whom this preparation was taken, John C., aged 6, was admitted into the Hospital, Oct. 18, 1832, with a swelling confined to the right side of the abdomen, which made its appearance three weeks before his admission. Under the use of mercury and leeches, which was the treatment employed to Nov. 24, the tumour diminished. Friction with iodine and mercurial ointment was now used, under which he became worse. The sac was now punctured on the right side through the abdominal muscles, and 18 oz. of clear fluid was evacuated. After temporary relief, the cysts filled again, and the child died, Dec. 25. On examination after death the tumour was found to consist of a single cyst containing about five pints of clear transparent fluid. Examined by Dr. Prout it was found to contain none of the components of urine. The cyst was firm in front, but behind in contact with the muscles, it was too thin to be dissected, and especially where in contact with the lumbar vertebræ. It protruded a little below Poupart's ligament through the femoral ring, and pushed the liver upwards and to the left side, raising the ribs considerably. The other viscera were pushed to the left side of the abdomen, and on that side the peritoneum covering the colon was in contact with the cyst. In front it was adherent to the inner surface of the abdominal muscles. On the inside, and towards the fore part of the cyst, was seen the ureter, which was traced upwards between the layers of which the sac was formed towards the right kidney, which was situated at the back part of the cyst towards its upper and inner part. The ureter was tortuous and elongated, so as to make it difficult to trace its course; it entered the kidney in the usual way, was of its ordinary size, and had no communication with the cavity of the cyst; but there were two small orifices in the pelvis of the kidney, which seemed to have been the result of ulceration, and near these orifices the ureter and pelvis of the kidney were of a dark colour, and tarnished the probe as sulphuretted hydrogen does. The kidney was of the usual size and healthy, and its anterior surface formed as it were a part of the cyst, as the cyst was intimately connected with the margins of the organ, and could not be traced over its surface. The surface of the kidney thus seen in the interior of the cyst was flattened and rough, and the covering thicker

than usual. About five inches from the kidney towards the inner part of the cyst, was a small body about the size of a walnut which projected into the cyst, and was soft and lacerable and covered by a thin coat. This body proved on examination to be a third kidney, consisting of a single lobe with the cortical and tubular part perfect, and having a single mammillary process and calyx, but no excretory duct could be traced. All the other viscera were healthy. *Presented by* CÆSAR HAWKINS, Esq. For a detailed account of this case, *vide Med. Chir. Trans.*, Vol. XVIII. 175.

24. A fine specimen of cystic disease of the kidney. The cysts occupy almost the whole organ, which is enormously enlarged. They vary in size from a walnut to a millet seed, or smaller.

25. Kidney showing the presence of scrofulous deposit in the miliary form, chiefly in the cortical portion near the surface. The kidney has been injected, but the injection was only successful in the neighbourhood of the deposit.

The specimen was taken from a patient in whom there were similar deposits in the lungs and other organs.

26. Section of a kidney, in the substance of which there are large masses of scrofulous deposit. The natural structure of the organ has been minutely injected. *Presented by* Dr. FINCHAM.

27. Kidney somewhat enlarged. Its section presents numerous irregular cavities, communicating with the pelvis by small circular openings, and separated from one another by septa, formed partly of fibrous tissue, partly of the natural structure. The cavities were most probably filled with scrofulous deposit, which has become softened. The lining membrane of the infundibula and pelvis is ulcerated.

28. Kidney of a patient who died in the Hospital a few days after his admission. His symptoms were not of a severe nature, and attracted but little attention. On examination after death, this, the right, kidney was found enlarged to twice its natural size, and in the pelvis there was a cyst, which by its growth had absorbed a considerable part of the substance of the kidney, and contained about ℥xvj of thick whey-coloured fluid. The cortical part of the kidney was studded with deposits of scrofulous matter. Scrofulous tubercles were also found in both lungs.

29. Scrofulous disease of the kidney. The organ is twice its natural size, its section presenting extensive scrofulous degeneration. The apex is converted into a large pouch, which in the recent state contained large masses of scrofulous deposit; the mucous membrane of the calices, infundibula, and pelvis, was lined with a thick layer of the same substance; the ureter is very much enlarged, its interior being nearly

filled up with scrofulous deposit, a very small canal only being left for the passage of the urine.

This preparation was taken from Cornelius J., aged 17, who was admitted into the Hospital, complaining of severe pain in the left loin. Much pain was also experienced along the urethra and glans penis after making water, which he was obliged to pass constantly day and night. He first perceived the pain about six months previous to his admission. He had been anasarcous about two years previously. The urine was highly acid and albuminous, and contained a small quantity of pus. He had cough, expectoration, night sweats, and diarrhœa. He died two months after his admission. The lungs were filled with tubercles, with vomicæ at the apex. The right kidney presented the mottled degeneration described by Dr. BRIGHT, and the bladder was in an advanced stage of scrofulous disease. *Post Mortem and Case Book.* 1841. p. 47.

30. Scrofulous disease of the kidney and ureter. The kidney (the left), is larger than natural, and was partially adherent to the colon. Its capsule was firmly adherent. The surface of the organ is seen thickly studded with small masses of scrofulous deposit. The infundibula, calices, and pelvis are dilated and coated with a thick layer of scrofulous deposit, the mucous membrane lining these parts having disappeared. The secreting structure of the kidney has in several places been absorbed, and pouches likewise coated with tubercular matter existed in many parts. The ureter is much thickened and lined by a layer of similar deposit.

This preparation was taken from the body of Peter H., aged 53, who was admitted into the Hospital, Nov. 16th, 1842. He complained of deep-seated pain in the pelvis, and occasionally in the loins, but usually over the sacrum. The pain was always increased in the erect posture, or when he leant forward. The urine was alkaline, and contained a very large quantity of adhesive mucus mixed with blood, and occasionally with portions of solid substance resembling muscular fibre. It was also albuminous. In the perineum there was a small soft elastic tumour which was excruciatingly painful when pressed upon, or when an instrument was passed into the bladder; defecation was likewise attended with much pain. The urine passed involuntarily. Eighteen years previous to his admission, he had suffered from stricture of the urethra for which bougies were passed. Two years afterwards an abscess formed in the perineum, which was opened. The symptoms of the disease of the kidney came on two months previous to his admission. He died in a comatose state six weeks after his admission. The bladder and urethra were extensively ulcerated, and are preserved in a subsequent

series. Both lungs were thickly studded with miliary tubercles and in their apices were several vomicæ. *Post Mortem and Case Book.* 1842. No. 104.

31. Scrofulous disease of the kidney, ureter, and bladder.

32. A large mass of cheesy scrofulous matter in the left kidney. The patient, a man aged 38, died in the Hospital, with enlarged spleen and leucocythæmia, accompanied by melæna There were some quiescent tubercles in the lungs. *Post Mortem and Case Book.* 1859. p. 204.

33. Scrofulous disease of the kidney. The kidney is larger than natural, its structure much softened and containing numerous irregular cavities, full of imperfect pus, mixed with bloody pulpy matter. The ureter which is laid open, is considerably thickened and enlarged. The patient was a young woman about 25 years of age, who died after many weeks' obscure symptoms, attended with great emaciation. She had much discharge of bloody pus with the urine, but no pains about the kidney. *Presented by* CÆSAR HAWKINS, Esq.

34. Section of the right kidney in which was found a large deposit of a fibroid structure, which bore a close resemblance to encephaloïd carcinoma. The deposit was as large as an orange, and was situated in the upper part of the organ, having apparently by its compression, completely absorbed the greater portion of the secreting structure of the gland. The interior of the mass was soft and diffluent, and resembled much in appearance the white matter of the brain. The outer portion was more dense, and highly vascular. The deposit presented no cell structure whatever. It was composed of a mass of fibrillæ interlacing in every direction with one another, and very similar to the fibrillæ of ordinary blood fibrin. A few cysts of small but varying size were found disseminated throughout the deposit. The remaining portion of the kidney was soft and flabby, and presented a rough granular surface. A small deposit of a similar nature was found in the upper part of the left kidney.

This preparation was taken from a man who was admitted into the Hospital, Dec. 6, 1848, having been seized a few days previously with loss of power of motion and of sensation in the left leg and arm. He died on January 10, 1849. On the post mortem examination a small tumour similar in its general appearance with the above was found in the substance of the right thalamus. *Post Mortem and Case Book.* 1849. p. 11.

35. Corresponding section to the above.

36. Section of a kidney which presents large masses of carcinomatous deposit infiltrated in its texture. There is no appearance left of the cortical or medullary structures. The morbid

deposit consists chiefly of circular or irregularly circular nuclei containing many granules, mixed with irregular circular mono-nucleated vesicles. *Presented by* CÆSAR HAWKINS, Esq.

37. The left kidney of a child, to the lower extremity of which is attached a small portion of a mass of carcinomatous deposit, in which the viscera of the abdomen were involved and in which the kidney was enveloped. This deposit consists of a fine fibrillated mesh, in which is contained a soft white deposit composed of granules, and circular or irregularly circular nuclei. The substance of the kidney does not appear to be much altered, although it was softer than natural. The carcinomatous deposit was everywhere of a spongy texture containing a white viscid fluid which could be squeezed from its substance.

The child from whom this preparation was taken, at first laboured under symptoms of marasmus, to which supervened in the course of a few weeks, pain in the left hypochondrium with swelling of the abdomen, affording to the touch a a distinct feeling of fluctuation. The abdomen became exceedingly large, but the irritation of the urinary organs was so trifling as to have given him scarcely any uneasiness. The urine was secreted in abundance, but was very light coloured. The disease extended into the posterior mediastinum. *Presented by* SIR BENJAMIN BRODIE, Bart.

38. A large carcinomatous tumour attached to, and involving the kidney. The tumour consists of large masses of carcinomatous deposit which had evidently originated in the concave portion of the kidney and had grown inwards, the convex end of the organ projecting separately from the outer side of the mass, whilst its upper and lower parts were continued a little distance on to the upper and lower parts of the tumour, the remaining portion of the surface of the tumour being covered by the fibrous capsule of the organ. The deposit has been examined in many parts, and found to consist exclusively of circular granular nuclei, exactly similar to the nuclei of the ductless glands.

This preparation was taken from a child three years of age, who was an out-patient at the Hospital, and was supposed by many to labour under ascites. She was taken ill at her own house and died. On examination of the body it was found that the apparent fluctuation of the abdomen was altogether dependent on the tumour. The liver and other abdominal viscera were healthy, but carcinomatous deposit of similar character was found in the lungs. The previous history of the case is not known.

39. Scirrhous tubercles in the kidney. There were scirrhous tubercles in other parts of the body.

40. A kidney studded with carcinomatous deposit of the encephaloïd kind. On removal of the capsule, the deposit was seen to be very prominent in some places. The history connected with this specimen was not obtained, but the patient died of malignant disease in other organs.

41. A kidney enormously enlarged by colloïd disease. The organ is converted into a vast bag with membranous walls, which correspond with the division of the pelvis; septa exist by which the general cavity is partially subdivided. At the time of the post mortem examination the whole cavity was filled with gelatinous matter, like colloïd cancer. On microscopical examination the identity was clearly shown. Attached to the outer wall, at several points were irregular stony masses as large as chesnuts, which were examined chemically and found to consist of phosphate of lime. It was conjectured that the accumulation of colloïd matter had taken place subsequently to the dilatation of the organ. It appeared possible that this might have been due to the obstruction of the ureter at some former time by a renal calculus. In the preparation at present, the ureter is perfectly pervious. The accumulation of the colloïd substance, causing further dilatation of the organ, was presumed to have been a subsequent matter.

The preparation was taken from a woman more than 70 years of age, who for ten or twelve years before her death had had a tumour in the left side, which was supposed to be ovarian. She suffered little. Occasionally "nasty stuff" appeared in the urine, the tumour after such occurrences being reduced in size. She was eventually carried off by an attack of diarrhœa, to which she had been subject. All the other organs were natural. *Presented by* Dr. CECIL HASTINGS. This case is reported in the *Path. Soc. Trans.*, Vol. XIII. p. 137.

42. Hydatids from the kidney. The patient had been in the habit of passing hydatids for some thirty years. She always suffered excruciating pain in both loins, but more especially in the left, at the time of passing the bags. The urine was at times deeply tinged with blood. After each attack she felt very well.

43. Hydatids from the kidney.

44. Kidney, in the pelvis of which is imbedded a large irregular shaped calculus.

45. Section of a kidney in which the commencement of the ureter has been obstructed by a large calculus impacted in it. The calices have in consequences become greatly dilated and appear somewhat like large cysts. There were several other calculi lying in the dilated cavities, but of smaller size, some were facetted as if by mutual attrition; there was

also a good deal of calcareous sand, which dissolved freely in muriatic acid. Both kidneys were remarkably lobulated, they were large, their surfaces smooth, but presenting numerous "venæ stellatæ," and their capsules rather unusually adherent. There was no disease of the secreting tubuli as far as the microscope could discover, only some of the medullary tubes were full of oily granular epithelium, some few containing biliary molecules. No minute cysts could be discovered. The left kidney contained no calculi. The calculi were examined by Dr. Bence Jones, who states that they consisted principally of oxalate and phosphate of lime, with a thin incrustation of carbonate.

46. Section of a kidney, in the structure of which are imbedded several large calculi. The cortical and tubular portions of the organs are almost entirely destroyed.

47. Kidney, in the structure of which are embedded several calculi. The cortical and tubular portions have been completely absorbed, nothing of the organ remaining excepting the thickened external capsule, and the projecting fibrous septa, which form a number of large sacculated cavities communicating with each other. The size of the organ is considerably larger than natural.

48. Section of a kidney. On the outer surface of the pelvis may be seen a thick layer of white deposit composed of the phosphate of lime.

49. Section of a kidney, in the pelvis and infundibula of which calculi were found. From J. C., aged 41, who had stricture of the urethra and fistula in perinæo. The calculi themselves, and the strictured urethra, are preserved in subsequent Series. *Presented by* CÆSAR HAWKINS, Esq.

50. Two kidneys with the orifices of the ureters obstructed by calculi. Each ureter is occupied at its mouth by a wedge-shaped calculus of considerable size. The two are much alike; they are not impacted, but lie in the funnel-shaped orifices, which they are polished to fit, so as to close them accurately, but to be removed easily.

The preparation was taken from the body of a man 49 years of age, who died in the Hospital, having for twelve days had incomplete suppression of urine. For details, see *Path. Soc. Trans.*, Vol. XIV., p. 192.; also *Post Mortem and Case Book.* 1862. p. 316.

51. Horse-shoe kidney, resulting from fusion of the two kidneys across the vertebral column during the progress of their development.

52. Another preparation of a horse-shoe kidney, to show the direction of the convexity (pointing downwards), the double set of vessels, and the natural structure of the renal tissue.

From the body of Jeremiah T. *Post Mortem and Case Book.* 1860. p. 273.

53. Kidney taken from a patient who laboured under stricture of the urethra. The ureter and pelvis are much dilated.

54. Opposite kidney from the same patient as the preceding. The ureter and pelvis have been laid open and the calices are seen much dilated. The tubular and cortical portions of the organ have been absorbed to a slight extent.

55. Kidney from a patient who laboured under stricture of the urethra. The ureter and pelvis are very much dilated.

56. Dilatation of the ureter and pelvis with wasting of the substance of the kidney. The ureter is somewhat contracted in two places.

57. Considerable dilatation of the upper part of the ureter, and of the pelvis and infundibula. There is complete obliteration of the ureter throughout the greater part of its course, the obstructed canal here and there containing small calculi. The kidney itself is not very greatly enlarged, but its cortical portion is reduced to a very thin layer. No symptoms connected with this disease were known to have existed during life. From the same patient as Series VIII., No. 23. *Presented by* CÆSAR HAWKINS, Esq.,

58. The right ureter, distended by a large calculus. The stone is of the size and shape of a large walnut. It occupies the lower part of the duct. Immediately above the stone, the canal has a baggy, dilated appearance, as if it had not yet recovered itself after the passage of the calculus. Higher up the tube has shrunk to its normal dimensions.

The preparation was taken from the body of a man 53 years of age, who died of chronic disease of the brain. It was not known what symptoms were produced by the calculus. *Post Mortem and Case Book.* 1862. p. 242.

59. Masses of lymph voided from the bladder by a gentleman, under the following circumstances. In 1825 he was seized with a complaint in his bladder, attended by frequent desire to make water and deposition of pus in the urine. The disease appeared at first confined to the neck of the bladder, and was supposed to be a case of fistulous abscess in this situation. The masses voided appear as though they had come from the ureter. *Presented by* SIR BENJAMIN BRODIE, Bart.

60. Tubercular disease of the kidney, ureter, and bladder. The kidney has been laid open so as to show the pelvis, which has been converted into an irregular suppurating cavity, of which the walls are of considerable thickness. No tubercle is found in the kidney. The ureter is distended, and completely obstructed, by a soft material, resembling crude tubercle.

This was adherent to the mucous membrane. A number of irregular projections, resembling crude tubercle, are adherent to the wall of the bladder, the greater part of which is thus covered.

The preparation was obtained from the body of James S., who died at the age of 39 years, of phthisis. When admitted, he complained of frequency of micturition, only a small quantity of water being passed at once, with pain. The urine was clear, and slightly albuminous. These symptoms had come on gradually during the six weeks preceding his death. *Post Mortem and Case Book*, 1863. p. 118.

61. Fibro-fatty tumour of the kidney. This is of great size; it weighed when fresh 6lbs. 7½ozs. When removed from the body it was nearly spherical, though somewhat lobulated on the surface. It has been cut open so as to shew the interior. The aorta and vena cava adhered closely to its posterior surface. It had grown at the expense of the right kidney, a small angular remnant of which, including about a quarter of the organ, was connected to its upper boundary. This small piece of the kidney had its proper proportion of cortex, cones, and pelvis, but no remains of the ureter could be discovered. The capsule had its natural relation to what remained of the kidney, and was thence reflected over the rest of the tumour. On section, it was found that the mass consisted of a network of fibrous tissue, in the meshes of which was a vast accumulation of oil-globules; then came many thick septa of fibrous tissue, which divided the tumour into large lobes, which were again sub-divided by slender partitions. The enclosed material was yellow, opaque, and granular. It was mostly soft; in some places broken down into loose shreds. It resembled crude tubercle more than anything else to the naked eye; but under the microscope it was seen to consist entirely of oil-globules. The other kidney was healthy, excepting that one or two small specks were seen in its cortex, which looked like very small tubercles, but which, under the microscope, showed exactly the same combination of oil-globules and fibrous tissue which pertained to the large tumour.

The specimen was obtained from the body of a porter, aged 55, who died in the Hospital April 3rd, 1863. Six months before his death, he noticed an enlargement of the belly, and in a few weeks afterwards his legs and scrotum became œdematous, and he had to give up his work in consequence. He was admitted December 10th, 1862. He then had a large hard mass in the right side of the abdomen, which could not be separated from the liver. His general health was not impaired. He shortly afterwards began to have vomiting, and for some time this was his chief complaint. While under

treatment, the dropsy abated; but the size of the swelling gradually increased. It came to occupy the whole of the right hypochondriac region, and finally reached as low as the umbilicus. Towards the close of his illness he suffered from dyspnœa, and there was evidence of fluid in both pleuræ.

At the *Post Mortem Examination* the lungs were found œdematous and at the apex of one was a mass of fibroïd matter, which looked like the cicatrix of a vomica. There was nothing else worthy of notice beyond the abdominal tumour. See *Post Mortem and Case Book*, 1863, p. 90; also *Path. Soc. Trans.*, Vol. XIV. p. 187. A drawing of the tumour in a fresh state is in the Museum.

END OF SERIES XI.

SERIES XII.

INJURIES AND DISEASES OF THE BLADDER, URETHRA,* AND PROSTATE GLAND.

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* The statements in the original description have been retained, after examination by the late Mr. Gray. Many of these strictures are, however, believed by Mr. H. Thompson to be situated in the bulbous portion.

1. Extensive rupture at the apex of the bladder, in connection with fracture of the pelvis; from a patient aged 35, who lived two days after the accident. On the admission of the patient into the Hospital, a catheter was passed into the bladder, and a large quantity of bloody urine drawn off. He was then in a state of collapse, from which he never rallied, but a fair quantity of urine continued to be secreted. At the Post Mortem Examination about an ounce of turbid fluid was found in the cavity of the peritoneum, between the bladder and rectum: but no lymph was found either in the neighbourhood of the rupture of the bladder, or in any part of the peritoneum. *Post Mortem and Case Book*, 1844. p. 173. The fractured pelvis is preserved as Series I. No. 118.
2. Rupture of the fore-part of the bladder, immediately behind the pubes, caused by a man jumping on the abdomen of the patient when he was on the ground. The patient, aged 50, was admitted into the Hospital the day after the injury, with an anxious countenance, and great pain and tension over the lower part of the abdomen, accompanied by retention of urine. A catheter was passed, and a pint of bloody urine drawn off. The patient appeared to be going on pretty favourably for a few days, at the end of which time three distinct tumours, presenting evident but deep-seated fluctuation, made their appearance. One of these tumours was in the mesial line, and the other two in the iliac regions. On the twelfth day after his admission a free incision was made into the lower part of the left iliac region, and about three pints of fœtid pus let out. This was followed by a marked amendment, which, however lasted but a few days. The wound put on an unhealthy appearance; and the urine, which hitherto had always passed through the urethra, now flowed freely through the wound in the left iliac region. The patient lived twenty-two days after the accident. At the Post Mortem examination the peritoneum was found extensively stripped off from the parts in the neighbourhood of the bladder, as well as from both iliac fossæ, and from the walls of the abdomen as high as the umbilicus. The cellular tissue in these various regions was in a sloughy state, and filled with large quantities of foul matter. The bladder presented in its fore-part a rupture of about an inch in length, the greater part of which was covered over by lymph and sloughing cellular tissue firmly attached to the margins of the laceration, so that, at first sight it had the appearance of one of the sacculi so often met with in connection with this organ. At the lower part of the rupture, however, this lymph was detached from its margins, leaving an opening through which the little finger was easily passed into the cavity of the bladder. The bladder itself was very much

contracted, and its mucous membrane (which was of a dark colour,) was in many parts covered with lymph containing a sandy deposit. In the preparation the section of the bladder has been carried towards the left side, in order to avoid the rupture and the lymph adhering to its margins, and a bougie has been passed from the opening leading into the bladder. *Post Mortem and Case Book*, 1846. p. 153.

3. Rupture of the lower part of the anterior wall of the bladder in two places, owing to the falling of between two and three hundred weight of iron upon the abdomen. The openings in the parietes of the bladder presented sloughy margins, and urine had been effused into the areolar tissue between the bladder and anterior wall of the pelvis, causing it to slough. The urine had also made way through both thyroïd foramina, and caused softening and sloughing of the adductor and obturator muscles. The accident was accompanied by partial separation of the pelvic bones at the symphysis, and fracture through their bodies and descending rami on both sides. There was also extravasation of blood into the peritoneal cavity and sub-peritoneal tissue. The patient from whom the preparation was taken, Charles R., aged 12, was brought into the Hospital on September 30th, 1849, and died on October 6th, in a delirious state, after suffering from much pain in the iliac fossæ and want of sleep. The urine contained blood. *Post Mortem and Case Book*, 1849. p. 209.
4. Wound of the bladder by a stab, inflicted by one man upon another. To the left side of the fundus there is a small rounded opening, and on the internal surface of the bladder, near the neck, there was another small cut, which did not perforate the bladder. The latter cannot be seen in this preparation, which has been dried. The large opening in the viscus was made in the Post Mortem examination. The stab also perforated the small intestine, which is preserved as Series IX., No. 109. *Post Mortem and Case Book*, 1852. p. 199.
5. Rupture of the bladder. A woman quarrelling with her husband was thrown down by him, and knelt upon with considerable force; she immediately became sensible of the injury, and died about twenty-four hours after in great agony. One rent extended into the cellular membrane around the bladder, and another through all the coats, allowing extravasation into the peritoneum. *Presented by* CÆSAR HAWKINS, Esq.
6. Perforation of the posterior wall of the bladder, produced by a catheter, used in order to relieve the symptoms of enlarged prostate. The perforation leads into the sub-peritoneal cellular tissue. The patient died of peritonitis. A bougie is passed from the urethra through the false passage. It is difficult to account for the formation of the latter. See the

remarks appended to the description of the post mortem appearances, in the *Post Mortem and Case Book*, 1858. p. 188.

7. A bladder, the walls of which are very much thickened and contracted. On the right side a large pouch is seen, which communicates with the bladder by an orifice through which a bristle is passed. A small pouch is also seen at the apex. *Presented by* SIR BENJAMIN BRODIE, Bart.

8. Two small sacculi, situated between the vesiculæ seminales behind the "trigone." They communicate with the bladder by small openings through which bristles are passed. *Presented by* SIR BENJAMIN BRODIE, Bart.

9. Large sacculus connected with the left side of the bladder. A smaller one exists to the right of the prostate gland, and a third is connected with the back part of the larger one. The vesiculæ seminales are displaced by the walls of the adventitious cavity. The distinction between the sacculus and the bladder is very evident, from the muscularity of the latter, and the perfectly smooth and polished appearance of the former. *Presented by* SIR BENJAMIN BRODIE, Bart.

10. Sacculi, communicating by means of large openings with the cavity of the bladder, and formed by dilatation of the mucous membrane between the fasciculi of the muscular coat of that organ. *Presented by* SIR BENJAMIN BRODIE, Bart.

11. A bladder and urethra laid open. Stricture appears to have existed in the membranous portion of the urethra, and a cyst of considerable size, communicating with the bladder by means of a large opening, is seen immediately behind the prostate gland. The ureter of one side appears to have emptied its contents into the cyst itself. *Presented by* SIR BENJAMIN BRODIE, Bart.

12. Dilatation and thickening of the bladder with two large sacculi, in the smaller of which was lodged a calculus of large size. Both these sacs communicate with the cavity of the bladder by means of small circumscribed openings. The interior of the bladder is strongly fasciculated, and its mucous membrane was covered with lymph of a dark livid colour. The lateral lobes of the prostate are somewhat enlarged, and there were several small calculi in the gland. A calculus was also found in the pelvis of the left kidney. The preparation was taken from a patient, aged 76, Philip M. *Post Mortem and Case Book*, 1844. p. 229.

13. Bladder in a state of acute inflammation. When taken from the body it was of a red colour, and on its surface is now seen a considerable deposition of lymph. *Presented by* SIR BENJAMIN BRODIE, Bart.

14. Chronic inflammation of the bladder and urethra, the result of stricture. The bladder is considerably thickened, and its inner coat inflamed, partly ulcerated, and sloughy. The

urethra behind the stricture is much dilated, and the lining membrane in a sloughy state. *Presented by* CÆSAR HAWKINS, Esq.

15. Bladder and urethra laid open, to show an abscess at the neck of the bladder, intersected by bridles. The mucous membrane of the bladder is much inflamed, and encrusted with a considerable quantity of lymph. The patient, 30 years of age, died in the Hospital February, 1825. *Presented by* SIR BENJAMIN BRODIE, Bart.

16. Bladder of a patient who died in the Hospital in 1835. He was admitted in consequence of his labouring under some affection of the bladder, with calculus, but no operation for its removal was performed, on account of his general health, and the diseased state of the bladder itself. He died soon after admission; and on examination it was found that a number of abscesses existed in the cellular membrane surrounding the bladder. There was also a cyst in the prostate gland, which contained a number of calculi composed of the phosphate of lime. *Presented by* SIR BENJAMIN BRODIE, Bart.

17. Bladder and urethra to show the entire sloughing of the mucous membrane of the former, and its separation *en masse* from the walls of the bladder, except near the commencement of the urethra, where some loose shreds were still adhering to the lower part of the bladder. The patient from whom this preparation was taken was admitted into the Hospital suffering from retention of urine, which was relieved by a small gum catheter. An abscess was felt in the perinæum, which was opened shortly afterwards, and allowed the escape of urine mixed with pus. He complained of severe sense of scalding in the penis, with great irritability of the bladder, and frequent desire to pass water. Almost all the urine passed through the perinæum. There did not appear to be any obstruction to the instruments that were passed for him, though he stated he had suffered from stricture 13 years ago, and had had repeated attacks of gonnorrhœa. He died about a month after his admission. The kidneys were much inflamed, and absorbed from pressure; the ureters dilated. An abscess had formed at the upper part of the bladder, communicating with its interior through an opening in its walls. The bladder may be seen contracted, and its walls thickened; it contained a small quantity of foul purulent urine, and the mass of sloughy mucous membrane nearly filled its cavity. The sloughy membrane could be replaced so as to cover the whole of the interior of the bladder; in some parts it was deficient, large apertures being left in it, in other parts it is shreddy; but the whole of the lining membrane is contained in the loose sloughy mass seen in the bladder. The interior of the mass is coated with phosphates.

18. Scrofulous disease of the bladder and adjoining portion of the urethra. From Peter H., aged 53, a patient who was admitted into the Hospital on November 16th, 1842. The left kidney, which was affected with scrofulous disease, is preserved as Series XI., No. 30, where the history of the case is given. See also *Post Mortem and Case Book*, 1842. p. 104.

19. Fungus hæmatodes of the bladder.

This preparation was taken from John V., who was admitted into the Hospital in August, 1833. On admission, he was complaining of great pain in making water, especially at the extremity of the penis, with frequent desire to empty the bladder; and was passing bloody urine, loaded with flakes of matter which evidently proceeded from the ulcerated fungus seen within the bladder. He died about three weeks after admission; and on examination, the fungoïd tumour of the bladder was seen nearly filling the whole of the cavity.

20. Malignant tumour of the neck of the bladder. The bladder has been laid open from behind, and shows a malignant growth of a lobulated form surrounding the urethral orifice and inner surface of the neck of the bladder. When recent, the surface of this tumour presented a deep red colour.

21. Malignant disease of the bladder. The whole of the inner surface of the bladder is studded with a large number of projecting masses of the new deposit. Many of them are in a state of ulceration.

22. Malignant disease of the bladder. Mr. E., aged 65, having previously enjoyed good health, applied to Sir BENJAMIN BRODIE in the middle of October, 1836, complaining of the following symptoms. He had desire to make water more frequently than natural, with slight pain in voiding it; and after voiding it, suffered pain at the neck of the bladder, and also in the urethra as far forward as the glans penis. The urine was also tinged with blood. Soon after the appearance of these symptoms the bladder was examined by means of a gum catheter and metallic sound. This examination was repeated four or five times,—no stone was detected, and the patient emptied his bladder freely. Once or twice it appeared as though the catheter came in contact with some foreign substance, but this did not give to the instrument the sensation of touching a stone. Opiate clysters, and other remedies were administered, but no advantage was derived from their employment. The symptoms increased, the desire to make water became more frequent, and the pain more severe. The urine was always more or less tinged with blood, having coagula floating in it, and with an offensive smell, as though mixed with slough. No medicines, except opium, afforded any relief. About the beginning of March a tumour appeared in the left

groin. He made water ten times in the night; the pains in the lower part of the belly became very severe; and he died of exhaustion on the 20th of April, 1837. The disease, as shewn in the preparation, especially affects the posterior wall of the bladder. It had also spread to the parts in the neighbourhood. *Presented by* SIR BENJAMIN BRODIE, Bart.

23. Malignant disease of the bladder. Numerous excrescences are seen affecting the mucous surface of the bladder. The bladder is greatly dilated.

24. Malignant disease of the bladder. The disease is principally situated in a pouch or sacculus which has formed on the left side of the bladder. The disease had existed for many years, and at times occasioned hæmorrhage, but the source of the bleeding could never be detected.

25. Malignant disease of the kidney, projecting down the ureter into the bladder.

The patient, a gentleman of middle age, was under the care of Mr. H. C. JOHNSON, on account of an enormous tumour in the abdomen, which, on examination proved to be caused by encephaloïd disease of the left kidney. The tumour weighed 15½lbs., and had displaced all the viscera in its neighbourhood, but had not directly affected any of them. Secondary tubercles of malignant matter were however found in the liver and lungs. On making a section of the diseased mass, no trace of the renal substance could be found; but the upper end of the ureter was seen enlarging into the pelvis of the kidney. It was filled with coagulum, not at all closely adherent, and consisting apparently of blood-clot with malignant deposit entangled in it. The cells resembled those found in the principal tumour. This coagulum blocked up the whole of the ureter, and may be seen hanging into the bladder in the form of a cord projecting down into the cavity of that viscus, and coated with sabulous deposit, which also coated the mucous membrane of the bladder. A bristle has been passed down the opposite ureter, and the clot has been separated, outside the bladder, from the lining membrane of the left ureter. *Presented by* H. C. JOHNSON, Esq.

26. Malignant disease, nearly filling the cavity of the bladder. The patient, a man 69 years of age, was admitted into the Hospital on account of hæmaturia. For an account of the case, see *Post Mortem and Case Book*, 1854. p. 165.

27. Malignant disease of the fundus of the bladder, and of the lining membrane of the ureters. The deposit in the bladder will be observed to be in the form of separate rounded tubercles, which are almost limited to the fundus of the bladder and the orifices of the ureters. Separate tubercles will also be seen springing from the lining membrane of the ureters. The

latter were enormously dilated from the obstruction, though not quite impervious; and the kidneys also were absorbed to a great extent. Glands affected with malignant deposit are seen around the lower part of the ureters. The malignant deposit had not gone on to ulceration, but profuse bleeding (apparently by exhalation) had occurred, and was the prominent symptom referred to the urinary organs during life. Death was preceded by giddiness and obstinate vomiting; but whether these symptoms were in any degree connected with the condition of the kidneys, was doubtful, since there was recent deposit of soft cancer on the surface of the dura mater. *Post Mortem and Case Book*, 1858. p. 198.

28. A large thickened cyst found accidentally between the bladder and rectum, in a body brought into the Dissecting Room. It contained a large number of acephalo-cyst hydatids.

29. Specimen showing the presence of a large cyst containing large numbers of the acephalo-cyst hydatids, in the interspace between the bladder and rectum, and causing extreme pressure upon the ureters. When recent, the cyst appeared to be composed of thickened and indurated areolar tissue, and was lined by a thick, tough, perfectly white material, forming an inner cyst, easily separable from the outer one. This contained a large quantity of albuminous fluid, in which numbers of opalescent capsules floated, each full of fluid having the acephalo-cyst animalcules within. There was also at the bottom of the cyst a mass of yellow friable substance, evidently the result of the death and suppuration of some of the hydatids. This may be seen in the preparation. It will also be seen how much the ureters were interfered with by pressure. The bladder presented the appearance of a firm, round, solid tumour. There was extensive disease of the kidneys and peritonitis. For details, see *Path. Soc. Trans.*, Vol. III. p. 375.

30. A fasciculated bladder, having, in the interstices of the muscular coat a number of calculi composed of lithic acid, some of which appear to be partially adherent to the coats of the bladder. *Presented by* SIR BENJAMIN BRODIE, Bart.

31. Large calculus deposited in a pouch or cyst of the bladder. The patient appeared to be occasionally free from all symptoms of stone, in consequence of the calculus remaining undisturbed in the position seen in the preparation.

32. Chronic inflammation of the mucous membrane of the bladder, with hypertrophy of the muscular structure, which is strongly fasciculated. Extensive ulceration existed at the neck of the bladder, and at the apex is a small circumscribed pouch, apparently situated between the muscular and peritoneal coats. This pouch was filled with very foul matter, and no communi-

cation could be traced between its cavity and that of the bladder. A portion of the omentum was adherent to the serous membrane covering the pouch, which became ruptured when an attempt was made to detach it. The omentum itself was very much inflamed, and general peritonitis also existed. Some small calculi were found between the fasciculi, and two calculi of larger size were found in the cavity of the bladder.

The patient, a man aged 68, had been suffering for the last six years of his life from stone, but did not experience much inconvenience until within seven weeks of his admission into the Hospital. At that time, the bladder became very irritable, the urine alkaline, and containing ropy mucous. After he had been in the Hospital twelve days, symptoms of peritonitis made their appearance which carried him off in two days. The kidneys were in a state of chronic inflammation. *Post Mortem and Case Book*, 1844. p. 184.

33. This preparation was taken from a patient who laboured under stone in the bladder, and who underwent the operation of drilling and grinding the stone. The instruments were on one occasion introduced, and could not be withdrawn, and it was necessary to remove them from the perinæum by means of an operation, which Sir Benjamin Brodie was called in to perform. There appear to be some cicatrices about the neck of the bladder, and the opening made in the perinæum is seen in the situation of the bougie. Sufficient time had not elapsed for the closing of the wound, as the patient died six weeks after the accident.

34. A male bladder found after death to contain five fragments of a large calculus in a large pouch near its base. There were also some fragments in one of the small pouches which are seen protruding from the lower part of the bladder, at a point a little posterior to the entrance of the ureters, the one on the right side being the larger, and containing some small portions of calculus, composed chiefly of the triple phosphate and oxalate of lime. The muscular coat of the bladder is thickened and contracted, and its cavity contained about 1 oz. of pus mixed with urine. The mucous lining was greatly inflamed: it was thickened in some parts, and ulcerated in others, where the muscular layer was exposed. The mucous lining of the prostatic part of the urethra was vascular, but the prostate gland was healthy. The ureters infundibula and pelves of the kidneys were greatly inflamed, especially in the left kidney, and contained dark fœtid purulent fluid. The renal structure was in a state of degeneration. This preparation was taken from William N., who died in the Hospital on January 24th, 1849. He had suffered with symptoms of

stone in the bladder for eight years, and being in good health, the operation of lithotrity was had recourse to. The stone was ascertained by the lithotrite to be five-eighths of an inch in diameter, and was easily broken. After the operation the patient passed many fragments, and much debris at variable times. A fragment got impacted in the prostatic portion of the urethra, but was pushed back by the catheter. Irritation at the neck of the bladder followed upon this, and shortly afterwards pain in the hypogastrium and perinæum, with frequent desire to void urine, which became fœtid, and contained pus and blood. The irritation increased, and a low febrile condition set in, with erysipelas of the face, and he died exhausted. *Post Mortem and Case Book*, 1849. p. 22.

35. Hypertrophy of the prostate gland, the middle lobe of which projects into the cavity of the bladder. The bladder is thickened and fasciculated, and its mucous membrane was in a state of chronic inflammation. In the bladder was a stone, for which the patient, an elderly person, underwent the operation of lithotrity. The first operation passed off well, but at the second, which was seven days after the first, he had a severe rigor, from which he never rallied, and died ten days afterwards. Some fragments of calculus, now at the bottom of the bottle, were found in the bladder, which had not been in the least injured by the operation. The kidneys were inflamed, large and soft in texture, the pelvis of the right being covered with lymph, and containing a quantity of puriform fluid. On the external surface of this kidney were some small cysts containing pus. The kidney is preserved as Series XI. No. 11.

36. Bladder from a patient who died shortly after the operation of lithotomy. This preparation shows the direction of the incision made in the lateral operation. *Presented by* SIR BENJAMIN BRODIE, Bart.

37. Bladder and rectum from a boy aged 11, who had been operated upon for stone. On the left side, between the bladder and rectum, is a cavity which contained foul matter, and the whole of the cellular tissue surrounding the rectum is very much thickened by effusion of lymph into its structure. The thickening of the cellular tissue ceased at the sigmoïd flexure of the colon. No catheter was in this case introduced into the wound and bladder, and the external incision had within the first twelve hours partially united by the first intention, so that a portion of the urine was passed by the natural passage. The adhesions were broken down, and a catheter passed into the bladder through the wound, but the patient died within three days after the operation, of general peritonitis of a low character. *Post Mortem and Case Book*, 1844. p. 285.

38. A preparation showing puncture of the bladder from the rectum, in a case where there was great enlargement of the prostate. The patient, a man aged 78, was admitted with retention of urine, and a false passage had been produced in the efforts which had been made to relieve him. It was found impossible to pass an instrument per urethram, on account of this false passage, and it was accordingly determined to puncture the bladder from the rectum. This was done without difficulty. The canula slipped out of the wound on the sixth day, and could not be replaced. As retention of urine continued, a fresh puncture was made. He sank from the combined effects of old age and disease of the kidneys. Bougies have been passed into the false passage, and into the two punctures. The preparation shows that even in a case of considerable enlargement of the prostate, the bladder may be punctured a good distance behind it. *Post Mortem and Case Book*, 1859. p. 21.

39. A preparation showing puncture of the bladder from the rectum, in a case of obstinate stricture of the urethra. The stricture was situated in the spongy portion of the urethra, and is seen to be so narrow that only a bristle can be passed through it. A bougie passed from the rectum to the bladder marks the track of the trocar. This track was found after death to be nearly an inch long. The puncture had given rise to emphysema in the scrotum, which extended upwards as high as the axillæ. No air passed into the cellular tissue of the thighs. *Post Mortem and Case Book*, 1855. p. 144.

40. A bladder displaying several large sacculi, and a large wound, the result of the operation of lithotomy. One of the sacculi was about half as large as the bladder itself.

The preparation was taken from a Hospital patient, 43 years of age. He had for many years passed sand with the water. He had latterly been unable to retain his urine. A stone was detected, and the operation of lithotomy was performed, the incision being made in the median line of the perinæum. A stone of great size was found fixed near the neck of the bladder. As it could not be got out entire, it was broken up in its position with strong forceps, and finally extracted. The fragments of stone weighed 31 drachms 16 grs. He gradually sunk, and died on the third day after the operation. The fragments of the stone are among the specimens of calculus. For further particulars, see *Path. Soc. Trans.*, Vol. XIII. p. 134, also *Post Mortem and Case Book*, 1861. p. 309.

41. A preparation showing the results of perineal section. The bladder and urethra are preserved, with a portion of the rectum, so as to show the relations of the parts. The super-

ficial parts embracing the anus and the external wound are also in connection with the bladder. The bladder is hypertrophied. The membranous part of the urethra is penetrated by a wound about an inch in length, which is in connection with the external opening. The sides of this incision are smooth, and are lined with a sort of mucous membrane. The urethra is extremely contracted and puckered, especially in the spongy part, where an ordinary probe could scarcely be passed down it. There is here, however, a false passage, which penetrates the greater part of the cavernous body, and had evidently been the main channel for the urine.

The parts were taken from a man 59 years of age, who was admitted with an impenetrable stricture, and a perineal fistula. The operation of perineal section was performed, but the wound went on badly, and he died within three weeks, with small abscesses in the neighbourhood of the incision. A small bougie is to be seen in the natural fistulous opening. *Post Mortem and Case Book*, 1862. p. 95.

42. Specimen showing an opening between the rectum and bladder. A bougie is passed through the opening. *Presented by* Sir Benjamin Brodie, Bart.

43. A specimen showing a communication between the bladder and rectum, the result of ulceration of the bladder after fractured spine. The bladder will be seen to be ulcerated in numerous places, and one large hole leads into a ragged cavity between the rectum and bladder, from which there is an opening into the gut large enough to admit the finger.

The fracture was at the lowest part of the dorsal region. The patient, a man aged 43, survived the accident more than eleven weeks. The catheter was regularly used. The fistula appears to have been formed a few days before death. *Post Mortem and Case Book*, 1860. p. 33.

44. A female bladder, at the neck of which there is a fistulous opening, which communicates with the vagina. *Presented by* Sir Benjamin Brodie, Bart.

45. The vagina and bladder from a woman who had been twice operated on for vesico-vaginal fistula, and who died about three weeks after the second operation, from disease of the kidneys, one of which contained numerous calculi.

The preparation was taken from the body of Eliza M., aged 36. The cleft at her first admission was of very large size. The first operation was performed on August 12th, 1858, the edges of the cleft being brought together longitudinally. It was partially successful, but a good portion of the mucous membrane of the bladder still protruded. In the preparation, the effects of this operation are visible in a longitudinal cicatrix, about an inch in length, in the vagina. In the second opera-

tion, performed on January 13th, 1859, the parts were brought together transversely; and an irregularly transverse line of union from this operation may be traced. The remains of three silver sutures will also be seen in the vagina. They had remained in from the time of the operation without producing any irritation. The case is more fully related in the *Path. Soc. Trans.*, Vol. X., p. 202.

46. Rupture of the urethra, in front of the membranous portion, from injury. No obstruction existed to the flow of urine. The rupture was followed by death. The opening is filled up by a bougie. *Presented by* SIR BENJAMIN BRODIE, Bart.

47. Stricture of the membranous part of the urethra, which resulted from a wound in the perinæum, the cicatrix in the urethra forming the stricture. The patient died of some disease unconnected with that in the urethra. *Presented by* SIR BENJAMIN BRODIE, Bart.

48. The urethra laid open, and showing two strictures, one in the spongy portion, about three inches from the meatus, and the other (slighter) in or near the bulbous part. The patient was supposed to labour under intermittent fever, which the symptoms seemed to indicate. No other morbid appearances were observed. The patient was only a few days in the Hospital, and did not give a very satisfactory account of his complaints. *Presented by* SIR BENJAMIN BRODIE, Bart.

49. Stricture of the urethra, about three inches from the external orifice. A transverse bridle is seen crossing the direction of the canal, under which a bristle is placed. *Presented by* SIR BENJAMIN BRODIE, Bart.

50. Stricture of the urethra about two inches from the meatus. The canal presents a roughened appearance behind the seat of obstruction. *Presented by* SIR BENJAMIN BRODIE, Bart.

51. Stricture about the centre of the spongy portion of the urethra; contraction also at the membranous part, with dilatation of the prostatic portion. *Presented by* SIR BENJAMIN BRODIE, Bart.

52. The female bladder and urethra laid open, to exhibit the urethra much contracted at its orifice. The patient was admitted into the Hospital labouring under great difficulty in making water, which symptom had been gradually increasing for some years. She died of an attack of inflammation of the pleuræ.

53. Stricture of the membranous portion of the urethra, with considerable dilatation of the bladder. *Presented by* SIR BENJAMIN BRODIE, Bart.

54. Stricture of the urethra, about an inch from the orifice, and another at the membranous portion. The canal behind the contracted part is much dilated, and at one part projects in the form of a small pouch. *Presented by* CÆSAR HAWKINS, Esq.

55. Stricture with dilatation of the urethra. The patient, Thomas B., aged 45, was admitted September 9, 1840, with stricture of the urethra, the result of a cicatrix at the orifice. Urinary abscess followed, and inflammation of the chest, of which he died November 22nd. The stricture is situated about an inch within the urethra, which is very much dilated almost as far as the bladder. The opening through which urine escaped during life is about half an inch behind the stricture, and there is another sinus in the corpus spongiosum, half an inch long, without an external opening. The kidneys were vascular, and a little granular. The bladder was large. The brain was healthy, but watery; the liver enlarged and granular; the spleen twice its natural size. There was much serous fluid in the right pleura, and a smaller quantity in the left; the lungs were gorged with blood and serum; the cavity of the pericardium was completely obliterated by adhesions of old date. *Presented by* CÆSAR HAWKINS, Esq.

56. Stricture with dilatation of the urethra. The bladder is considerably thickened, and the urethra much dilated behind the stricture, and in the prostatic portion is a curious membranous band extending across the cavity; a false passage has been made by instruments. *Presented by* CÆSAR HAWKINS, Esq.

57. Stricture of the urethra. Its situation is marked by a black bristle. Anterior to the stricture there is a false passage; posterior to the stricture the cavity of the urethra is dilated into a pouch. The interior of this pouch is fasiculated and very irregular. The bladder is dilated; its interior presents in some parts numerous and strong fasciculi. The ureters are somewhat dilated.

58. Stricture at the anterior part of the membranous portion of the urethra. The prostatic portion of the canal behind is much dilated, and the orifices of the prostatic ducts enlarged. The bladder is thickened, and the prostate gland larger than natural. *Presented by* SIR BENJAMIN BRODIE, Bart.

59. Stricture of the urethra. The stricture is situated at the membranous part, behind which the urethra was dilated and inflamed, and the bladder thickened and inflamed. The ureters were both much dilated, and that retained in the preparation much inflamed and thickened, and contracted at one or two points, so as almost to amount to a stricture which interfered with the passage of a probe. The pelvis and infundibula of the kidney were much dilated, and encrusted with sand, and the kidney was much inflamed, and had several small abscesses in its structure. The other kidney was in nearly the same state. *Presented by* CÆSAR HAWKINS, Esq.

60. Specimen of stricture of the orifice of the urethra, followed by extensive ulceration, with destruction of the greater portion

of the mucous membrane of the canal behind, and enormous hypertrophy of the muscular coat of the bladder. The stricture was supposed to have followed a sore on the penis about two and a-half years previous to death.

The patient was admitted into the Hospital July 28, 1847, very much out of health, with his urine dribbling away, alkaline and loaded with mucus and pus. He died about a month after admission. The kidneys were found much diseased and absorbed; and several abscesses were also found in the perinæum communicating with the urethra. *Post Mortem and Case Book*, 1847. p. 182.

61. The urethra and bladder taken from a patient labouring under gonorrhœa. Phimosis exists, and some ulceration of the mucous membrane is seen at the membranous portion of the urethra. *Presented by* SIR BENJAMIN BRODIE, Bart.

62. Stricture with effusion of urine. The bladder is thickened and so contracted that it could not retain above two ounces of urine. There are numerous false passages, several of which had recently been made in passing instruments for retention of urine, others, at former periods, communicating with abscesses in the prostate gland. Effusion of urine had taken place into the body of the penis, as well as into the surrounding parts. The patient died of the consequences of this effusion. *Presented by* CÆSAR HAWKINS, Esq.

63. Rupture of the urethra at the membranous portion, dilatation of the bladder, and hypertrophy of its muscular coat. This preparation was taken from a patient who was admitted into the Hospital April 5th, 1849, having suffered from stricture for ten months previously. On the first of April, he had an attack of retention: a catheter was with difficulty introduced, and the water drawn off. On the 5th, he had another attack of retention, which lasted forty-eight hours, and on his admission the urethra had burst and extensive extravasation had taken place into the scrotum, penis, and lower part of the abdomen. He was much prostrated on his admission, but recovered somewhat under the administration of stimulants and tonics: erysipelas, however, came on, and he died on the 18th. The local treatment in this case consisted in introducing a catheter into the bladder, retaining it there, and making extensive incisions wherever urine was infiltrated. The mucous membrane and sub-mucous areolar tissue at the front of the membranous portion of the urethra is seen to be thickened, so as to contract the canal in this situation. About the centre of the floor of the membranous portion of the canal is seen a sloughy aperture, through which a bougie is passed. This aperture led into a sloughy cavity in the perinæum, about the size of a walnut. The canal behind the stricture is dilated. The ureters and

pelves of both kidneys were very much dilated. *Post Mortem and Case Book*, 1849. p. 79.

64. Stricture at the anterior part of the urethra, about two inches from the orifice. There is also a small abscess in the prostatic portion of the urethra, through which urine escaped by means of an opening in the perinæum. The whole course of the urethra is considerably distorted. A small bougie only could be passed for a long time before the death of the patient. He had been a patient at the Lock Hospital for many years. *Presented by* SIR BENJAMIN BRODIE, Bart.

65. Stricture of the membranous portion of the urethra with fistula in perinæo. The urethra is seen dilated behind the stricture, and a bristle is inserted in the opening which communicates with the dilated portion of the urethra behind the stricture at the one end, and at the other with the perinæum. *Presented by* SIR BENJAMIN BRODIE, Bart.

66. The bladder and a portion of the urethra laid open. The coats of the bladder are very much thickened, to the extent even of half an inch. The mucous membrane was encrusted with much lymph, and of a dark red colour, and the muscular fibres so much increased in size as to present the fasciculated appearance seen in the preparation. The urethra is very irregular and ragged in the membranous portion. A small orifice is there seen through which the urine escaped into a large cyst in the perinæum, which was covered by a slough. The urethra between this orifice and the bladder is in a state of ulceration.

The patient had laboured under stricture for many years, and much difficulty had been experienced previous to death in passing the catheter. *Presented by* SIR BENJAMIN BRODIE, Bart.

67. The bladder and part of the urethra. The bladder is fasciculated, and the urethra dilated, bristles are inserted in some openings immediately behind a contraction of the canal, indicating the commencement of urinary fistulæ. *Presented by* SIR BENJAMIN BRODIE, Bart.

68. The bladder and urethra laid open to show the effects of stricture of the membranous portion of the canal. An abscess is seen on the right side of the passage, through which a bristle is passed ; it is seen to communicate with the perinæum by a very small opening. Other abscesses are seen in the prostate gland and parts about the neck of the bladder. The vesiculæ seminales consist of a solid structure of a yellow colour. *Presented by* SIR BENJAMIN BRODIE, Bart.

69. Stricture with fistulæ in perinæo. The patient, John C., aged 41, was admitted May 9th, 1832, with a stricture at the membranous part of the urethra, through which no instrument could be

passed, the greater part of the urine passing through a fistula just behind the scrotum, or through another in the scrotum itself. The urine was much loaded with mucus, alkaline, and occasionally bloody. June 16. The urine has gradually become clear and acid. Health improved. July 12. There has been a severe rigor with much blood, which he continued to pass with great difficulty with the urine through the fistulæ. After this he began to suffer much from sickness, perspiration, pain in the back, diarrhœa, then he became half maniacal, and nearly in a state of stupor, and sank gradually till August 8. The bladder was found thickened and contracted, and containing a quantity of thick grumous fluid. There was a fistula anterior as well as posterior to the stricture. *Presented by* CÆSAR HAWKINS, Esq.

70. The bladder and urethra laid open. There is a total obstruction of the urethra for the extent of four inches. On introducing a probe into the meatus urinarius, it was found that the canal of the urethra was completely obliterated about two inches from the orifice, and this obliteration extended as far back as within an inch of the termination of the spongy portion. There was a fistulous orifice in the perinæum, on the left side, situated immediately behind the scrotum. This orifice admitted a large probe, and led into a long and somewhat tortuous canal which opened into the urethra at a level with the point of its obliteration. The urethra is very greatly dilated behind the internal orifice of the fistula, and the prostatic ducts much larger than natural. The bladder was contracted, and its muscular coat was much hypertrophied.

This preparation was taken from a patient aged 53, who was admitted into the Hospital with disease of the heart and kidneys, of which he died three months after his admission. During his residence in the Hospital, he never complained of any difficulty in passing his water, nor did he make any allusion to the existence of any disease in the urethra. From these circumstances no history of his case could be obtained. *Post Mortem and Case Book*, 1853. p. 42. *Path. Soc. Trans.*, Vol. IV., p. 206.

71. Large sloughing wound of the urethra destroying the upper wall of the membranous and part of the bulbous portion of that canal. This destruction of the urethra occurred in connection with an extensive fracture of the pelvis and separation of the bones of the pubes produced by a waggon passing over the pelvis of the patient (aged 25) who lived seven days after the accident. An opening was made (shortly after the patient's admission) in the perinæum, and a catheter passed into the bladder. The patient sank with typhoid symptoms. There was extensive diffuse inflammation of the cellular tissue in the

pelvis and perinæum. The mucous membrane of the bladder was inflamed and covered with shreds of recently effused lymph. *Post Mortem and Case Book*, 1844. p. 161.

For preparation of fractured pelvis, *see* Series I., No. 117.

72. Stricture at the membranous part of the urethra. A bougie is inserted into a false passage, which has been made in catheterization. *Presented by* Sir Benjamin Brodie, Bart.

73. Stricture at the membranous part of the urethra, with great irregularity of the canal, and thickening of the coats of the bladder. A false passage is seen which communicates with an abscess in the perinæum. *Presented by* Sir Benjamin Brodie, Bart.

74. Stricture of the urethra, with thickening of the coats of the bladder. Two false passages are seen in the membranous portion of the canal, one in front of the other, in which bougies are inserted. *Presented by* Sir Benjamin Brodie, Bart.

75. The bladder and urethra laid open to show the condition of the urinary canal. The patient from whom this preparation was taken was admitted into the Hospital in 1833. He gave the following account of his complaints. For many years he had suffered from difficulty in making water, and had on one or two occasions had complete retention. About a fortnight or three weeks before his admission retention recurred, and he applied to a surgeon in the country, who tried for many hours to introduce an instrument, but without effect. Great force was employed, and the instrument passed in various directions, but did not enter the bladder. The urine, however, came away in sufficient quantity to relieve the retention, and in that state he had remained until he came into the Hospital, the urine only passing in drops.

On admission he was suffering much from fever and dull pains about the perinæum, and in the region of the bladder. An instrument was introduced and the water drawn off, but the whole course of the urethra was excessively tender, and quantities of blood every now and then escaped. He fell into a low state of fever, followed by typhoid symptoms, of which he died.

On examination, the urethra, from the external orifice to the prostatic portion, was in a state of slough. Several false passages had been made by the instruments which were employed. The prostate had been perforated in several parts, and a small foul abscess existed in the cellular membrane on one side of the bladder. One of the false passages led into the base of the bladder immediately behind the "trigone."——The bougies point out the various situations in which false passages had been made. *Presented by* Sir Benjamin Brodie, Bart.

76. Stricture of the urethra. In this preparation the mucous membrane of the urethra has been dissected up from the neighbourhood of the diseased part by the introduction of an instrument. A bougie has been placed in the course of the false passage. *Presented by* SIR BENJAMIN BRODIE, Bart.

77. The urethra and bladder laid open. The urethra is generally contracted, and at its membranous part a stricture exists. In this situation a false passage has been made by the introduction of instruments. The bladder itself is considerably dilated and fasciculated, and in several places small pouches are seen in its walls. At the fundus of the bladder one of these cysts of large size is seen, the rupture of which caused effusion of urine into the cavity of the belly, and death. The opening is indicated by a piece of glass.

The patient from whom this preparation was taken was fifty-seven years of age, and had been an out-patient of St. Andrew's workhouse, where he continued to attend for two years. A catheter could be introduced, but this was seldom done, on account of his obstinacy in not attending to the directions which were given him with regard to his attendance. Great difficulty was at all times experienced in the introduction of an instrument from the tortuous direction of the canal. The bladder, however, always contained a large quantity of urine. *Presented by* SIR BENJAMIN BRODIE, Bart.

78. Bladder and posterior part of the urethra, from the body of a man who had for many years suffered from stricture of the urethra; and occasional attacks of retention of urine. In the posterior part of the urethra are several false passages, one of which leads into the rectum. In 1841, two years before the patient's death, he was admitted into the Hospital for stricture of the urethra, through which it was found impossible, after various attempts, to pass even the smallest bougie; at that time an opening existed in the perinæum through which the urine escaped. It was determined to cut down upon the stricture, which was situated in the membranous portion of the urethra. An incision was made through the perinæum into the stricture, and an elastic gum catheter was afterwards passed through the urethra into the bladder, where it was kept for some time. The patient was greatly relieved by the operation, bougies were subsequently passed from time to time into the bladder, but the opening in the perinæum never completely closed up. A piece of blue glass has been passed through this opening. The patient ultimately died of disease of the kidneys.

79. Stricture with dilatation of the urethra. Several false passages have been made by instruments.

80. A portion of the bladder, with the upper end of the urethra and the neighbouring part of the rectum, from a patient upon whom perinæal section had been performed. The bladder is dilated and hypertrophied. No trace exists on its walls of incision or puncture. The membranous part of the urethra is much roughened, and contains many false passages. Just to the left of the median line in this portion of the urethra is a deep hole, wide enough to admit a cedar pencil, and reaching as far as the outer coat of the rectum. Just opposite to this opening the mucous membrane of the bowel was noticed to be a little unnatural in texture, but quite smooth and continuous. The rectum was closely adherent to the bladder and upper part of the urethra. There is no trace in the urethra of any incision, such as must have been made in the operation of perinæal section.

The preparation was taken from the body of a man sixty years of age, who had suffered from stricture of the urethra for thirty-eight years. Two months before his death a puncture was made from the rectum, and a quantity of fœtid urine was withdrawn. Three weeks later the operation of perinæal section was performed ; after this he improved for a time, but eventually sunk and died. The kidneys were afterwards found in a state of suppuration. *Post Mortem and Case Book*, 1862. p. 103.

81. The bladder of a patient who died in the Hospital. He was unable to void his urine in a full stream, and the attempt to pass the catheter was at all times attended with exquisite pain in the rectum, and at the neck of the bladder. He had an attack of retention of urine, for which the bladder was punctured from the rectum. A calculus was found impacted in the urethra, and the portion of that canal immediately behind the obstruction was much dilated. *Presented by* SIR BENJAMIN BRODIE, Bart.

82. Bladder and urethra. The bladder is very much thickened and contracted ; in the posterior part of the urethra is an extensive incision made to let out two calculi, which were lodged and fixed in this situation. The patient, from whom this preparation was taken, was admitted into the Hospital with extensive effusion of urine, the consequence of ulceration of the urethra produced by the calculi, which were extracted. He died a few days after his admission.

83. Sloughing and ulceration of the posterior part of the urethra, caused by a fragment of calculus, which may still be seen at the anterior part of the membranous portion of the canal. The patient died of extensive effusion of urine in the scrotum perinæum, etc. Lithotrity had been performed three times, the symptoms made their appearance after the third crushing.

Several fragments of stone, among which were two distinct nuclei, were found in the bladder. The kidneys were diseased.

84. Bladder and urethra from a patient who had been operated on for stone, by lithotrity. The bladder is a good deal contracted, and contains some rough fragments of mulberry calculus, which remained in the bladder after the crushing of the stone. Two large fragments of the stone will also be seen lodged in the membranous portion of the urethra, where they had become impacted, and had produced considerable ulceration of the urethra. with abscess in the surrounding areolar tissue. Another ulcerated opening may be seen nearer the orifice of the urethra, which was made during life for the purpose of extracting a portion of stone lodged in this situation. The patient was attacked with inflammation of the veins in the neighbourhood of the prostate, and died with secondary abscesses in the lungs. This man (aged 38) had suffered from symptoms of stone from childhood. He was admitted into the Hospital on the 2nd of September, 1846. On the 18th of November, in the same year, the stone was crushed for the first time, and some pieces of it were extracted without difficulty. On the 30th of November he was again submitted to the operation of crushing ; on the 14th of December he was again operated upon, but a few days afterwards he was attacked with rigors, and died on the 7th of January, 1847.

85. Bladder and portion of urethra which was removed from an old man who had been several times subjected to the operation of lithotrity. Two fragments of calculus may be observed impacted in the membranous portion of the urethra; the prostate gland is much enlarged, the bladder contracted, and on the right and lower part of the bladder a pouch may be seen which was found filled with fragments of calculus at the post mortem examination. Several fragments were also found in the bladder. The mucous membrane of the bladder was much inflamed, and the urine contained much blood; both kidneys were inflamed with specks of lymph and pus in their cortical structure. *Post Mortem and Case Book*, 1848, p. 56.

86. The bladder and urethra, from a man who had undergone the operation of lithotrity. The patient, Thomas B., aged 62, had suffered from symptoms of stone in the bladder for two years. On May 13th, 1847, the stone was crushed several times. The operation was followed by slight rigor. The rigors returned on several days, the urine became alkaline, and he passed much blood from the bladder. He died May 24. In the post mortem examination there were found in the left lung spots of congestion, with specks of pus and lymph in their centres. The kidneys were inflamed and greatly congested. The mucous membrane of the bladder was inflamed, and that of the membranous portion

of the urethra sloughy, with ulcerated openings communicating with the surrounding areolar tissue. Several small pieces of the calculus were found in the membranous portion, and a large proportion of the calculus remained in the bladder, as will be seen in the preparation. The prostate was much enlarged. For further particulars see *Post Mortem and Case Book*, 1847, p. 117.

87. The bladder and urethra from a child (aged 3) showing a large calculus impacted in the neck of the bladder, and prostatic urethra. The history was that he had had symptoms of stone for eight months, and had had considerable difficulty in passing water for several weeks. He was admitted, therefore, with a view to the operation, but was attacked with scarlet fever three days after his admission, and died in a few days.

The stone is rough and soft on its surface, which is formed evidently of the phosphates. The posterior part of the urethra was lined with lymph and phosphatic deposit. The bladder is seen to be small and thickened. The right side of it is much larger than the left ; and projecting from its apex is a small elongated cyst, which communicates with the cavity of the bladder by a minute opening, through which a bristle is passed. This bears a considerable resemblance to a pervious portion of the urachus. The ureters are large and thickened. The pelves of the kidneys were found somewhat distended. *Post Mortem and Case Book* 1861. p. 133.

88. Tumour of a very hard consistence, formed mainly of dense fibrous tissue, connected with the inferior part of the urethra. Nothing was known of the existence of such a tumour during life.

89. Section of the prostate gland in a state of chronic enlargement. *Presented by* SIR BENJAMIN BRODIE, Bart.

90. Section of an enlarged prostate gland. *Presented by* SIR BENJAMIN BRODIE, Bart.

91. Enlargement of the prostate gland, more especially the right lobe, a small portion of which is seen to project into the bladder. At the under surface of the prostate an incision has been made to shew the extent of the enlargement. The bladder is large and fasciculated. *Presented by* SIR BENJAMIN BRODIE, Bart.

92. Enlargement of the prostate gland, a portion of which projects into the cavity of the bladder in the situation of the middle lobe. Its external appearance resembles the fibrous tumours found in this situation. The bladder is hypertrophied and much fasciculated. *Presented by* SIR BENJAMIN BRODIE, Bart.

93. A bladder laid open to show an enlargement of the prostate gland, projecting into the cavity of the bladder, and corresponding to the situation of the middle lobe. The bladder is fasci

culated. This preparation was taken from an old man in Saint James' workhouse. *Presented by* SIR BENJAMIN BRODIE, Bart.

94. A bladder laid open from its inferior part to expose the prostate gland, a portion of which forms an out-growth projecting from the cavity of the bladder. The bladder itself is much thickened, and at its fundus a cyst of considerable size is perceptible. *Presented by* SIR BENJAMIN BRODIE, Bart.

95. Stricture of the membranous portion of the urethra, enlargement of the lateral lobes of the prostate gland, with thickening and sacculated condition of the bladder, taken from a gentleman who died at the age of 85. He had been attended by Mr. Hunter for stricture of the urethra, and had been in the habit of passing bougies for some time. For three or four years before his death he suffered from symptoms of diseased prostate. These were in a great measure relieved by the constant use of the catheter, the urine containing at all times a ropy adhesive mucus, and being of an alkaline nature. He died of some disease unconnected with that seen in the preparation. *Presented by* SIR BENJAMIN BRODIE, Bart.

96. Considerable enlargement of the prostate gland with a thickened condition of the parietes of the bladder. *Presented by* SIR BENJAMIN BRODIE, Bart.

97. Enlargement of the prostate gland, with considerable thickening of the coats of the bladder, and ulceration of the mucous membrane, exposing the muscular fibres. The right lateral lobe and part corresponding to the situation of the middle lobe are the portions especially enlarged. *Presented by* SIR BENJAMIN BRODIE, Bart.

98. Enlargement in the situation of the third or middle lobe of the prostate gland, forming a remarkable tumour of a globular shape projecting into the cavity of the bladder at its neck. The bladder is thickened and fasciculated, a large sacculus communicating with it on each side. *Presented by* SIR BENJAMIN BRODIE, Bart.

99. Enlargement of the prostate gland, especially its left lobe. The bladder is thickened and much contracted. *Presented by* SIR BENJAMIN BRODIE, Bart.

100. Enlargement of the lateral and middle lobes of the prostate gland. The bladder is thickened and fasciculated, its cavity dilated, and a pouch or sacculus of the size of a hen's egg is connected with the fundus. Several calculi are seen imbedded in the small pouches formed by protrusion of the mucous membrane between the muscular fibres. *Presented by* SIR BENJAMIN BRODIE, Bart.

101. Very considerable enlargement of the prostate gland, together with numerous calculi contained in the cavity of the bladder. A large irregular cyst is seen at the fundus which extends into the cellular membrane in the neighbourhood, and in which

two calculi are lodged. *Presented by* SIR BENJAMIN BRODIE, Bart.

102. Hypertrophy of the prostate gland with chronic inflammation of the bladder. At the back part of the spongy portion of the urethra, is an opening made for the extraction of a stone. This preparation was taken from a patient (Captain B.,) who died in March 1834. He had suffered for some years from disease of the urinary organs, and had had a stone drawn into the perinæum by a pair of forceps, and then cut down on, and extracted. His urine had been very offensive, albuminous, bloody, and containing, every now and then, particles of matter like lymph. He had a severe cough for two or three days before he died. The kidneys were both diseased. The right had several abscesses in its structure, the pelvis and infundibula being dilated and containing calcareous matter. The left had the pelvis and infundibula dilated and contained purulent matter, but no abscess in its glandular structure. The bladder was thickened, its mucous coat dark coloured and covered with lymph. The lateral lobes of the prostate were each of the size of a pigeon's egg, and the middle lobe projected into the bladder, but was not more than half the size of the lateral lobes. Between the three lobes a fossa was formed which must have afforded a considerable impediment to the exit of urine from the bladder.

Five calculi of various sizes were found in the bladder, of a peculiarly soft and spongy character, the whole consisting of triple phosphate. There was no stricture of the urethra. An opening existed where a calculus had been extracted. This aperture can be seen in the preparation.

At the back part of the left lung, on the inferior lobe, a large emphysematous cyst was seen. The lung was congested and there were slight traces of recent lymph and inflammation of the pleura.

103. Enlargement of the prostate gland with thickening and well-marked contraction of the bladder.

104. Hypertrophy of the lateral lobes of the prostate, the right lobe of which is ulcerated and covered with lymph, containing calcareous matter. There is also a small soft calculus in the bladder. The bladder is hypertrophied and its muscular fibres strongly fasciculated, its mucous membrane is thickened, and when examined was of a dark livid colour, and covered in many places with patches of lymph. Similar appearances were also observed about the ureters and pelves of the kidneys. These organs were in a state of chronic inflammation. A false passage by which a portion of the mucous membrane at the upper part of the urethra had been ripped up, exists at the commencement of the prostatic portion of the urethra. From a man, aged 52, who had been suffering from disease of the bladder and

kidneys for some time previous to his death. A few days before his death he passed from the urethra a large quantity of almost pure blood, which reduced him very much. The hæmorrhage recurred at various times, in a greater or less quantity, until his death. *Post Mortem and Case Book*, 1845. p. 111.

105. Enlargement of the prostate gland which is uniform. A pouch is connected with the upper part of the bladder. It consists of the mucous and outer coats, and communicates by a small opening through the muscular coat with the cavity of the bladder. *Presented by* CÆSAR H. HAWKINS, Esq.

106. Enlargement of the prostate gland. The portion enlarged corresponds to that part of the gland usually described as the middle lobe: its surface is uneven and lobulated. It projects into the cavity of the bladder. The patient died a few days after the high operation for lithotomy. *Presented by* CÆSAR H. HAWKINS, Esq.

107. Bladder and portion of the urethra taken from a patient who had laboured for a considerable time under enlargement of the prostate gland and stricture. In an attempt to pass an instrument the false passage was made which is indicated by the bougie. The natural passage had been made permeable to a slight degree, when the patient was seized with an attack of apoplexy with paralysis, of which he died. *Presented by* SIR BENJAMIN BRODIE, Bart.

108. The bladder of a patient who died in the Hospital in 1827, in consequence of an enlargement of the prostate gland. The two lateral lobes are seen to be enormously enlarged, the middle lobe, also enlarged, projects into the cavity of the bladder near its neck; two false passages indicated by bougies are seen to traverse this lobe. The patient had laboured under this disease for many years, and had constantly used a bougie or catheter, which of late caused great irritation. He was admitted into the Hospital, and died three days afterwards. *Presented by* SIR BENJAMIN BRODIE, Bart.

109. Great enlargement and ulceration of the surface of the prostrate gland. Retention of urine was caused by the obstruction offered by the prostate, and a catheter was forcibly thrust through the structure of the prostate, for the purpose of emptying the bladder. A bougie is inserted in the artificial passage. *Presented by* SIR BENJAMIN BRODIE, Bart.

110. Enlargement of the three lobes of the prostate gland. Through the middle one is a false passage indicated by a bougie. In the urethra there are also two false passages. The bladder is dilated and fasciculated.

111. Abscess of the prostate gland. The patient Henry C., aged 35, when in the Hospital in the early part of April, 1832, for

diseased testis, began to complain of pain and scalding, and some difficulty in passing his urine. The urine was acid for a few days, though mixed with a little mucus, then the mucus increased and the urine became ammoniacal and albuminous, of a pinkish colour, and effervesced on the addition of an acid. The urethra being obstructed with mucus, the catheter was required, which met with difficulty at the neck of the bladder. He got a little better; but on May 12, was seized suddenly with partial coma and nearly complete immobility, though he followed persons' movements with his eyes. On May 14, there was much pain and straining in passing his water, which, as as well as his fæces, he passed unconsciously in bed. He seemed to experience pain above the pubes when pressure was made. The catheter was obstructed in a large cavity in the situation of the prostate gland, and passed thence with some difficulty into the bladder, which seldom contained any urine, and the urine, whether in the bladder or in this cavity, was unmixed with pus or blood. The enlargement of the prostate was felt from the rectum, and produced much pain on examination. He died on May 16. There was a large ulcerated cavity in the prostate gland, capable of containing about ℥ij, nearly filled with a half solid mass composed of adhesive mucus and triple phosphates. The cavity communicated freely with the bladder and urethra, the latter being equally dilated in all directions to form this cavity. The bladder was thickened, but not much inflamed internally; around it in the cellular texture was a good deal of serum, and between the bladder and rectum the cellular membrane was almost black, but without any pus. *Presented by* CÆSAR HAWKINS, Esq.

112. A small tumour occupying the situation of a hypertrophied "third lobe" of the prostate gland. The tumour consisted of cæcal pouches, filled with epithelium, and connected together by fine fibroïd tissue. It was enclosed, and separated from the prostate gland, by a firm capsule, from which it is seen partially detached in the section. The bladder is seen to be much hypertrophied and was found, at the post-mortem examination, full of purulent urine. The ureters, pelves, and infundibula of the kidneys were dilated, and the kidneys themselves were softened, vascular, and contained numerous small scattered abscesses. James K., aged 62. *Post Mortem and Case Book*, 1854. p. 33.

113. Bladder with a villous growth attached to the neck. The bladder was much dilated, and only a part of it has been preserved. The villous growth, which is very loose and flocculent, is attached to the back part of the neck. The body of the growth spreads out when suspended in spirit so as to give the appearance of a constricted neck. It is not very large, but

has formerly been much larger. A portion, partially consolidated by coagulum, lies at the bottom of the jar. This was found loose in the bladder after death. Another similar portion has not been kept; it was much decomposed at the time of the post-mortem examination, and probably had been long detached. Under the microscope the growth appears to consist entirely of loops of blood-vessels of considerable diameter. There is no solid tissue connected with it, but here and there the vessels are clogged by coagulum.

This specimen was taken from a gentleman aged 81. For many years he had been subject to occasional attacks of hæmaturia, the first of which occurred about 20 years ago; after this there was no return till 4 years ago. The attacks always yielded to astringent medicines. The duration of the last attack was six months, during which time the urine was free from blood only on one day. Pain, sometimes acute, sometimes of a dull burning character, was referred to the neck of the bladder, and was relieved when the hæmorrhage was free. Urine was passed, on an average, about 6 times in the 24 hours. The blood was always of a bright colour when passed, and with it were small granular portions of clot. The blood increased up to a certain point, and then diminished, and this in constant regularity; never, however, entirely disappearing. Nine days before death, increased pain at the neck of the bladder and hypogastrium came on, with constant desire to void urine, accompanied by much straining and distress, only a few drops (sometimes pure blood) passing at a time; this desire to pass urine every three minutes no treatment was able to relieve. Two days after this a catheter was introduced; no urine escaped, but some small fleshy growths came away in the eye of the catheter, which, examined by a microscope, exhibited a villous structure, and the nature of the disease was thus for the first time clearly ascertained. The following day the urine became alkaline and muco-purulent, was passed involuntarily, and the patient gradually sank, and died Sept. 15th, 1864. *Presented by* Dr. BRODIE.

114. Mucous membrane of bladder detached during life. A large, nearly square, piece of membrane is suspended in spirit; it measures more than 4 inches in one direction. A small portion lies at the bottom of the bottle. The free surface is covered with a phosphatic deposit; the surface, which was formerly attached, is tolerably smooth, but shows very reticulated fibres of muscular tissue. Under the microscope the membrane is shown to contain all the elements of mucous membrane.

The preparation was taken from the body of J. M., who died in the Hospital October 6th, 1863. But little was known about him; he had had difficulty in passing water, which was

mixed with blood. An abscess opened on each side of the scrotum, and he eventually died of peritonitis. At the post-mortem examination it was found that the bladder had become perforated at the top, and allowed the escape of urine into the peritoneum. It contained a soft white mass, which, when spread out, proved to be the mucous membrane as described. The upper part of the urethra had been destroyed by suppuration. *Post Mortem and Case Book*, 1863, p. 245. *Path. Soc. Trans.*, Vol. XV., p. 136.

115. Malformation of the bladder from a male infant, who died eight days after birth. At its birth it was noticed that the testes were retained in the abdomen, the muscular parietes of the abdomen were deficient, and the lower part of the abdomen was in consequence enlarged, and of an unusual shape. There was a large "mother stain" on the pubic region. In other respects, the child was well formed. It passed water naturally. On two occasions before its death blood was seen in the urine. It throve for the first few days, but then began to refuse the breast, and sank rapidly.

In the preparation, the testicles are seen situated just below the kidneys. Both the kidneys are somewhat dilated by pressure, particularly the left, in which the renal structure is a good deal absorbed. The ureters are correspondingly dilated and torturous. The bladder is represented by two distinct sacs, into one of which the ureters and urethra open. All of these are quite pervious. The coats of this sac are excessively hypertrophied, being about three times the natural thickness. This seems to depend mainly on over development of the muscular fibres; but there are besides, immediately beneath the mucous membrane, a large number of villous prominences, which, when fresh, were of a dark purple hue. They consist on section, not of extravasated blood, but of vascular tissue, like that of nævus. The second sac lay in the right side of the pelvis, and adjacent iliac fossa, and at the post mortem examination, appeared to be situated immediately under the skin. It is rounded, and about the same size as the other cavity, with which it communicates by a round opening, about half-an-inch in diameter. Its coats showed no trace of muscular fibre, but were throughout thin and membranous, nor was there any trace of vascular tissue on its interior. The contents of this malformed bladder were found to be healthy urine, containing a slight tinge of blood, uniformly diffused through the fluid. It appeared that the mass formed by the two sacs had pressed backwards on the ureters, and that this had been the cause of death. *Path. Soc. Trans.*, Vol. XVI. *Presented by* T. Holmes, Esq.

END OF SERIES XII.

SERIES XIII.

INJURIES AND DISEASES OF THE MALE ORGANS OF GENERATION.

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1. Suicidal self-mutilation. The preparation consists of the penis, the scrotum and the two testicles which have been cut away close to the pubes. The testicles are seen hanging down, out of the scrotum.

The specimen was obtained from a man, 45 years of age, under the following circumstances :—He had, years before, been married, and become the father of a family. His wife died, and he remained single for some years. A few weeks before his admission he married again ; his wife being much younger than himself. For some reason he found himself unable to consummate the marriage, and was without sexual instinct. He became depressed in mind, and having obtained possession of a common dinner knife, he went into a cellar with the intention, as he afterwards declared, of cutting his throat. He, however, cut off the genital organs instead, believing such an operation to be equally fatal and less unpleasant. He was soon afterwards discovered and brought to the Hospital, with the organs of generation in his pocket. A large jagged incision was seen in their place, which exposed the spermatic cord on both sides, and left about a quarter of an inch of the penis in attachment with the body A considerable surface of skin

had been cut off the left side of the abdomen, and the left inguinal canal exposed. There was no evidence of hæmorrhage to any extent. Water dressing was applied to the wound, and a catheter was kept in the urethra to prevent contraction. The wound healed without a bad symptom, and he left the Hospital a month after admission in good health. He had on a former occasion made an attempt at suicide.

2. Large portion of enormously hypertrophied prepuce removed, on a level with the glans penis. The patient, aged 40, was admitted into this Hospital with an hypertrophied scrotum and prepuce, which presented exactly the appearance of the glans itself, an appearance which still exists in the preparation, and which was increased by the patient having always been subject to phymosis, producing a species of canal through which a bougie has been passed. The disease originated about four years previous to his admission, and was connected with abscesses in the scrotum and fistula in perinæo, depending upon stricture of the urethra. After the removal of the prepuce, a catheter was easily introduced into the bladder, and the fistula in the course of time healed, but, as the patient's health was evidently suffering from his long residence in the wards, he was advised to go into the country previous to any operation being performed on the scrotum. He never returned to this Hospital, but the scrotum was subsequently removed by Mr. F. H. Brett, and the patient did well. The case was fully reported in *The Lancet* of 1846, Vol. II., p. 36.
3. The posterior portion of the corpus cavernosum, showing the cavity of an abscess, of which the patient died. He received a blow, which was followed by violent disturbance of the constitution, but the seat of the abscess was not discovered until after death. *Presented by* Sir B. Brodie, Bart.
4. The end of the penis, amputated for a disease, which was reputed malignant. The man survived the operation, and became afterwards the father of a numerous family. The dorsum of the glans penis and prepuce is seen to be covered by a large spreading ulcer, with rather high granulations. This ulcer does not display any peculiar induration, nor could any of the cell-forms, usual in epithelial or other cancer, be detected in it by the microscope. It contained many fibre-cells and growing cells of a simple appearance, and the granulations exhibited peculiarly well-formed villous processes. Under the doubt which both the history and examination of this case threw on the previous diagnosis, it appeared unadvisable to class the case as one of recovery from cancer.
5. A cyst, developed in the Corpus Spongiosum.
6. A portion of the skin of the scrotum affected with chimneysweeps' cancer. *Presented by* Sir Benjamin Brodie, Bart.

7. The scrotum, groin, and upper part of the thigh affected with chimneysweeps' cancer. The scrotum is completely destroyed so as to expose both testicles, which are affected with a similar disease.

   The patient, aged 18 years, stated on his admission that he first perceived small tubercles on the scrotum, about 11 years previously; these occasionally ulcerated and then healed. About six months before admission he was sentenced to work at the treadmill, and attributed to the severe labour of his punishment the rapid progress of the disease. He applied no remedies previous to his admission into the Hospital.

8. A tumour from the groin of a patient who died in the Hospital. He was affected with cancer scroti. The tumour is in a state of ulceration, and the femoral artery and vein are embedded in its substance. *Presented by* Sir B. C Brodie, Bart.

9. Cancer of the penis. The glans is in a state of ulceration. *Presented by* Sir Benjamin Brodie, Bart.

10. Cancer affecting the glans penis, and extending to the prepuce. *Presented by* Sir Benjamin Brodie, Bart.

11. Extensive cancerous ulceration of the glans penis and prepuce.

12. Cancer of the prepuce. There were some diseased glands in the groin, which were removed when the above parts were amputated. The disease returned in the penis some years afterwards, but not in the glands. *Presented by* Sir Benjamin Brodie, Bart.

13. Cancer of the scrotum.

14. A large mass of fat under the skin of the scrotum, collected into lobules, and continuous with the fat of the abdomen. The patient died of phthisis, and the rest of his body was much emaciated. *Post Mortem and Case Book*, 1853, p. 249. The case is described at length by Mr. H. Gray, in *Path. Soc. Trans.*, Vol. VI., p. 230.

15. The cyst of a hydrocele dried, showing the situation of the testicle.

   From a patient who died in the Hospital. *Presented by* Sir Benjamin Brodie, Bart.

16. The tunica vaginalis testis considerably enlarged and dried, showing the situation of the testicle in hydrocele. There is a membrane stretching across the upper part of the cyst, dividing it into two cavities. *Presented by* Sir Benjamin Brodie, Bart.

17. Sac of a hydrocele which has been slit open to show the testicle at the back part of the cavity. This and the following preparation, which were taken from the same patient, present the same appearances. *Presented by* Sir Benjamin Brodie, Bart.

18. Hydrocele, from the same patient as the preceding preparation. *Presented by* Sir Benjamin Brodie, Bart.

19. Hydrocele, in which the tunica vaginalis has been inverted to show the smooth serous surface. *Presented by* Sir BENJAMIN BRODIE, Bart.

20. Hydrocele:—the tunica vaginalis is much thickened. *Presented by* Sir BENJAMIN BRODIE, Bart.

21. Testicle and tunica vaginalis from a patient who had laboured under hydrocele. There are bands of adhesion between the opposite surfaces of the tunica vaginalis. *Presented by* Sir BENJAMIN BRODIE, Bart.

22. The sac of a hydrocele very considerably dilated and thickened in its whole circumference. The inner surface of the sac is covered with flakes of lymph, and some portions of substance resembling blood more recently effused. The testicle is at the bottom of the cyst, and appears to have undergone a diminution in its size from the pressure of the effused fluid. This preparation was taken from a subject in the dissecting-room. *Presented by* Sir BENJAMIN BRODIE.

23. Sac of a hydrocele in the adult. A small pedunculated body is seen growing from the upper part of the testis. *Presented by* CÆSAR HAWKINS, Esq.

24. Congenital hydrocele taken from an infant. A bristle has been passed into the canal connecting the cavity of the tunica vaginalis with the peritoneum. *Presented by* Sir BENJAMIN BRODIE, Bart.

25. Congenital hydrocele, the tunica vaginalis having been obliterated at the abdominal ring; the sac of the hydrocele extends along the cord to the ring. *Presented by* CÆSAR HAWKINS, Esq.

26. Encysted hydrocele of the testicle. The cyst is situated between the tunica vaginalis and tunica albuginea at the upper and back part of the testis. It is about the size of a walnut, and consists of two layers; the external of which is continuous with the tunica vaginalis testis, while the inner layer forms a separate cyst connected loosely to the outer layer by areolar tissue. *Presented by* Sir BENJAMIN BRODIE, Bart.

27. Hydrocele of the tunica vaginalis, encysted hydrocele of the testicle, and a loose body in the tunica vaginalis. The testicle and epididymis are both enlarged. The tunica vaginalis has been so far distended as to contain about twelve ounces of fluid. A cyst is situated at the upper end of the testis, between the tunica vaginalis and tunica albuginea. It is about the size of a walnut, and consists of two coats, the external of which is continuous with the tunica vaginalis testis, while the inner coat forms a separate cyst, connected loosely to the outer coat by areolar tissue. A loose body is contained in the cavity of the tunica vaginalis, being accurately moulded in a depression between the testis and epididymis; its surface is nodulated, its structure fibrous,

and it contains in its interior separate isolated masses of calcareous deposit.

28. A calcareous cyst connected with the surface of the testis, probably an encysted hydrocele of the testis, the wall of which contains much calcareous matter. The cyst is about the size of a hen's egg, enclosed in a dense layer of fibrous tissue; its wall uneven and nodulated from calcareous deposition. The cavity of the cyst contained a quantity of soft yellow pultaceous substance. A section has been made through the testis and cyst. The former is quite sound, as also the vas deferens which is seen on the surface of the testis. *Presented by* CÆSAR HAWKINS, Esq.

29. Hæmatocele enlarging not the tunica vaginalis, but the sac of an encysted hydrocele. The patient described his case as follows: —He had had for some time a tumour by the side of the testicle. During sexual intercourse he had a sudden attack of pain, and a great increase of the swelling took place. Various methods of treatment were tried without benefit, and at last the testicle was removed. The dissection showed that the testicle was sound, and that the tumour was formed by an encysted hydrocele distended with coagulum of blood. *Presented by* Sir BENJAMIN BRODIE, Bart.

30. A portion of the spermatic cord, the testicle, and the tunica vaginalis of the left side from a man who had been operated upon for hæmatocele. A large opening is seen in front of the tunica vaginalis, which was partially made by a surgical incision, and partly by subsequent sloughing. At the lower part of the cavity the testicle is seen in a perfectly healthy state. The spermatic cord, however, is increased to the diameter of an inch by a deposition of lymph within the sheath, and the testicle is partially imbedded in the same growth. The lining of the tunica vaginalis is rough, uneven, and in places discoloured.

The preparation was obtained from a man 42 years of age, who was admitted with hæmatocele which he had had for five months. The tumour was opened and about ten ounces of partly coagulated blood allowed to escape. The next day but one the swelling had recovered its former size, in consequence of a fresh effusion of blood. A free incision was now made and poultices were applied; but the wound discharged offensive pus, the inside of the sac assumed a sloughy appearance, and the man died within a fortnight of the first operation. All the organs were found to be healthy. *Post Mortem and Case Book*, 1863, p. 13.

31. A small loose body found quite detached in a healthy tunica vaginalis. It is about the size of a large pea, globular in form, of a white colour, and consists apparently of concentric laminæ, containing a central nucleus of somewhat harder con-

sistence than the rest. It is fibrous in structure, and does not contain any cartilage cells. *Presented by* CÆSAR HAWKINS, Esq.

32. A testicle which never descended into the scrotum, but remained in the inguinal canal. The testicle is smaller than natural. It was taken from a middle-aged adult. *Presented by* Sir BENJAMIN BRODIE, Bart.

33. The other testicle from the same patient as the preceding. This had descended into the scrotum, and is of natural size, and healthy. It is preserved to contrast with the one which was retained in the inguinal canal. *Presented by* Sir BENJAMIN BRODIE, Bart.

34. Testis without a vas deferens. The vesicula seminalis of the same size was nearly obliterated. *Presented by* CÆSAR HAWKINS, Esq.

35. Chronic inflammation of the testicle with hydrocele of the tunica vaginalis. The testis and epididymis are both enlarged. The gland has been divided by a longitudinal section, and shows a greyish deposit infiltrated in its interior. The parts have been injected.

The patient from whom the preparation was taken was admitted into the Hospital on the 14th day of March, 1849. On his admission the testis was hard and heavy, and some pain was complained of on pressing it and the cord; there was hydrocele also of the same side. He stated that he had had an attack of gonorrhœa about a year previous to his admission, which was followed some time after by inflammation of the testis, and effusion of the fluid in the tunica vaginalis. Mercury was administered to him on his admission, which was discontinued after three weeks when his gums became affected, and mercurial friction was substituted for it, but the testis did not apparently diminish under this treatment. He was placed under the care of the physician for an attack of laryngitis, of which he died. *Post Mortem and Case Book*, 1849, p. 95.

36. Inflammation with deposit of lymph in the body of the testis. The greater part of the secreting structure of the testis appears to have been destroyed. *Presented by* Sir BENJAMIN BRODIE, Bart.

37. A testicle which has been affected with tubercular inflammation; it is much wasted, and its glandular texture seems nearly destroyed. *Presented by* Sir BENJAMIN BRODIE, Bart.

38. Chronic orchitis, with deposit of yellow lymph. This, and the following preparation were taken from an old man, who was beadle of St. James's parish:—The testicle is larger than natural, was extremely hard in the recent state, and the section made through it displays a mass of yellowish lymph deposited in the back part of the testis. In the epididymis a layer of

the secreting structure in front of the testis appears more free from deposits, though on microscopical examination much deposit was found within the tubuli. This man laboured under stricture of the urethra for many years, and had been several times relieved by bougies and the application of caustic. *Presented by* Sir BENJAMIN BRODIE, Bart.

39. The opposite testicle from the same patient as the preceding. The appearances observed are similar to those mentioned above.

40. Section of a testicle affected with tubercular inflammation. This preparation was taken from a patient in the Hospital, in whom the operation for castration was performed. On slitting open the canal of the epididymis, the yellow cheesy matter was seen lining its inner surface. *Presented by* Sir BENJAMIN BRODIE, Bart.

41. Section of a testicle affected with tubercular inflammation. *Presented by* Sir BENJAMIN BRODIE, Bart.

42. Section of a testicle affected with tubercular inflammation. *Presented by* Sir BENJAMIN BRODIE, Bart.

43. Section of a testicle affected with chronic or tubercular inflammation.

44. Testicle affected with chronic inflammation. Large masses of yellowish lymph are deposited in the body of the testis. *Presented by* Sir BENJAMIN BRODIE, Bart.

45. Section of a testicle greatly enlarged, and infiltrated throughout with tubercular deposit. *Presented by* Sir BENJAMIN BRODIE, Bart.

46. A testicle which has been affected with tubercular inflammation. A quantity of the yellow cheesy matter is seen loose in the interior. *Presented by* Sir BENJAMIN BRODIE.

47. Testicle wasted from tubercular inflammation. Only a small portion of the glandular structure is visible. *Presented by* Sir BENJAMIN BRODIE.

48. A mass of tuberculous matter removed from a testicle affected with chronic inflammation. The patient, I. M., aged 32, was admitted into the Hospital May 5th, 1831, under the care of Mr. Brodie, and had at that time chronic inflammation of the left testis. He was placed under the influence of mercury; abscess, however, formed, and an opening was thus made in the integuments of the scrotum. This sore, so soon as ptyalism was produced, took on a sloughing character, and extended considerably. The mercury was suspended, and the sore and testicle improved rapidly. On the 30th of July this large unorganised mass of tuberculous matter, of a cheesy consistence and fibrous appearance, was removed from the testicle, the opening being previously enlarged by means of a bistoury. The patient recovered perfectly, and left the Hospital some time after. *Presented by* Sir BENJAMIN BRODIE, Bart.

49. Chronic tubercular inflammation of the testis with fistulous openings in the skin of the scrotum, a portion of which is adherent to the testis.

50. Chronic tubercular inflammation of both testes. From J. J., aged 35, who was admitted Oct. 27th, 1830, with disease of both testes, which had begun four months previously, by pain and swelling occurring without evident cause. The right testis was the size of a swan's egg, hard above with a soft discoloured projection, feeling very like fluctuation; the left smaller, harder, more knotty and irregular, less painful. Both spermatic cords were swollen. They bore much resemblance to fungus hæmatodes, especially as he had become much emaciated, and restless and sallow, and complained of pain and tenderness of the abdomen. Under sarsaparilla and small doses of blue pill both testes returned nearly to their natural size by Nov. 30. At this time he became dropsical from diseased liver, and died Dec. 23rd. A considerable quantity of yellow cheesy deposit is seen in each testis, softest in the right, in which the tubuli could be unravelled from the midst of the yellow substance, much of the tubular structure being unaffected by the disease. The liver had the usual granulated appearance of a drunkard. *Presented by* CÆSAR H. HAWKINS, Esq.

51. Chronic tubercular testis, with scrofulous abscesses. The patient was 35 years of age. He was admitted on Feb. 15th, 1832, with swelling and pain of the right testis, which commenced a fortnight previously without apparent cause, but he had lately become much out of health generally. The testis was hard and knotty, especially the epididymis, appearing as if in a state of chronic inflammation, after more acute action had been subdued by leeches. The left testis was also of cartilaginous hardness near the epididymis, but without pain. The swelling and pain were very slowly reduced by leeches principally. Mercury rather increased the swelling when applied rather too early. The small abscesses were filled with cheesy pus, exactly like scrofulous matter; the epididymis and tubular structure, separate from the abscesses, had the appearance of common tubercular disease. He died of disease of the bladder and kidney. *Presented by* CÆSAR H. HAWKINS, Esq.

52. Chronic inflammation of the testis, with deposition of lymph in its structure. From a subject in the dissecting room. It does not retain its natural appearance in any part. *Presented by* Sir BENJAMIN BRODIE, Bart.

53. Chronic tubercular inflammation of the testis. The testicle was removed by operation at the Hospital many years ago, having the appearance of fungus hæmatodes. *Presented by* CÆSAR HAWKINS, Esq.

54. Hernia testis arising from tubercular inflammation. A section has been made of the gland. *Presented by* Sir BENJAMIN BRODIE, Bart.

55. Hernia testis which has made its way through the skin of the scrotum, occurring as a consequence of tubercular inflammation. *Presented by* Sir BENJAMIN BRODIE, Bart.

56. Inflamed and enlarged testis, in the substance of which deposits of purulent fluid were found to exist. The sac of the tunica vaginalis contained straw-coloured fluid, and bands of recently formed lymph. This condition of the testicle occurred along with inflammation of, and exudation into, the shoulder joint, and inflammation of the mucous membrane of the larynx with ulceration. *Post Mortem and Case Book*, 1851, p. 173.

57. Section of a testicle removed from a patient, aged 53, who was admitted into the Hospital, December 8, 1846. Twelve months previous to his admission the testicle became enlarged and painful, without having been subject to any injury; and it continued to increase gradually till within two months of his admission, after which period it became stationary. The testicle was firm, smooth, and elastic, the veins on the surface were large, the cord short and thick, but the spermatic vessels apparently healthy. There was no fulness in the abdomen, and although he suffered from pain passing up to the loins, this had ceased lately. His health was good, and he had not become thinner of late. The testicle was removed on the 16th of December, and the patient left the Hospital well, the disease not having returned at the end of a year and a half. The section of the testicle displays a mass of innumerable small cysts varying in size, formed of a firm fibro-cellular substance, and containing chiefly a jelly-like fluid. There are patches of extravasation into the cells in some places, and the coloured fibrine still remains. This gives the preparation something of the character of fungus hæmatodes, but on picking out the fibrine from the cells, the walls of the latter appeared healthy and firm. The cord was free from disease, and the tubuli testis were partly visible at the upper portion of the tumour.

58. Cystic disease of the testicle in an infant, probably congenital. The cysts were lined, most of them, by ciliated epithelium; they contained a glairy mucus, and are embedded in a fibrous matrix. A few spots of dark pigment were seen, and at the back of the tumour is a considerable mass of bone, containing well-formed lacunæ, from which processes radiate out and are seen as small shining granules on the section. The tissue of the gland was found spread out around the circumference of the tumour for the greater part, but imperfect gland-tissue was also recognised among the cysts. Projecting into the cavity of the tunica vaginalis were one or two cystiform appendages, which were lined with common pavement-epithelium.

The gland was removed from a boy aged 2 years and 9 months, a patient of the Hospital for Sick Children, who seemed otherwise in perfect health. The case did well. For further details and representations of the microscopical appearances, see *Path. Soc. Trans.*, Vol. VII., p. 241. *Presented by* ATHOL A. JOHNSON, Esq.

59. Scrofulous tubercle deposited in the substance of the testicle and epididymis. The patient died of tubercular deposits in the lungs, kidneys, and prostate gland. The other testicle was affected in the same way. *Post Mortem and Case Book*, 1841, p. 140.

60. Deposition of apparently scrofulous matter in the substance of the testis. The gland has been injected. The patient died of effusion of urine in the perinæum and neighbouring parts, the result of false passages which had been made in the attempt to pass a catheter for the cure of a stricture, from which he had suffered for many years. The other organs were pretty healthy. No scrofulous matter was found in any other part. The disease of the testis first made its appearance some months previous to the death of the patient. The testicle became inflamed after the passing of a small sized catheter into the bladder, and subsequently remained larger than the other, but the patient after the inflammatory symptoms had subsided, appeared to suffer no inconvenience in this part. *Post Mortem and Case Book*, 1843, p. 9.

61. Cavity of a large scrofulous abscess in the testicle. The internal surface of this cavity is still lined by a thick layer of scrofulous matter. When a section of this preparation was first made a large quantity of pus escaped. The remains of the testis are situated at the lower part of the preparation ; the two layers of the tunica vaginalis are firmly united to each other. The disease had existed for many years, but its nature was not ascertained. The patient died of effusion of urine, the result of false passages produced by the passing of instruments for stricture.

62. Deposition of scrofulous matter in the substance of the testis. The opposed layers of the tunica vaginalis are seen to be adherent, and the lower part of the gland presents indications of inflammation having occurred. Posteriorly, at the lower part a small opening is to be seen which originally communicated with a fistulous and sloughing aperture in the scrotum. The gland was about double the natural size. The other testicle was unaffected as to its proper structure, but the epididymis contained several small scrofulous deposits. Both lungs contained numerous miliary semi-opaque tubercular deposits throughout their entire structure ; and in the kidneys both on their outer and sectional surfaces, yellow light-coloured scrofu-

lous deposits also existed. No other viscera contained scrofulous deposits.

The person from whom the specimen was removed was aged 32. He was admitted into the Hospital September 24, 1851, and died on the 26th. He had all the ordinary symptoms of phthisis pulmonalis, but never complained of any affection of the testicle. *Post Mortem and Case Book*, 1851, p. 192.

63. Scrofulous tumour of the testis. The tumour had completely the appearance of a scrofulous gland, partially suppurating in the centre, and perfectly distinct from the glandular substance, which was healthy.

From a boy of fourteen, in the dissecting room. *Presented by* CÆSAR HAWKINS, Esq.

64. Scrofulous deposit in the testis and epididymis. This preparation was taken from a patient, aged 51, a schoolmaster. He received a blow on this, the left, testicle twelve months previously by a kick from a boy, which was immediately followed by pain and considerable swelling. He used mercurial ointment with decided benefit, and continued this application for some months. He then came into the Hospital. The testicle was about the size of an egg, the swelling being chiefly confined to the epididymis, hard, painful, and very irregular on the surface. The cord seemed free from disease, but the general health was much disturbed, the tongue being furred and dry, the face flushed, and anasarca of the legs having appeared. Shortly after his admission he had an attack of paralysis and died. After death, there was found an effusion of serum into the ventricles to the extent of two ounces. The viscera of the chest were quite healthy.

In the body of the testis the tubuli are filled with deposit of tubercle, giving to them, under the microscope, the appearance of being filled with a dark granular deposit. Among the tubuli are seen a multitude of small white granular bodies, of a dense fibre-structure ; these are so numerous that a great portion of the glandular substance is destroyed. The epididymis is infiltrated throughout with tubercular deposit. The substance in the tubuli was examined by Dr. Prout and found to consist of a peculiar form of albumen. *Presented by* Sir BENJAMIN BRODIE, Bart.

65. The right testicle from the same patient as the preceding preparation. The glandular structure of the testicle appears to be natural, but the epididymis, where the vas deferens arises, is infiltrated with tubercular deposit. *Presented by* Sir BENJAMIN BRODIE, Bart.

66. Scrofulous deposit in the testicle and spermatic cord. From the same patient as No. 99, where the same disease is shown in the vesiculæ seminales. See the account of No. 99, or *Post Mortem and Case Book*, 1855, p. 287.

67. A section of a fibro-nucleated tumour of the testicle, removed by operation from a boy, aged 3 years The duration of the disease was unknown. The tumour was growing rapidly; extended nearly up to the external abdominal ring, and was so heavy that it overweighed the child in walking. He recovered rapidly from the operation, but the disease soon recurred in the abdomen, and proved to be of a malignant nature.

    The bulk of the tumour consists of a mass of small nuclei, intermixed with which are some tracts of more or less perfectly-formed fibrous tissue. No remains of the testicle were discovered. The tunica vaginalis is seen to be fused into the tumour at its lower part (which appears the upper in the bottle), and in the neighbourhood of this part is infiltrated with similar morbid structure and much thickened. The spermatic cord was healthy. The case is reported in the *Path. Soc. Trans.*, Vol. XI. p. 165, Vol. XII. p. 146. *Presented by* T. HOLMES, Esq.

68. Scirrhous carcinoma of the testicle, removed by operation in the Hospital.

    On *Microscopical Examination* no definite opinion could be decided on as to its malignancy. *Presented by* CÆSAR HAWKINS, Esq.

69. Fungus hæmatodes of the testicle. *Presented by* Sir BENJAMIN BRODIE, Bart.

70. Fungus hæmatodes of the testicle. *Presented by* Sir BENJAMIN BRODIE, Bart.

71. Fungus hæmatodes of the testicle. *Presented by* Sir BENJAMIN BRODIE, Bart.

72. Fungus hæmatodes of the testicle. This was removed by opera tion. The patient died shortly after of disease of a similar nature in the lungs. *Presented by* Sir BENJAMIN BRODIE, Bart.

73. Fungus hæmatodes of the testicle, from a private patient of Sir BENJAMIN BRODIE. This testicle was removed from a child 3 years old who had been suffering from the disease fifteen months previous to the operation. The child died some time afterwards of fungoïd disease of the lumbar glands.

74. Fungus hæmatodes of the testis, from a private patient of Mr. KEATE.

75. Section of a testicle with part of the spermatic cord, partially injected. About the middle and anterior part of the testis there is seen a tolerably large mass of encephaloïd matter, contained in a pseudo-cyst; the morbid growth is for the most part of a dull white, and does not seem to be penetrated by any vessels, but at its posterior and lower part it is reddened by the injection and of a less dense consistence. The lumbar glands were converted into masses of encephaloïd cancer; the vena cava in-

ferior was filled by a large clot, which consisted in part of similar matter; the liver contained numerous large soft masses of hæmato-encephaloïd substance, and there were some small encephaloïd tumours in both lungs. There is a hydrocele of the spermatic cord, which was situated just above Poupart's ligament ; it communicated with a hydrocele of the tunica vaginalis, which was however by no means extensive, the cavity being partially obliterated by adhesions.

76. Corresponding section to the preceding. The encephaloïd matter has been turned out of this section, showing the cavity in which it was contained. It was seen under the microscope to be composed chiefly of pale granular cells, with a very small quantity of stromal fibre.

77. Fungus hæmatodes of the testis. The patient was 30 years of age. The testis had been enlarged five years, but had only been rapidly growing the last three months before his admission, August 30, 1822. The testis did not descend until he was 11 years old, and he described something like a congenital hernia at the ring, a swelling which seemed to be fluid, which was aggravated by cathartics, and which used to recede on lying down ; three months before admission, however, after a dose of medicine, it became fixed with acute pain, and had grown rapidly since ; and on his admission was distinct from the testis. The tumour was eight inches long and eleven in circumference, and separated by a tight band into two prominences. Below this band the testis was dark-coloured and soft, and with several prominences ; above, it was hard and smooth. The testicle was removed September 16th. The wound opened by secondary hæmorrhage ; the system was very irritable. He died September 20th, with copious purulent expectoration suddenly coming on about twenty-four hours before death.

The tumour seems to consist of the testis in the centre, of various colours—white, light-brown, and dark from coagulated blood ; the vessels went behind the rest of the tumour to this central body. The rest of the tumour contained numerous small cysts, from the size of a horse bean to that of a pin's head, some containing transparent fluid, others dark fluid. The tunica vaginalis seemed to be half an inch thick in some parts, and the mass of the tumour to be intermediate between the testis and the tunic. *Presented by* CÆSAR HAWKINS, Esq.

78. Fungus hæmatodes of the testis, removed by operation. Part of the tumour is very much softened and discoloured with blood, at which part it had been punctured previously. *Presented by* CÆSAR HAWKINS, Esq.

79. Fungus hæmatodes of the testis with cysts. There had been a small lump in the epididymis for three or four years before

removal. Six months before, this increased without pain, then spread to the testis. When as large as a melon, the patient punctured it himself with a trocar in several directions which produced much inflammation, and laid him up for a considerable time. At the time of the operation the swelling was as large as a full-sized melon, for the most part soft, but scarcely anywhere feeling like fluid. On the upper part was a smaller tumour about three inches in diameter, moveable upon the rest, which had increased latterly more rapidly than the great mass. The cord was quite free. There was hardly any pain. The testicle was removed on October 31, 1834, He quickly recovered, and in the following summer was in better health than he had been for some years.

A section of the tumour displayed a great number of cysts, varying in size from a millet seed to a walnut, filled with fluid for the most part transparent, but in some dark-coloured. The bulk of the tumour consisted of thick white matter deposited between the cysts, hard and firm in consistence. In other places were portions of coagulated blood, brown as if of some standing. These portions of coagulum appeared to be encysted. The smallest, which were not larger than a pea, were as firm as the largest which was of the size of a walnut, and was situated near the puncture made by the patient. The tunica vaginalis extended within the ring, and was cut across during the operation. It contained some dark brown fluid. Within it the epididymis had its natural appearance and seemed perfectly healthy, and in the lower part the testis was spread out as a thin layer, quite separate from the bulk of the tumour.

In November, 1835, he was attacked with what seemed cold and disease of the lungs, and with pain in the back called lumbago ; some time before his death much blood was brought up from the lungs, as much as half a pint daily, and he was carried off in February.

The abdomen contained large masses of diseased glands, and the lungs and liver were full of tumours of fungus hæmatodes, dark and bloody, and so much alike, that the portions from the lungs were hardly distinguishable from those of the liver. *Presented by* CÆSAR H. HAWKINS, Esq.

80. Fungus hæmatodes of the testis. The patient, John L., aged 23, was admitted March 3rd, 1837, with malignant disease of the left testis, extending quite within the inguinal ring, with some enlarged glands in the inguinal canal and a large swelling in the left side of the abdomen near the ribs, and extending thence to the navel. It was painful and tender, and accompanied by slight ascites. There were two small tubercles in the skin and subjacent texture, flat, firm, and

moveable, and a large gland in the left groin, the tubercles being at the upper part of the testis.

The disease began five months before, and he had fallen away in flesh since. There was cough and diarrhœa occasionally, then some blood was seen in the expectoration, the ascites increased, and he died May 23rd.

There was a great number of hæmatoïd glands in the mesentery and mesocolon, and a large tumour extending from the pelvis to the diaphragm, having the aorta and vena cava embedded in it, but nearest to the surface on the right side, the greater part dark white, not very hard, but not like brain, rather like udder in firmness; without cysts, but with a few circular tubercles in it to show its glandular nature. The tumour was somewhat softened and hæmatoid at the back part and upper end. The glands in the groin and pelvis were cerebriform, with numerous vessels. The right kidney was healthy, the left nearly surrounded by the tumour, with which it was intimately connected, and some tubercles of a white colour projected on the surface of the kidney so as to join the tumour. The left ureter was not distinguishable from the tumour. The latter is firm and dense, not resembling either of the usual forms of fungous disease. (Injected preparation.)

81. Carcinoma of the testis, with development of hydatid-like bodies in its substance, removed by operation in the Hospital, August 4th, 1826. The testicle had begun almost imperceptibly to enlarge nearly four months previously to the operation, and had gradually increased without pain in the testicle itself, but with pain in the loins.

In the preparation the testicle is divided by a longitudinal incision. In the centre is seen a quantity of yellow substance embedded in the meshes of a firm fibrous structure. There are also visible numerous small cysts, which in their recent state contained fluid and a number of hydatid-like bodies. On the circumference of one section the diseased substance is seen surrounded by the natural structure of the tubuli testis, apparently unaltered. The other section was in the same manner surrounded by the tubuli testis, but here the healthy parts have been dissected off in order to expose the surface of the diseased structure, in which are seen a number of hydatid-like bodies embedded in the fibrous tissue. On the posterior surface of the preparation is seen the vas deferens terminating in the epididymis, apparently free from disease. The tunica vaginalis testis remains in its natural situation on one side, but on the other it has been removed. The vessels of the spermatic cord are seen surrounded by cellular membrane. *Presented by* Sir BENJAMIN BRODIE, Bart.

82. Some of the hydatid-like bodies, mentioned in the preceding description, are seen at the bottom of the bottle.

83. Carcinomatous deposit in the lumbar glands, from the same patient as the two preceding preparations. Carcinomatous deposit was found in the other testis of this patient, he having died some time after the operation.

84. Fungus hæmatodes of the testis. The patient, William S., aged 25, was admitted May 19th, 1830, having received a blow on the testis the preceding Christmas, which was followed in a few days by pain and swelling. Two months afterwards he came as an out-patient, and the testis subsided under leeches and mercury. It, however, soon became swollen again, and his health suffered while continuing this treatment. After admission the sallowness and unhealthy aspect improved, the testis at first got better, but again became harder and more knotty, and the cord felt harder; he had had some tenderness of the abdomen and irregular action of the bowels, and pain in the loins, but no tumour was perceived. The testis was soft in parts like fluid, while other parts were hard; the skin was healthy; when the testis was punctured, blood only came away. The operation was performed June 24th. The next day there was retention of urine, and pain in the back. On the 28th the wound looked sloughy, and he began to have symptoms of low peritonitis, of which he died July 2nd. The whole of the peritoneum was inflamed and full of purulent fluid. A large tumour occupied the back part of the abdomen surrounding the duodenum, and raising the aorta and vena cava from the vertebræ. It was chiefly situated at the root of the mesentery, and some loose tumours of a similar kind were found in the mesentery, close to the intestines. The tumour consisted of globular portions, the larger of which were principally composed of coagulated blood. Other portions were harder and firmer, consisting of numerous cysts of gelatinous fluid, mixed with globular portions of cartilage. Some parts contained darker fluid, but the tumour was chiefly solid. Some small masses of cartilage were found in the substance of the tumour, and the secreting tubuli of the testis were expanded around it. The spermatic vessels were lost in the tumour, and in the cord close to where it was divided an absorbent vessel was for half an inch full of transparent fluid with a little white matter. The other testis and the viscera were healthy. *Presented by* Cæsar Hawkins, Esq.

85. Fungus hæmatodes of the testis. George S., aged 43. The tumour had been growing two years without apparent cause. It was removed Nov. 8th, 1832, and he left the Hospital well, Dec. 12th. The testis and epididymis can be seen in a perfectly healthy state at the upper part of the tumour connected with a large hydrocele, which extended up to the ring. The tumour below was medullary with much yellow lymph. There

were no cysts, nor any effusion of blood in its texture. *Presented by* CÆSAR HAWKINS, Esq.

86. Fungus hæmatodes of the testis. George B., aged 23. Swelling commenced seven months before admission, without evident cause. The testicle was removed on Dec. 6th, 1832, and he left the Hospital Dec. 29th. The tumour was medullary, with some yellow lymph (as in the last preparation) and masses of cartilage, but there were also several cysts of transparent fluid in the medullary part, and in the centre of the tumour some parts were dark coloured with extravasated blood, as in the hæmatoid variety of cancer. The tunica vaginalis, which had been opened before the operation and had not refilled, was healthy. The disease had apparently involved the epididymis. The secreting tubuli of the testis were spread out over the surface of the tumour. *Presented by* CÆSAR HAWKINS, Esq.

87. Fungus hæmatodes, with cysts of the testis. A preparation will be found in Series XVII., showing a large cancerous tumour containing cysts from the neck of this patient, and there the history will be found more fully detailed. Wherever the disease showed itself the tendency to form cysts was unusual, as well as in the testis which was the first affected, and was removed about 17 months before his death. A vertical section has been made through the testis displaying a number of cysts developed in its substance, varying in size from a small apple to a millet seed. *Presented by* CÆSAR HAWKINS, Esq.

88. Medullary disease of the testis. James W., aged 44, was admitted June 17th, 1840, with a tumour of the testis of twelve months' duration, which was removed on the 25th. The wound had nearly healed when he was attacked on July 14th with peritonitis, of which he died on the 18th. The inflammation arose from the pressure of some lumbar glands enlarged with medullary disease. The testis consisted of a soft pulpy mass, more transparent than cerebriform, and divided into about three compartments, the upper of which was darker coloured than the rest, and the centre was softened with a dark fluid, looking like pus, while the rest only showed a white milky fluid on being pressed. In two or three parts, especially on the edge of the upper and middle divisions there was some firm yellow substance like solid lymph. The vas deferens ran down to the lower end of the tumour, and the testis and epididymis seemed spread out over the tumour in its upper and posterior part. The tunics were thick, and without any fluid, and no cyst was perceptible. *Presented by* CÆSAR HAWKINS, Esq.

89. Medullary disease of the testis. The patient, aged 45, had suffered with disease of the testis of two years' duration, which was removed Oct. 11th, 1841. He had also some suspicion of

disease in the liver. He got well, and for several years at least was better in health, though suffering occasionally from slight cough, and pain in the region of the liver. The tunica vaginalis was traceable round the tumour, adherent to it except at the lower part, where there was a small quantity of water. Blood vessels were very numerous all round within the tunica albuginea, and in the upper part particularly where a small globular portion contained numerous tubuli, larger than natural, with opaque white substance in and among them. The vessels of the cord were healthy. The lower third of the tumour was full of slough of a soft consistence and yellow colour, with lymph and pus, the rest consisted of soft white medullary matter with much fluid. No part was hæmatoïd. *Presented by* CÆSAR HAWKINS, Esq.

90. Testicle and spermatic cord affected with a disease resembling medullary carcinoma. There existed tumours of the same nature under the skin of the abdomen. The spermatic cord was affected up to the loins, as were also the lumbar glands. *Presented by* Sir BENJAMIN BRODIE, Bart.

91. A tumour of the testis, of uncertain nature. This specimen exhibits extensive deposit superficial to the serous investment of the testis, the gland itself being but slightly larger than natural, and the layers of the serous membrane intimately connected with each other. Both the deposit and the gland itself, the natural structure of which had been lost, presented the same morbid appearances, and appeared to the eye at first sight as if infiltrated by lymph, containing patches of yellow coloured substance. When examined by aid of the microscope, the opinions of able and experienced observers were almost equally balanced as to the true character of the disease. Some thought it was an instance of simple chronic inflammation, whilst others contended for its carcinomatous character. The patient from whom the specimen was removed was John F., a gamekeeper, aged 54, who was admitted into the Hospital Feb. 14, 1850, for an extreme enlargement, combined with induration and heaviness of the right testis, which was also very irregular on its surface. The spermatic cord was also extensively nodulated and hard as high as the external inguinal ring. The scrotum seemed adherent to the enlarged testis. The disease commenced about 15 years before his admission into the Hospital, and appeared in the shape of a small lump at the bottom of the testis, of the size of a bean. The lump was free from pain, but hard to the touch, and did not increase in size. Five years after its first appearance, hydrocele on the same side came on, which was tapped, and injected with port wine and water. Great pain and effusion supervened, which, not yielding, led to the free use of mercury.

The treatment proved unavailing, and the testis, enlarged by the before-mentioned "effusions," continued to be of the same extreme size. The condition of the spermatic cord had only been noticed a few weeks before his admission, and had gradually increased. No pain more than slight aching had been experienced, and the patient's general health was and had been good. Before operation the patient was submitted to a course of mercury. After the operation a sharp attack of diffuse cellular inflammation of the scrotum and neighbouring parts came on, attended by rigors and a low typhoid condition. From this he recovered, and left the Hospital in apparent good health. He is now, October 1851, in good health, 18 months after the operation. The case is given with more details in Vol. I. of *The Lancet* for the year 1851, p. 511.

92. Encysted hydrocele of the spermatic cord which was taken from a patient in the Hospital in 1833, who died of some disease of the lungs. Although this man had been in the Hospital for several months he had not complained of the disease in the cord. The cyst is exceedingly thin, and hydrocele of the tunica vaginalis testis existed, as may be seen in the preparation.

93. Encysted hydrocele of the cord. The parietes of the cyst are very thick: its cavity contained a clear fluid. The testicle is adherent throughout to the tunica vaginalis reflexa.

94. Testicle taken from a patient, aged 57, who died in the Hospital. This man received a blow on the left testicle two years before, causing considerable swelling, which, when nearly subdued, was again excited by a second blow. He was admitted into the Hospital on the 4th of April, 1827, labouring under enlargement of the same testicle. Fluctuation could be felt, but there was no pain. Various remedies were tried; but the only relief afforded was by puncturing the cyst, when a small quantity of thickish yellow fluid escaped. The patient was attacked with erysipelas and died on the 15th of June, 1827.

On careful examination of the tumour, the testis is seen to occupy its lower part; it is about its usual size, and its structure healthy. The tunica vaginalis is closely adherent to it throughout. In the preparation these adhesions have been partially separated. Above the testis and in front of the cord is a sac about the size of a hen's egg. It contained about an ounce of bloody-coloured serum. Its inner surface is smooth, and its innermost coat is formed by a thick layer of condensed organised substance of a pale fawn colour, which appears to consist of blood-fibrine. Projecting into the sac, from the inner surface of this coat, is a pyriform tumour, to which it is connected by a narrow neck. The wall of this tumour consists

apparently of the same texture as the innermost coat of the sac. On cutting into it, it was found to contain a softish light yellow mass, which presented, on microscopical examination, much similarity to blood-globules partially decolorised, and in the centre of this yellow mass, a small round body was found, of a white colour externally, smoother, and showing on section a fibrous structure, the fibres having a concentric arrangement. The contents of both cysts appear to have been originally effused blood. *Presented by* Sir BENJAMIN BRODIE, Bart.

95. Varicocele. The veins have been injected with blue wax. A similar disease existed in the opposite testicle of the same patient from whom this was taken. *Presented by* Sir BENJAMIN BRODIE, Bart.

96. Varicocele. The veins of the spermatic cord have been injected with blue wax. *Presented by* Sir BENJAMIN BRODIE, Bart.

97. Varicocele. From the same patient as the preceding. A small hydrocele is combined with the above disease. These two preparations were taken from the dissecting room. *Presented by* Sir BENJAMIN BRODIE, Bart.

98. Fibro-cellular tumour of the spermatic cord and scrotum. The following history of this case is abridged from Sir ASTLEY COOPER'S work on 'Diseases of the Testis,' p. 207 :—Mr. T., aged 60, fifteen months ago observed a swelling on the left side of the scrotum, painless, but accompanied by the formation of fluid in the tunica vaginalis. Little relief was afforded until the fluid was drawn off by puncturing the tunica vaginalis ; the quantity was about two ounces. The treatment was pursued, and a second time the water was removed, but still the enlargement and hardness remained. The testicle was then removed, together with the tumour. The testis was quite sound. The vas deferens could be injected to the beginning of the epididymis only. The spermatic cord was healthy. The disease is described thus—"The cavity of the tunica vaginalis was occupied by a spongy effusion, which had all the character of incipient fungus." The tumour has been divided vertically, and its cut section shows an imperfectly lobulated mass. Its outer surface is invested in a thick and dense fibrous membrane, in which a portion of ossific matter has been deposited. The tumour appears to have been developed in the loose cellular membrane of the scrotum or cord, and not in the tunica vaginalis. Its structure is fibro-cellular, consisting of a dense mesh of pale fibres of fibrous tissue.

99. Scrofulous tubercle deposited in the vesiculæ seminales, ejaculatory ducts, and submucous tissue of the prostatic urethra. From a lad, aged 20, who was admitted into the Hospital on account of scrofulous disease of both testicles, and died of phthisis. *Post Mortem and Case Book*, 1855, p. 287. The disease in the testicle is preserved as No. 66.

END OF SERIES XIII.

SERIES XIV.

INJURIES AND DISEASES OF THE FEMALE ORGANS OF GENERATION.

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1. A portion of inverted uterus, which was successfully removed by operation. The Fallopian tubes are seen inside the cavity of the tumour, a result of the inversion. The uterus is easily turned back again, and then the parts are seen in their natural position. At the apex is a spot where the mucous membrane is abraded and discoloured. There was great suffering on the second and third days after the operation, so that the ligature was relaxed. She recovered perfectly; but never menstruated afterwards. The case is probably the same as that which will be found fully described in 'Gooch on Diseases of Women and Children,' p. 131 (New Sydenham Society's edition). *Presented by* T. A. STONE, Esq.
2. Tumour supposed to be an inverted uterus, successfully removed.* The patient was 33 years of age, and mother of six children. About eight months previous to the operation, she had had a miscarriage. The fœtus (seven months) was expelled while she was in the upright position. This was attributed to a strain in lifting a heavy weight. She recovered rapidly, and did not notice anything unusual at the time. A few months afterwards she thought herself again pregnant, but menstruated regularly. Three weeks previous to the operation, after jumping a distance of three feet, she felt a clot of blood pass away. This was followed by bearing down pains, and the appearance and gradual growth of a tumour in the vulva. Several days before the mass protruded from the vagina, there was a disagreeable odour from her person. On examination, the tumour which forms the preparation, was found presenting outside of the vagina; it appeared solid, and about the size of a seven months' child. It was attached to the vagina by a neck, about six inches in circumference. The surface was of an ash, or slate colour, and peeled off in patches, presenting a red congested appearance below. On examination per vaginam, the neck was found to extend five or six inches upwards, forming a cul-de-sac anteriorly and externally, with ligamentous bands laterally. There was a fœtid smell about the parts, and much constitutional irritation. As the neck of the tumour was continuous with the vagina, with no appearance of an os, Dr. SLAYTER came to the conclusion that the uterus was inverted, and much hypertrophied. The urethra was retracted fully an inch, and its curve was so sharp that a catheter could not be passed more than half an inch. The tumour was removed with the écraseur. Not more than two ounces of blood were lost. The stump left by the operation presented a longitudinal slit. The parts easily retracted, and the urethra returned to its natural position.

* Considerable doubt exists as to the real nature of this preparation. Many of those who saw it considered it to be a polypus, which had been removed, together with a portion of the wall of the uterus. See *Path. Soc. Trans.*, Vol. XVI.

The woman made a good recovery. The operation was performed on February 25th, 1864, and in September it is reported that she is walking about as well as ever. *Presented by* Dr. SLAYTER, of Halifax, Nova Scotia.

3. The effects of retroversion of the uterus are seen in this preparation, which was purchased by Mr. STONE at the sale of the late Mr. BROOKES' Museum. The bladder is enormously distended (catheterisation having been neglected) so that the ureters admit large-sized bougies; and the mucous membrane is inflamed and ulcerated. The retroverted uterus, containing the placenta, is seen at the other side of the preparation. *Presented by* T. A. STONE, Esq.

4. Uterus from a patient who died in the Hospital in 1827. She had considerable swelling of the lower part of the abdomen, attended by severe pain and discharge from the vagina, producing great constitutional disturbance, of which she died. The walls of the uterus are much enlarged and thickened; on the posterior surface many small tubercles of a fleshy appearance are distinctly seen. The ovaria are likewise enlarged, and each contained a cyst, holding about an ounce of dark-coloured fluid.

5. The uterus and ovaries of a young woman who died of chorea. The cavity is unusually open. The cervix is elongated, and intensely injected. The os is uneven, and at the time of the post-mortem examination was covered with a defined white membrane, under which the surface was much injected, and was excoriated. It should, however, be mentioned that the latter statement was a matter of some dispute. The vesicles of the ovaries contain coagula. The posterior wall of the vagina contains coagula. At the Post Mortem examination it was seen that the vagina was much roughened and dilated. The mucous membrane was visibly congested. The Fallopian tubes were full of milky fluid, like pus, which proved to consist of columnar epithelium. There was an unusual amount of vascularity both in the brain and in the spinal cord. There were beads of recent lymph on the mitral valve, as well as some thickening of older date.

The girl was 20 years old. She had been a barmaid. Some months before her admission she was laid up with rheumatic fever, and had since had what her mother described as 'epileptic fits.' When admitted she had had chorea for five days, and displayed a very excited hysterical manner. Assa-fœtida, valerian, and sulphate of zinc were administered, but next day she became violently maniacal, screaming, struggling, and incessantly jerking her pelvis up and down. She now had frequent doses of antimony and opium, and became sensible. She subsequently became quite quiet, and died on the third night after admission. She had an epileptic fit some time before her decease. *Post Mortem and Case Book*, 1862. p. 164.

6. Section of a fibrous tumour of the uterus. *Presented by* SIR BENJAMIN BRODIE, Bart.

7. The uterus, part of the vagina, Fallopian tubes, and ovaries. A section has been made through the anterior wall of the uterus, exposing a small fibrous tumour, partly embedded in the substance of the uterus, and partly projecting into the uterine cavity. *Presented by* SIR BENJAMIN BRODIE, Bart.

8. Section of a fibrous tumour which projected into the cavity of the uterus. It is enclosed in a case of calcareous matter. From an old woman. *Presented by* SIR BENJAMIN BRODIE, Bart.

9. Fibrous tumours of the uterus. Some of these tumours are situated in the walls of the uterus, others are situated between the peritoneal coat and outer surface, and one is placed immediately beneath the mucous membrane, and projects into the cavity of the uterus. The parts are injected.

10. Uterus, with two fibrous tumours. One, a very large tumour, projects into the uterus, and completely fills up its cavity. The other is situatedat the back part, towards the peritoneal surface.

11. Uterus, with two large fibrous tumours. One of these tumours, the larger of the two, is situated at the fundus, the other at the posterior part of the uterus. Both projected into the cavity of the pelvis, and appeared to be loosely connected with the uterus, especially the smaller one, which merely presents a long thin pedicle, and had fallen backward and pressed upon the rectum. The uterus itself is very much elongated. The patient died of erysipelas of the head, and never had any uterine symptoms while in the Hospital. She was 49 years of age. See *Post Mortem and Case Book*, 1844. p. 33.

12. Fibrous tumour growing from the walls of the uterus by a long peduncle, the tumour having passed out of the cavity of the uterus into that of the vagina.

    The woman from whom this preparation was taken was admitted into the Hospital in a dying state, and expired a few days afterwards. She had suffered from symptoms of polypus uteri for eight years, but no means had been taken to remove the tumour. Some other fibrous tumours were embedded in the walls of the uterus. The vagina was considerably dilated, and its lining membrane inflamed and covered with mucopurulent secretion. The lower and anterior surface of the tumour was much ulcerated. See *Post Mortem and Case Book*, 1848. p. 5.

13. The cavity of the uterus laid open. Two small fibrous tumours are seen to be connected by narrow pedicles with the lining membrane of the body of the uterus. In the recent state they were of a dark purple colour, and in appearance not unlike a clot of effused blood. No symptoms were present which denoted their existence during life.

    The preparation was taken from a patient who died of

anasarca, consequent upon extensive cardiac disease. *Post Mortem and Case Book*, 1849. p. 91.

14. Fibrous tumours connected with the uterus. One, on the right side of the organ, is of large size, and lobulated, being connected with the uterus by a broad peduncle. Numerous smaller ones are seen in the walls of the body of the organ. The lower part of the uterine cavity, and the cervix, are greatly elongated, but there was nothing else remarkable either about the uterus or its appendages.

    The preparation was taken from the body of Mary H., a person of great age, and who had never borne any children. She died of peritonitis and disease of the liver and kidneys. There was also considerable atheromatous deposit in the arterial system. *Post Mortem and Case Book*, 1851. p. 109.

15. Fibrous tumour of the uterus. A small fibrous tumour is attached by a broad pedicle to the outer part of the fundus of the uterus, which appears enlarged. The Fallopian tubes are enlarged and thickened. *Presented by* CÆSAR HAWKINS, Esq.

16. Section of a fibrous tumour of the uterus. It completely filled the uterus, and resembled in appearance a child's head. When removed, the uterus seemed entire, of large size, and somewhat thinner than natural, and was adherent to the tumour. *Presented by* CÆSAR HAWKINS, Esq.

17. A fibrous tumour, or polypus, removed by operation from a single woman. The vagina was narrow; and the deep sulcus seen upon the tumour was attributed to pressure from that cause. *Presented by* T. A. STONE, Esq.

18. Polypus, or pedunculated fibrous tumour, springing from the lip of the uterus. This fact in the anatomy of uterine polypi was pointed out by Dr. Gooch. See his Treatise on Diseases of Women and Children, p. 126 (New Sydenham Society's edition). The tumour in the preparation is large, and deeply lobulated; it is attached by a short neck of considerable breadth to the lip of the uterus, the cavity and cervix of which are much dilated, and its walls thin and soft.

    Microscopical Examination shows the tumour to consist of fibres, interspersed with a large number of nuclei. *Presented by* T. A. STONE, Esq.

19. Uterus, in the substance of which a large fibrous tumour is embedded. 'In this case,' says Mr. Stone, 'the uterus being large enough, from the cervix to the fundus, to fill the space between the pubes and sacrum, retroversion of the uterus took place; and it was necessary to draw off the urine for many months.' The tumour consists of simple white fibrous tissue, and is situated above the cavity of the uterus, enclosed in a capsule of areolar membrane. One ovary is converted into a simple cyst, and two small cysts are seen in the other. *Presented by* T. A. STONE, Esq.

20. Uterus, curiously altered in shape, from the development of an enormous fibroïd tumour in its posterior wall. The tumour shows, under the microscope, the ordinary fibrillæ and nuclei of common fibroïd.

    This preparation was taken from the body of a lady, who, on first consulting Mr. Stone, presented a tumour projecting from the os uteri, and much resembling a polypus in the process of coming down. Severe pain came on, and the tumour began to project more, but, of course, never presented any neck. She sank, exhausted by the discharge. *Presented by* T. A. STONE, Esq.

21. Uterus, to which two polypoïd tumours are attached. Their structure much resembles that of the muscular tissue of the uterus. The lower one is nearly detached from the wall of the uterus, as though a ligature had been applied. *Presented by* T. A. STONE, Esq.

22. Uterus, with a fibrous tumour embedded in its posterior wall, and another near the entrance of the right Fallopian tube, into which a bristle has been passed. The muscular fibres are easily separated from the tumours. *Presented by* T. A. STONE, Esq.

23. Uterus, with a fibrous tumour embedded in its wall. The cavity is much enlarged, and the organ hypertrophied. *Presented by* T. A. STONE, Esq.

24. A very small uterus, with numerous small fibrous tumours. *Presented by* T. A. STONE, Esq.

25. Small fibrous tumours, projecting between the uterus and its peritoneal coat. *Presented by* T. A. STONE, Esq.

26. Small fibrous tumour, projecting between the substance of the uterus and peritoneum. *Presented by* T. A. STONE, Esq.

27—32. A series of six preparations of polypus of the uterus, most of which probably have been removed by the ligature. *Presented by* T. A. STONE, Esq.

33. Uterus, with a small polypus springing from its lining membrane, near the entrance of the left Fallopian tube. The uterine cavity is as yet hardly at all enlarged. *Presented by* T. A. STONE, Esq.

34. A small loose fibrous tumour of the uterus, covered by mucous membrane, and attached by a stalk, consisting almost entirely of mucous membrane. The tumour is easily separated into parts, or lobules, bound together by lax fibrous tissue. It shows, under the microscope, much oil and granular matter, and some indistinct and very small fibre-cells. The fibres are very small and granular. *Presented by* T. A. STONE, Esq.

35. A small fibrous tumour, loosely embedded in the sub-mucous tissue of the pregnant uterus. Shreds of the decidua may be seen on its inner side; and the tumour has been cut into, and

its halves separated, in order to show how loose its connections are. *Presented by* T. A. STONE, Esq.

36. Small fibrous tumours of the pregnant uterus. *Presented by* T. A. STONE, Esq.

37. Uterus much enlarged, and its cavity nearly obliterated by large masses of fibrous tumour. *Presented by* T. A. STONE, Esq.

38. A fibrous tumour of the uterus, of extraordinarily large size. *Presented by* T. A. STONE, Esq.

39. A fibrous tumour of the uterus, of large size. *Presented by* T. A. STONE, Esq.

40. Uterus much enlarged, and containing a large fibrous tumour of the ordinary structure, very ragged on its surface, and attached to the fundus uteri by a distinct neck. The raggedness of the surface of the tumour is probably caused, in part at least, by its having been much handled. *Presented by* T. A. STONE, Esq.

41, 42. Two preparations of uteri, containing fibrous tumours embedded in their muscular walls, put up to show the difference in shape of the os uteri which is found in different cases of fibrous tumour. In the former, the shape of the cavity is seen to be much changed, while the os retains its natural shape. In the latter, the cavity presents its usual triangular shape, while the os is perfectly round and ring-like. The tumours are identical in structure and appearance; but Mr. STONE has observed that in cases where this ring-like form of the os is found, the tumour often runs a malignant course, and he has, therefore, denominated this preparation 'a specimen of carcinoma.' *Presented by* T. A. STONE, Esq.

43. A uterus containing numerous small fibrous tumours. One of larger size, springing from the wall of the uterus a little above the os, hangs down into the vagina, and has contracted an adhesion to the vagina. A piece of bougie has been passed between the two attachments of the tumour. *Post Mortem and Case Book*, 1860. p. 148.

44. A large tumour, of the kind usually described as fibrous, attached to the upper and lateral part of the uterus, just above the Fallopian tube. It is shaped like a pear, and is attached by a narrow pedicle to the uterus, on the right side, and is about the size of that organ. It is enveloped by a calcareous shell, which could not be cut through without difficulty. Although to the unaided eye the tissue much resembled fibrous tissue, under the microscope it was found to consist almost entirely of involuntary muscular fibre.

The specimen was obtained from the body of a woman 38 years of age. No symptoms had been observed during life. *Post Mortem and Case Book*, 1862, p. 312.

45. Uterus greatly distended by fibrous growths, some of which have

become detached, and others, partially so, are hanging loose in the vagina. The uterus is enlarged to about the size belonging to the seventh month of pregnancy. It is irregular in shape, and here and there nodular on the surface, owing to the protrusion of small superficial fibrous tumours. The interior is occupied by large irregular polypoid growths, most of which depend from the upper and posterior part of the cavity. Some are long and compressed, and pass through the os uteri; others are shorter and more rounded. Some have the spherical shape of uterine fibrous tumours, and are closely attached to the wall. The wall itself is much and unevenly thickened. It embeds numerous fibrous tumours. Under the microscope the growths were found to consist of fibrous tissue.

The preparation was taken from the body of Jane S., aged 35, who died in the Hospital July 23rd, 1862. For six years before, menstruation had been profuse and painful, and for the latter half of that period the belly had been increasing in size. Some weeks before her death she was seized with severe pain in the sacral region, hips, and hypogastrium, and the discharge, which before had been simply of mucus, became brown and offensive. A soft mass was now discharged from the vagina. On examination, a firm fleshy mass was seen protruding from between the labia; this filled up the vagina, and could be traced into the os uteri, where many more were felt. These were apparently loose, and were removed by the hand. They were blackish, and horribly offensive. The patient suffered much from vomiting. The abdominal tumour was of large size. The circumference of the body, in the umbilical region, was 42 inches. Large masses of foul, sloughing, organized matter were occasionally discharged from the vagina, and the patient sank. At the Post Mortem examination the belly was found to be occupied by a large tumour, which reached from the liver to the pubes, and proved to be the uterus altered as described. There were some flakes of recent lymph in the peritoneal cavity. All the other organs were natural. *Post Mortem and Case Book*, 1862. p. 200.

46. A large polypus growing from the posterior surface of the uterus, by a broad base. The tumour comes somewhat forwards as it emerges from the os.

The patient from whom this preparation was taken had for years been subject to the most profuse hæmorrhage. Some three years before her death the hæmorrhage was incessant, and it was thought that she must die. She never left the recumbent posture, and the surface of her body looked like white wax. The blood at that time could be seen oozing from enlarged veins on the surface of the tumour. The bleeding surface was touched by nitric acid, and the bleeding for a time

was greatly diminished. The patient recovered sufficiently to take short drives. After a time the hæmorrhage recurred as before. It was now determined to attempt to put a ligature round the base of the tumour. After every preparation had been made (the patient being in a proper position), a preliminary examination was made, when no tumour could be felt, as it had receded into the uterus. The hæmorrhage continued, and the patient sank into so low a state that no further operation was undertaken; and she sank at last from peritonitis, perhaps occasioned by absorption of some of the foul matter on the ulcerated surface of the tumour. *Presented by* Mr. H. Lee.

47. Fibrous tumour removed from the fundus of the uterus by means of scissors. The patient, a middle aged woman, had eversion of the uterus, and the tumour was thus pushed through the vagina, close to the labia. The patient did very well.

48. Large fibrous tumour of the uterus springing by a very thick pedicle from the fundus of the organ, and dilating its neck which is expanded round the upper part of the tumour. The diseased mass completely filled the cavity of the pelvis, and pushed the body of the uterus up into the abdomen, where it was felt during life, midway between the umbilicus and pubes, and by its round shape and mobility, gave rise to the opinion that a second fibrous tumour was growing from the peritoneal surface of the uterus, and projecting towards the abdomen. At the time of the examination of the body, the surface of the tumour was in a sloughy state, and extensive ulceration had taken place both in the posterior wall of the vagina and in the anterior wall, from whence it had extended into the bladder, destroying the neck of that organ. The rectum was displaced, but quite healthy. This preparation was taken from a patient aged 38, who had been suffering from the disease for some time, which had given rise to great losses of blood. A ligature was passed round the upper part of the tumour, but it was removed three days after its application in consequence of the symptoms which came on. *Post Mortem and Case Book*, 1845. p. 188.

49. Large fibrous tumour excised with a strong pair of scissors from the fundus of the uterus, to which it was connected by a long and thick pedicle. The operation was not immediately followed by hæmorrhage, but some little time afterwards bleeding came on, which was stopped by plugging the uterus and vagina. The patient ultimately did well. The pedicle and the tumour proved to be very vascular, their structure being permeated by numerous vessels, especially in the neighbourhood of the pedicle, where may be seen the open mouths of some vessels as large as crow's quills at the upper part of the tumour. The patient, aged 41, was admitted into the Hospital with diffuse

cellular inflammation of the hand and forearm. Subsequently it was discovered that she had a large tumour, hanging down from the vagina, which, on further examination, proved to be connected by a pedicle, of the size of an index finger, to the fundus of the uterus, the mouth of which was widely dilated. The tumour itself was of a dark green colour and remarkably fœtid, but of firm consistence. She had been troubled with it six years previous to her admission into the Hospital. When she first observed it, it was at the mouth of the vagina, and of the size of a walnut, and protruded whenever she stood up. From that time it had been gradually increasing in size, and by its hanging down between the thighs, had caused so much pain and inconvenience, that she had been in the habit of supporting it with towels: but this produced little relief. From the beginning the patient had, at times, been subject to alarming attacks of hæmorrhage, which had reduced her very much. When cut into after its removal, the tumour was of a dark livid colour, and of a looser texture than usual.

50. Uterus, ovaria, and upper part of the vagina. A perpendicular section has been made at the posterior part of the uterus and vagina. Close to the os uteri and attached to the anterior wall of the uterus is a fibrous polypus, to the pedicle of which a ligature was applied. The patient died of peritonitis six days after the operation.

51. Polypus uteri removed by ligature. The patient, Sarah G. aged 31, was admitted January 20th, 1843, with polypus uteri, accompanied with hæmorrhage of fifteen months' duration. The tumour was tied on January 27th and came away on the 30th. The patient left the Hospital cured. The structure of the tumour is fibrous; it originated from the cervix. *Presented by* CÆSAR HAWKINS, Esq.

52. A very large fibrous tumour, or polypus, attached to the uterus by a narrow neck, and to the vagina by a broad band of adhesion, beneath which, in the preparation, a piece of glass has been passed. A portion of the tumour projected externally and was removed; but it was found impossible to remove the remainder. The part removed is shown in the next preparation. Microscopical examination of both portions shows, besides the usual fibrous tissue, a larger quantity than usual of oat-shaped nuclei. The woman died, exhausted by discharge from the polypus. Post Mortem examination showed numerous old and firm adhesions of the pericardium, peritoneum, and pleuræ; and ulceration of the vagina, to which the formation of the adhesion was attributed.

53. The portion of the tumour above referred to, which was removed during life. *Presented by* T. A. STONE, Esq.

54. Uterus with fibrous polypus attached, round which a ligature has

been applied, and is still seen *in situ*. The operation was effected by means of a canula. The patient having turned in bed on her back, the canula, pressing on the mattrass, perforated the uterus, and caused death. A bougie is placed in the situation which the canula occupied.

This accident is referred to in Dr. Gooch's Treatise on Diseases of Women and Children, p. 137 (Edit. New Sydenham Society). *Presented by* T. A. STONE, Esq.

55. A very large polypoïd tumour, from the uterus, which was removed by ligature. The uterus is preserved in the next preparation (No. 56). The patient died of peritoneal inflammation, a week after the operation. The cavity of the uterus is seen to have nearly recovered its natural size ; and the neck of the tumour is almost removed from the uterus by the action of absorption.

56. The uterus above described. *Presented by* T. A. STONE, Esq.

57. A polypus round a portion only of which the ligature had been applied ; but which was thrown off from its attachment to the uterus before the ligature had cut through the part to which it was applied. This, as well as the last preparations, illustrate what Dr. Gooch says, that "these tumours have little life, and die above the ligature as well as below it."—Diseases of Women. New Sydenham Society's edition, p. 139. *Presented by* T. A. STONE, Esq.

58. Uterus, with a polypus growing from its wall, which has been partly separated by the ligature. The patient died of peritonitis, three days after the operation. *Presented by* T. A. STONE, Esq.

59. A small tape-like polypus, which was lying loose in the vagina, and was removed by the ligature in two days. *Presented by* T. A. STONE, Esq.

60. Polypoïd tumour of the uterus, which broke into fragments in the attempt to remove it by operation. The patient recovered, and is not known to have had any return. *Presented by* T. A. STONE, Esq.

61, 62, 63, 64. Four preparations of polypoid fibrous tumours. Two of these are certainly, and the two others probably, parts of a series of four such tumours which were removed from the same patient in the course of two years. From the circumstance of the labels having got accidentally detached before the preparations came to this Museum, some doubt exists as to the identity of two of the preparations. *Presented by* T. A. STONE, Esq.

65. A section of a large, somewhat oval, tumour—probably a uterine polypus. It has been injected, and the vascularity is well displayed on its cut surface. *Presented by* T. A. STONE, Esq.

66. Fibrous tumour, thickly studded with calcareous deposits, from

the uterus of a woman aged 68. *Post Mortem and Case Book*, 1845, p. 99.

67. Specimen of calcareous transformation of a large fibrous tumour, probably of the uterus. It was found in the churchyard of Oston Scott, Shropshire, and was forwarded to Sir Benjamin Brodie. "The grave digger was occupied in making a new grave in a part of the burial ground which had not been disturbed in the memory of the oldest inhabitant of the parish. No interment had taken place in that part of the ground for at least a century. The grave digger discovered the remains of a brass coffin plate, and, on a line with the upper part of the plate, this specimen. On searching the ground more attentively two teeth were found, and the remains of one temporal bone (the petrous portion). The spinous portions of both tibiæ were also found, but every other part of the skeleton had mouldered away."—Letter to Sir B. Brodie, Bart., from Wm. Clement, Esq.

68, 69. Two fibrous tumours of the uterus, in each of which small calcareous deposits are to be felt on section, and stellate crystals are to be seen in the microscope. *Presented by* T. A. STONE, Esq.

70. A large calcified tumour, which was loosely attached to the posterior and upper part of the uterus, within the peritoneal cavity, and to which the great omentum may be seen adhering. The pedicle of the tumour broke in the process of preparation, but its place of attachment to the uterus may still be recognised. Numerous small fibrous tumours, one of them having a very long and loose pedicle, are seen attached to the uterus, and embedded in it. *Post Mortem and Case Book*, 1858, p. 185.

71. Portion of a large fibro-cystic tumour connected with the right side of the uterus. The upper part of this tumour was composed of large membranous cysts, of a dark colour and inflamed, and containing a quantity of dark-coloured fluid. The lower part was composed of solid substance, containing an enormous number of cysts which varied from the size of the minutest network to that of an orange; all these cysts were filled with clear serum, which contained a large quantity of albumen. The connection with the uterus was by means of a pedicle two inches in breadth, and one-and-a-half in length; it was formed by the muscular fibres of the uterus, which were traced up the sides of the tumour to some distance and then lost. In various parts of this tumour were large deposits of solid structure not containing any cysts whatever, which looked like encephaloïd cancer, but was found to be of a fibrous nature. In the body of the uterus there was also a small white, dense tumour, of the size of a French bean, which also resembled encephaloïd cancer, but was fibrous. None of the glands were affected.

This tumour, by its situation and fluctuation, led to the belief that it was ovarian dropsy, and the operation of paracentesis was therefore performed, by which about eight quarts of a thick brownish fluid were evacuated. Symptoms of peritonitis subsequently made their appearance, of which the patient died. *Post Mortem and Case Book*, 1844, p. 77.

72. Fibro-cystic tumour springing from the lining membrane of the uterus, and projecting into its cavity. The cysts contained a transparent glairy fluid. Two minute cysts, each connected with the mucous membrane by a narrow pedicle, are seen in the cervix uteri ; where there are also some obstructed follicles.

There seem to have been no symptoms during life. The patient was 79 years of age, and died of cardiac dropsy. *Post Mortem and Case Book*, 1853, p. 71.

73. Mucous polypus of the uterus which is attached to the posterior wall, about half an inch within the lips of the os uteri. It was transparent and contained a gelatinous-looking fluid ; a few minute vessels were distributed over the surface of the cyst, which projected slightly beyond the lips of the os uteri. The fluid has been let out to shew the cavity of the cyst. This preparation was taken from a middle aged woman, who died of malignant disease of the peritoneum. She never complained of any symptoms in connection with the uterus. *Post Mortem and Case Book*, 1842, p. 82.

74. A portion of a mass of hydatids passed from the uterus of a patient in the Hospital in November, 1824. The symptoms of this case were extreme emaciation, severe vomiting, after four or five months' absence of the catamenia, with a good deal of pain in the hypogastric region, some swelling and tenderness, leading to a suspicion that she laboured under an affection of the bowels prevalent at that period. About the end of the fifth month, a few days previous to her death, the uterus was evacuated of a number of small bladders or hydatids, of which the preparation is a portion.

The ovaria were occupied by masses, of the size of pigeons' eggs, containing a similar diseased structure. *Presented by* Sir Benjamin Brodie, Bart.

75. Hydatids from the uterus. They are attached by numerous pedicles to a broad surface, by which they seem to have been fixed to the uterus. The patient discharged them with many others, after long suffering, resembling labour pains, and died in consequence of her illness. *Presented by* Cæsar Hawkins, Esq.

76. Hydatids of the uterus, showing the placenta-like mass, by which they were attached. *Presented by* T. A. Stone, Esq.

77. Hydatids from the uterus. *Presented by* T. A. Stone, Esq.

78. Specimen of scrofulous deposit beneath the lining membrane of

the uterus and Fallopian tubes, and in the substance of both ovaries. The body of the uterus contained a quantity of white soft tubercular matter, which, at the fundus, was firmer and more consistent, and with a definite outline, penetrating, as it were, into the muscular substance of the uterus. The Fallopian tube, on the right side, has been laid open from its uterine extremity, but was not found to contain the same kind of tubercular substance as the uterus. Both Fallopian tubes were impervious at their uterine extremities. The mucous membrane of the cervix uteri and vagina was entirely free from any tubercular ulceration, but greatly inflamed, having miliary deposits underneath it. Both ovaries are to be seen converted into cavities, and containing the remnants of a thick semi-fluid tubercular matter. They were greatly enlarged, and their parietes much thickened. There are also one or two fibrous tumours to be seen, the largest at the lower and right side of the uterus, connected with the outer surface of the muscular substance of the uterus. There was also found extensive peritonitis and ulceration of the glands, of both small and large intestines, which, in the rectum, had proceeded to perforation, the result of which was extensive consolidation of all the pelvic contents so that the specimen described above was with difficulty extracted. There was also extensive tuberculosis of the lungs and pleurisy, also scrofulous ulceration of the right sterno-clavicular articulation, to be seen in Series III., No. 63. The subject of this affection was Sarah F., who was admitted into the Hospital on account of an abscess over the sterno-clavicular articulation. She died January 22nd, 1851. *Post Mortem and Case Book*, 1851, p. 14.

79. Scrofulous disease of the uterus, Fallopian tubes and left ovary. The mucous lining of the uterus is extensively ulcerated, and covered over by a white scrofulous deposit. The Fallopian tubes are filled with scrofulous deposit, and are much distended and tortuous. The end of the right tube is dilated into a large sac, which was filled with a white flocculent creamy fluid. The right ovary was small, but healthy. The left Fallopian tube is seen to be adherent to the back of the uterus, and the ovary was converted into an abscess, containing scrofulous pus.

From the body of Sarah H., aged 18, who died of psoas abscess, and scrofulous disease of the medulla oblongata. For a preparation of the latter see Series VIII., No. 41. *Post Mortem and Case Book*, 1853, p. 113.

80. The uterus, vagina, and bladder. These parts are affected with carcinomatous disease, which began in the os uteri and thence spread to the different parts. A large malignant growth may be seen in the posterior wall of the bladder, and another large

mass of a similar nature has been developed at the back part of the uterus, between that organ and the rectum. The patient Mary A., aged 42, had suffered from vaginal discharge for a year and a half. This discharge was generally coloured, but sometimes white. The pain which she suffered was at times so great that she was obliged to have recourse to very large quantities of laudanum — ℥ij in the day. She also suffered at times from severe flooding. *Post Mortem and Case Book*, 1841, p. 69.

81. Carcinomatous ulceration of the os uteri and upper part of the vagina. Large quantities of carcinomatous matter have been deposited in the sub-peritoneal cellular tissue round the bladder and rectum. The disease had spread extensively to the sub-peritoneal cellular tissue, covering the intestines, where it was deposited in the form of tubercles. See Series IX., Nos. 240, 241. *Post Mortem and Case Book*, 1843, p. 7.

82. Uterus from a child aged 10. The walls of the uterus are greatly distended, and its cavity filled by a large encephaloïd growth which, originating in the muscular structure, on the left side, appears to have made its way subsequently into the cavity as well as outwards. On the left side the disease is intimately connected with the uterus, which, on the right side, merely envelops it, and is not in the least adherent ; its mucous surface being still perfectly smooth. During the illness of the patient, a red discharge took place from the uterus, which led her parents to believe that she was menstruating. The greater part of the abdominal cavity was filled with large encephaloïd growths, apparently originating in the mesentery. The liver and pancreas were also extensively affected with the same disease. The left kidney was not discovered; it had most probably become absorbed. The right kidney and pancreas were healthy. *Presented by* Dr. Page.

83. Malignant ulceration of the body of the uterus. *Presented by* Sir Benjamin Brodie.

84. Malignant disease of the uterus, which has become broken down, the result of ulceration (sometimes called Cauliflower excrescence). The patient laboured under a discharge from the vagina. A fungous excrescence is seen growing from the fundus of the uterus. This woman had scirrhus of the breast, and fungus hæmatodes of the liver.

85. Cancer of the uterus. The section shews a deep excavated ulcer in the cervix of the uterus, the cavity of which is nearly obliterated. There is also a small cyst of the ovary. *Presented by* Cæsar Hawkins, Esq.

86. Cancer of the uterus. The part of the organ that remains is enlarged and hardened, the whole of the cervix, part of the

uterus, and a considerable part of the vagina are destroyed by ulceration. *Presented by* CÆSAR HAWKINS, Esq.

87. Cancer of the uterus. The cervix is partially ulcerated; but the disease has principally affected the vagina, which is extensively ulcerated as far as the ovary on both sides. On the left side, the ovary is enlarged and excavated by ulceration into a large irregular cavity communicating with the vagina. *Presented by* CÆSAR HAWKINS, Esq

88. Cancer of the uterus taken from Mary F., aged 45, who died October 6th, 1829, the day after her admission into the Hospital, of peritonitis, which commenced six days previously, the disease of the uterus having begun a year before. The peritoneum was full of purulent fluid, the uterus was large and the cervix slightly ulcerated, the Fallopian tubes were much enlarged and contained a thick fluid of cheesy consistence. A cyst, the size of an egg, was found in the right ovary; it contained a clear fluid. The left ovary was slightly enlarged, and contained a small cyst. *Presented by* CÆSAR HAWKINS, Esq.

89. Cauliflower excrescence of the uterus. "In this case," says Mr. STONE, "a ligature was applied around the tumour, sufficiently tight to cut through it in thirty-six hours; so that the blood remained coagulated in the vessels; and thus a preparation of the actual appearance of this disease was obtained." *Presented by* T. A. STONE, Esq.

90. Uterus with pulpy flocculent mass remaining after the injection of its vessels, which had constituted cauliflower excrescence. The flocculent mass surrounds the os uteri in the vagina: the tissue of the uterus appears healthy, as is that of the ovaries, with the exception of a few small cysts. The diseased mass consists mainly of vessels, united by fibrous tissue, and covered with mucous membrane. No specific elements were seen under the microscope. *Presented by* T. A. STONE, Esq.

91. Specimen showing an early stage of malignant, or "corroding," ulceration of the uterus. The ulceration is almost limited to the os uteri, the vagina being only slightly affected. There is no visible morbid deposit. The ragged surface of the ulcer shews uterine fibres and fibre-cells much broken up and mixed with nuclei and granular matter, collected in some places into large circular masses, somewhat resembling mother-cells, like those of epithelioma. *Presented by* T. A. STONE, Esq.

92. Malignant ulceration extending from the vagina into the uterus. The vagina has been perforated by it, leading to a communication with the rectum. The os uteri is affected by the ulceration; but the body of the uterus (although enlarged) appears free from morbid deposit. On scraping a section of the diseased os, nucleated cells, nucleolated nuclei, fibre-cells, and some oil are seen mingled with the fibres of the uterus. The

left Fallopian tube, towards its ovarian end, is blocked up by a deposit of softish material, in which a great number of similar nuclei are seen. Both ovaries contain small cysts. *Presented by* T. A. STONE, Esq.

93. Malignant ulceration of the uterus and vagina. The cavity of the uterus has been laid open, and is seen to be extensively ulcerated throughout. A section of the wall of the uterus, examined microscopically, shows nucleated cells of many shapes, and oat-shaped nuclei, with some remains of mucous membrane internally. A bristle has been passed into a cavity, formed between the uterus and bladder, by perforation of the former. The vagina is somewhat ulcerated, and a small opening exists between it and the bladder. The wall of the uterus is so much thinned in some parts as to be semi-transparent. *Presented by* T. A. STONE, Esq.

94. Malignant ulceration of the uterus. The os uteri is destroyed and the ulceration is seen to have penetrated the uterus in various directions, and to have affected and perforated the vagina. *Presented by* T. A. STONE, Esq.

95. Malignant ulceration of the uterus, which is also affected with fibrous tumour. The cervix uteri is destroyed. Two small fibrous tumours are seen in the body of the uterus, which present the ordinary fibroïd structure under the microscope. There are cysts in the ovaries and broad ligament; some of which contained serous fluid, others pus. *Presented by* T. A. STONE, Esq.

96. Another specimen of malignant ulceration combined with fibrous tumours, springing from the fundus uteri. The bladder is seen to be extensively laid open by the ulceration. *Presented by* T. A. STONE, Esq.

97. Malignant ulceration of the uterus and vagina. There is copious deposit in both these parts; the fundus uteri is much thickened, and the cellular tissue in the broad ligament œdematous. The malignant deposit is extensively ulcerated on its surface; and a copious juice can be squeezed from it, exhibiting, under the microscope, nuclei and nucleated cells, with much oil. *Presented by* T. A. STONE, Esq.

98. Malignant ulceration of the uterus. The os and cervix are entirely destroyed. *Presented by* T. A. STONE, Esq.

99. A specimen showing still more extensive destruction of the uterus, of which the fundus only remains. *Presented by* T. A. STONE, Esq.

100. A specimen of malignant ulceration of the uterus, by which a portion of the organ has been destroyed. The parts in the neighbourhood are matted together, and the cavity of a small abscess is seen, which, however, was confined to the cellular tissue behind the uterus. *Presented by* T. A. STONE, Esq.

101. A section of the pelvic viscera, showing the uterus, vagina, bladder, and rectum laid into one cavity by malignant ulceration. *Presented by* T. A. STONE, Esq.

102. Extensive destruction of uterus, bladder, and vagina, by malignant disease. The lower half of the uterus has been destroyed, so that only the body remains ; it has been completely severed from the vagina, the upper part of which is also implicated in the disease. The bladder and the vagina form a continuous cavity. The position of the bladder may be recognised by the ureters which are left in connection with it. *Presented by* T. A. STONE, Esq.

103. Cancer of uterus, fatal after labour. The uterus is imperfectly contracted, and the whole of the interior is seen to be covered with a soft ragged growth of a malignant character ; this has destroyed the os and has extended for about an inch down the vagina. There has been a good deal of laceration in the neighbourhood of the os, one of the rents having apparently gone into the peritoneal cavity.

The preparation was taken from the body of a woman who was delivered of a child at the full period of pregnancy, and died the day afterwards. *Presented by* T. A. STONE, Esq.

104. Prolapsus of the vagina, which has dragged down the uterus, part of the bladder, and the urethra. The mucous membrane of the vagina has taken on the appearance of skin, and an incision has been made into the front part of the everted vagina to display the position of the displaced bladder, into which the urethra passes perpendicularly downwards. The os uteri opened in the centre of the most depending portion of the vagina, and is marked by a small piece of coloured glass. An incision has also been made into the posterior part of the vagina to display the position of the uterus. The bladder is enormously dilated, most probably from the difficulty which the water must have had in escaping from the displaced urethra. The disease had existed many years. This preparation was presented to the museum.

105. A section of a specimen almost exactly resembling the former, except that in this the bladder is not enlarged. In this section the skin and pubic hair will be seen in front ; immediately below this the urethra is seen running almost perpendicularly, and leading downwards into a portion of the cavity of the bladder which has been dragged down with the uterus : the remainder of the bladder, which is still above the pubes, is connected to this by a narrow neck. Behind and below the bladder is seen the section of the uterus, the lowest portion of the preparation showing the canal of the cervix, which has been dilated by a bougie. The utero-vesical and recto-uterine pouches of peritoneum are seen dragged out beyond the ex-

ternal parts. Behind and above the uterus the rectum may be seen making a sharp turn, in consequence of its middle portion having been dragged down by the peritoneum. The section of the anus will be recognised behind. The rugæ can be traced on a part of the prolapsed vagina. At the side the Fallopian tube and round ligament are seen. *Presented by* T. A. STONE, Esq.

106. This preparation shows a globular protrusion from the vulva, which is formed by the posterior wall of the vagina. This is much thickened, and is covered with thickened mucous membrane, which had during life the appearance of cuticle. An opening has been made in the protruded part of the vagina, which serves to show how the general cavity of the peritoneum is continued into the interior of the swelling. This might easily have contained a coil of intestine, but at the post-mortem examination did not do so. There also existed a very narrow stricture of the sigmoïd flexure. (See Series IX. No. 161.)

The specimen was taken from the body of a woman 64 years of age. The vaginal protrusion had lasted for ten years, but did not give much inconvenience. She had an attack of vomiting and constipation six months before her death, which, however, passed off. She had again an attack of a similar nature, with vomiting of fæcal matter, for which she was admitted into the hospital. The question then arose whether the symptoms were due to a strangulated vaginal hernia, but when it was found that the swelling could be easily reduced it was concluded that there was some independent cause of obstruction. Injections were used, and considerable action of the bowels produced. The patient, however, gradually sank, and died about a fortnight after the commencement of the stercoraceous vomiting. *Post Mortem and Case Book*, 1861. p. 182.

107. Imperforate vagina operated upon with fatal result. Above the point of occlusion, which was about two inches from the external opening, the vagina forms a large dilated pouch, which was filled with an accumulation of vitiated menstrual fluid; the lining of this pouch may still be seen covered with some recently effused lymph. The opening of the uterus is also much dilated. A bougie is passed through the perforation made by the trocar. There are several cystiform dilatations in connection with both Fallopian tubes, especially near their fimbriated extremities, but the tubes themselves are in the greater part of their extent natural, and the peritoneum healthy.

108. Laceration of the vagina produced by coition. There is a rent passing along the upper two inches of the vagina, dividing the mucous membrane and the adjoining fibres of the muscular

coat. The rent deepens as it ascends, and on a level with the os uteri has broken through into the peritoneal cavity. The hole in the peritoneum is not quite large enough to admit the little finger.

The preparation was taken from the body of a woman 70 years of age, who had recently been married to a life-guardsman. The injury was done in the act of intercourse. It is probable that death followed within a short time, for there is no trace of lymph in the neighbourhood, and the edges of the wound are sharp and distinct, and quite free from any reparative or morbid action. *Presented by* T. A. STONE, Esq.

109. Encysted tumour of the vagina, removed by operation. This tumour was attached to the side of the vagina. It is a simple cyst, which was perfect at the time of removal, and contained fluid. *Presented by* T. A. STONE, Esq.

110. Fibrous tumours of nymphæ and clitoris removed by operation. *Presented by* T. A. STONE, Esq.

111. An encysted tumour removed by operation from the orifice of the female urethra. This tumour consists of loose fibrous tissue enclosed in a capsule. *Presented by* T. A. STONE, Esq.

112. Simple cysts in each ovary. The following notes referring to the case were probably written by Sir BENJAMIN BRODIE :—

"The cysts in the ovaries contained a thick, black, unctuous, and nauseous substance of the consistence of tar. A small polypus is attached to the cervix; a small ulcer is seen in the interior of the fundus. The woman had her knee amputated by Sir Benjamin Brodie for fungus hæmatodes, and the disease of the organs of generation was not known. Is the colour of the ovarian fluid owing to the same substance as melanosis ?"

113. Cyst of the ovary. The cyst is a single one, and contained a transparent fluid resembling water. *Presented by* CÆSAR HAWKINS, Esq.

114. An ovarian cyst removed from a patient after death.

115. Small ovarian cyst. The walls are very thick, and consist of fibrous tissue. The interior is studded with small prominences, which might easily be mistaken for lobules of fat, but which consist of a fibro-nucleated growth. *Presented by* T. A. STONE, Esq.

116. An ovarian tumour, consisting of a great number of cavities, containing fluid of various kinds and consistence. The fluid in some was clear, in others thick and mixed with blood; other cysts contained cholesterine, and others purulent fluid. On the inner surface of one or two, fibrous granulations existed, mixed in some cases with calcareous matter. The connection and position of this tumour was somewhat singular. It passed upwards and backwards behind the great omentum

and the stomach, appearing above the smaller curve of that organ and elevating it. It had, as it were, dragged upwards the uterus by means of the intervening broad ligament, which was greatly thickened. The uterus was also much elongated, presenting not the least similarity in form to the normal organ. It was greatly indurated, and had somewhat the shape of an immense bean, and contained a remarkable polypoid tumour. Moreover there was a very large cyst, which contained several quarts of clear fluid, and which was connected with the uterus and above described tumour, involving the broad ligament of the uterus on the right side. This extended to a great distance upwards in front of the abdominal viscera, and was composed of a membrane in many places almost a quarter of an inch thick, having on its inner surface numerous fibrous granulations with calcareous matter attached to its wall. See *Post Mortem and Case Book*, 1853, p. 163; also *Path. Soc. Trans.*, Vol. IX., p. 325, as shown by Dr. OGLE.

117. Section of a diseased ovarium from a patient who was supposed to labour under ovarian dropsy for many years. The cysts seen in this preparation were filled with a dark-coloured fluid. *Presented by* Sir BENJAMIN BRODIE, Bart.

118. A very large ovarian cyst, preserved in spirit. It has been laid open to show the inside. The cyst is unilocular; the walls are of regular thickness, and have a stiff fibrous appearance. From several points in the interior, nodular growths protrude into the cavity; the largest of these is about the size of an orange. The uterine organs are still in connection with the cyst. The left ovary and the uterus are natural; the right ovary is not to be found, and appears to have been transformed into the cyst described. There are some flakes of recent lymph on the outer surface. *Presented by* T. A. STONE, Esq.

119. A very large compound cyst from the ovary. It has been dried and varnished. The compartments are few and of large size. *Presented by* T. A. STONE, Esq.

120. Ovarian cyst with thick walls, dried and varnished. This is a single cyst partially divided by septa. *Presented by* T. A. STONE, Esq.

121. Large cyst, probably from the ovary or broad ligament, dried and varnished. It appears to be unilocular. To one part of the exterior a plate of membrane is attached, which is probably the broad ligament. *Presented by* T. A. STONE, Esq.

122. Portion of a large tumour removed from the body of a woman 34 years of age, May 12, 1828. The tumour occupied the place of the left ovary, and filled the pelvis and great part of the abdomen. It was firmly adherent to great part of the muscles from the front nearly to the vertebræ, and the muscles

seemed as if beginning to alter in texture. On section the different growths forming part of the tumour were found to consist of cysts separated by thin membranous partitions, and containing a partially solid gelatinous substance, and the tumour contained also numerous globular cysts filled with fluid: a few were yellow and firmer in consistence. The solid part was situated on the left side, and reached from the pelvis to the ribs, but masses, varying in size from a pea to an orange, were scattered over the whole of the inner surface of the principal cavity, which had been tapped. The preparation shows this part of the disease. The cavity contained fluid of purulent nature, and the surface was highly inflamed, while the tumour contained few vessels internally. The exterior of the tumour was perfectly smooth. In some parts the peritoneal surface was inflamed, but not extensively, and the cavity contained a few ounces of serum. The right ovary was enlarged and hardened, but did not appear of malignant character.

The disease commenced nine months before her death, and the tumour was for a long time very obscure. After fluid formed she was tapped several times by Sir B. Brodie and Mr. Hawkins, on account of her violent sufferings, and about a fortnight before death one of the punctures burst from distension, and continued to discharge till her death, the symptoms of inflammation not being severe. *Presented by* CÆSAR HAWKINS, Esq.

123. Uterus and ovaria. To the right ovarium is attached a large membranous cyst, in the parietes of which are several well-developed teeth. Taken from a patient who died of a disease unconnected with this cyst.

124. Section of a cyst which was found filled with a kind of fatty matter containing a large number of hairs. The cyst, which apparently originated in the left ovary, is composed of a thin membrane. There were no symptoms of it during life. *Post Mortem and Case Book*, 1847, p. 94.

125. This specimen consists of an ovary with the great omentum adherent to it. This bandlike substance was all that remained of the omentum. It was of a firm structure, pale in colour, and had been so adherent to the right ovary as to drag that organ out of its site to a level with the summit of the bladder. The ovary itself was pale and very scabrous on its surface, and was reduced to a species of cyst consisting of firm, cellulo-fibrous walls, and having a number of light-coloured, fibroïd, bead- or wart-like substances connected with its lining surface. In the cyst was a mass of soft, pultaceous substance, consisting of large quantities of fat and flat plates of cholesterine, which gave the mass a bright, sparkling, micacious look, also quantities of granular amorphous matter, but no other anomalous

contents, as hair, teeth, or earthy concretions. The preparation was taken from a patient who died May 6, 1851, with scirrhous ulceration of the parietes, and pyloric extremity of the stomach and of the colon, the ulceration having opened a passage from the stomach into the colon. The other ovary and the uterus were perfectly healthy, excepting slight vascularity of the os. It would appear that the atrophy of the omentum depended upon some mechanical interference with the vessels at the root of the omentum, owing to pressure of the diseased structures, some previous peritonitis having united the omentum and the surface of the ovary. *Post Mortem and Case Book*, 1851, p. 96.

126. A cyst containing human hair and an ossific substance resembling an alveolar process, having a perfectly-formed tooth inserted into it. It was taken after death from a woman about 35 years of age, who died apparently from symptoms of peritonitis, which had only existed a few hours. On dissection there were no traces of inflammation, but a cyst was found loosely attached to the left ovarium, and having adhesions to the peritoneum. This cyst was very vascular, and on being opened was found filled with fine short hair, matted together by a lardaceous substance. *Presented by* Sir BENJAMIN BRODIE, Bart.

127. A mass of calcareous substance from the cyst of a diseased and enlarged ovarium, from a patient under the care of Mr. Merriman, of Kensington. The cyst was of a very large size, and an immense quantity of the same substance in smaller masses came away at various periods.

128. A large ovarian cyst containing hair and fat. The cyst when unopened was nearly spherical, and about as large as the fœtal head. It belongs to the left ovary. It consists of a large cyst, which forms nearly the whole bulk of the tumour, with two or three much smaller cysts growing from its outer surface. When the cavity was laid open a quantity of fluid resembling thick custard made its escape. Under the microscope this was found to consist of an emulsion of oil globules, which varied in size from the diameter of a sixpence (when magnified 400 diameters) to the smallest molecule that could be detected by the $\frac{1}{8}$th object-glass. After the escape of the fluid some lumps of fatty matter came out, which entangled numerous hairs. These masses are seen in the preparation, below the cyst. One mass consists almost entirely of fat; another is little more than a collection of hairs. These seemed to lie loose within the large cyst. Cysts were connected also with the right ovary and with the uterus.

The preparation was taken from the body of a married woman, 39 years of age, who had had several children. She was admitted with symptoms due to malignant disease of the

spine, which occasioned her death. The ovarian disease was evinced by a movable tumour in the lower part of the belly. *Post Mortem and Case Book*, 1863. p. 80.

129. An ovarian cyst containing fat and hair. The cyst is about as large as an adult kidney; it grows from the ovary, a portion of which remains unaffected by the disease. The tumour has been cut open, showing a quantity of light, somewhat curly hair, protruding from its interior; this is mixed with much granular fat. *Presented by* T. A. STONE, Esq.

130. A cyst in the broad ligament. The cyst is about as large as a walnut, the walls are thick and the interior smooth. Close to it is another cyst of small size. Both ovaries are preserved in the preparation; they appear natural. *Presented by* T. A. STONE, Esq.

131. Cyst growing from the broad ligament. The preparation is described in Mr. Stone's catalogue as a cyst attached to the Fallopian tube, which structure can indeed be seen passing from the uterus to the cyst, and with its extremity in close connection with the wall. The ovary appears quite natural; its outer end is in contact with the cyst. The cyst is spherical, and about 4 inches in diameter. The wall is very thin, and the cavity undivided. It is unopened. *Presented by* T. A. STONE, Esq.

132. Uterus and ovaries from a patient who was operated upon for the removal of a large ovarian cyst. The patient, Martha G., aged 23, was admitted into the Hospital on April 26th, 1847. She had considerable enlargement of the abdomen, which was greatest and most distinctly felt and observed on the right side. Fluctuation was very evident. The swelling had been perceived chiefly during the six months previous to her admission. The cyst was removed on the 14th of May, through an incision about three inches in length downwards from a little below the umbilicus. After the incision was made through the abdominal walls and peritoneum, it was ascertained, as far as could be, that no adhesions existed between the walls of the cyst and the abdomen. A trocar was then introduced into the cyst, and the contained fluid allowed to escape. This was dark coloured, as if mixed with a good deal of blood, and in quantity measured 230 ounces, being somewhat less than two gallons. As the fluid escaped from the cyst, the walls which gradually collapsed made their way through the external opening ; and when the whole cyst was drawn through the wound, a strong double ligature was applied to its base and the cyst cut off close to the ligature. The preparation was made to show the situation of the ligature, and how much of the cyst was left behind, to separate by sloughing. The ligature may be seen attached to the base of the left ovary. The portion of the cyst

beyond it was effectually strangulated. The fimbriated extremity of the Fallopian tube was included in the ligature. The uterus itself is rather larger than natural, and was flabby and soft. Its mucous membrane was thrown into folds, was thicker than natural, and the edges of these folds highly vascular and congested. The right ovary is rather larger than natural and was much congested, several false corpora lutea were found in its substance. The patient died two days after the operation of peritonitis.

For cyst *vide* following preparation, and for history see *Post Mortem and Case Book*, 1847, p. 114.

133. The cyst referred to in the previous account. The preparation has been dried, consequently the walls of the cyst are much contracted. The interior was extremely vascular when removed from the body ; bands may be seen running across its interior, which externally have occasioned an uneven surface, and probably may have arisen from the breaking down of several cysts into one cavity. The portion of the wall which is wanting was left attached to the ovary, as is seen in the preceding preparation. The small opening in another part of the cyst is the aperture made by the trocar during the operation. The cyst most probably originated in the substance of the ovary.

134. A large ovarian cyst which was successfully removed during life. The preparation has been dried, and is somewhat contracted in size. The cyst was probably merely connected with and originated in the broad ligament, and was of a simple serous character. The patient, Emma W., aged 27, was admitted into the Hospital September 2nd, 1846. She was a single woman, a maidservant. The abdomen was much distended with fluid. She measured forty inches round the umbilicus. No solid matter could be felt in the tumour. The respiration was interfered with when in the recumbent posture. There was some difficulty in micturition—the catamenia were regular and health good. She first felt the tumour three or four years previously in the right iliac region ; it appeared to remain stationary until about eight months before admission, when it began to increase rapidly. She had not been tapped. The tumour was removed on September 22nd. An incision about two-and-a-half inches in length was made in the median line, commencing about an inch below the umbilicus. The peritoneum was cautiously divided, and, as no adhesions could be detected, the cyst was punctured by a trocar, seventeen and a half pints of clear limpid serum were drawn off ; as the fluid escaped, the cyst fell out through the opening, a double ligature was applied through the base of the tumour, and one round it, and the tumour then cut off. The edges of the wound were brought together, having the ligatures hanging through them. She suffered from nothing of import-

ance, with the exception of slight œdema of the left leg and thigh. Two of the ligatures separated on the 14th of October, and the rest on the 16th. She left the Hospital well on the 18th of November.

135. A large ovarian cyst which was removed during life. It has been dried, and consequently it has lost bulk. It seems to have been nearly spherical, and must have been considerably more than a foot in diameter. The tumour consists mainly of one cyst, with thin walls, attached to which are one or two very small cysts, which do not communicate with the larger cavity. The contents of the cyst during life were said to have been at first semi-transparent, pale and albuminous, at a later period semi-gelatinous.

The preparation was obtained under the following circumstances:—A woman, 34 years of age, became a Hospital patient. She had been married for six years, and had had two children. She had, since the birth of the last, aborted at the date of six months; and during the pregnancy thus terminated, she first noticed her abdominal bulk as unnaturally large. The miscarriage took place in November, 1861. She remained with permanent enlargement, particularly about the left side. In February 1863, she was tapped, and eight quarts of fluid withdrawn, and the operation was repeated with the same result in the following July. Five weeks after this proceeding she was admitted into the Hospital. She was then in tolerably good health, but emaciated. She described the tumour as only an inconvenience. The abdomen was evenly distended. It measured forty-three inches round the most prominent part, which was about an inch below the umbilicus. Distinct fluctuation could be felt all over the belly; in the left iliac region slight hardness was to be detected. When the patient lay on her back all the front part of the abdomen was perfectly dull. There was no œdema of the lower limbs, and but slight dyspnœa. A vaginal examination was made, and the lips of the os uteri were found to be slightly thickened; this was supposed to be due to the pressure of the tumour, and no other evidence of pregnancy was discovered.

After consultation, it was decided that the cyst should be removed by operation, to which end the patient was, in August, 1862, placed under the influence of chloroform, the bladder was emptied, and an incision three inches in length made in the median line, below the umbilicus. The cyst was now emptied by means of a large trocar, grasped with a valsellum and drawn out of the wound, which had to be somewhat enlarged during the process. The firm and extensive adhesions by which the tumour was surrounded, were broken down by the hand, previously warmed, introduced through the wound.

The pedicle of the cyst, which was a small cyst itself, was tried both with strong packthread, and with silver wire, and then divided. The cyst thus removed now forms the preparations.

A second tumour now came into view, rather on the right side of the abdomen. It was darker in colour than the cyst which had been removed, and harder in texture, but was somewhat like it, and was supposed to be a cyst connected with the right ovary. With a view to its removal a trocar was introduced, and a quantity of clear fluid drawn off. This was followed by some blood, and, on the introduction of the finger through the wound thus made, the limbs of a fœtus were discovered. The tumour was, in fact, the gravid uterus. The wounds were, therefore, closed up with sutures, and the patient sent to bed. The pains of labour came on nine hours after the operation, lasted through the night, and resulted in the expulsion of a dead child of about six months date. The placenta, which was expelled soon afterwards, was found to have been perforated by the trocar ; and upon the uterine surface of the organ was a layer of coagulated blood. The countenance of the patient now became anxious, her features drawn, and the skin hot. The abdomen became tender, and she died on the evening of the day on which the abortion had taken place—the second evening after the operation.

136. A large ovarian cyst, removed during life. It has been dried and varnished. There is one large cyst, from which many smaller ones project. In their recent state they contained dark albuminous fluid. The general shape is somewhat that of a kidney.

The preparation was obtained from the body of Rebecca H., 29 years of age, an unmarried woman, who was operated upon in the hospital. She was admitted May 18th, 1864, having had, for 11 months, a tumour on the left side of the abdomen. For 7 months the catamenia had been absent. There was a good deal of dragging pain about the swelling, which was prominent and fluctuated. In June the cyst was tapped and two gallons of dark albuminous fluid were drawn off with temporary relief. On the 7th of July, the cyst having filled again, but the general health of the patient still remaining good, the operation of ovariotomy was performed. A considerable quantity of fluid was drawn off after the cyst was exposed, and in consequence of the rupture of the anterior wall, a quantity escaped, not as was believed into the peritoneal cavity. A large lobe of the tumour was situated in the recto-uterine pouch, adherent to both viscera. Many adhesions had to be broken down before the tumour could be removed. On the day after the operation the patient had an anxious look,

the pulse was quick and the tongue dry. Vomiting subsequently came on, then pain in the right iliac region, and on the evening of the 9th she sank.

At the post mortem examination there was much injection of the peritoneum, generally, while the places where the adhesions had been broken down, were marked by a bright red colour. There was a thin layer of semi-purulent fluid all over the bowels. The left Fallopian tube was found to have been cut away within an inch of the uterus, and the ovary with a part of the broad ligament had been removed. *Post Mortem and Case Book.* 1864, p. 197. *Path. Soc. Trans.*, vol. XVI.

137. Specimen in which both ovaries are seen to have been converted into cavities containing purulent fluid, being completely disorganised. The Fallopian tubes were also exceedingly distended, and contained a thin muco-purulent fluid. The one which has not been laid open communicated with the cavity of the corresponding ovary, the other did not do so. Both are completely occluded at their uterine extremities. The uterus itself, saving induration and thickening of the "os tincæ," was perfectly healthy. There was extensive peritonitis within the cavity of the pelvis, and the effused products had so far glued together the contents of this cavity as to form a hardened mass which was extracted from its position with great difficulty. The general peritoneal sac was unaffected. The specimen is from the body of Anne W., aged 44, who died July 8th, 1851. *Post Mortem and Case Book*, 1851, p. 149.

138. Scrofulous disease of the ovary. Some of the cysts contained water only, and the injection shows their vascularity. Others contained matter like scrofulous matter, and some parts are nearly solid. *Presented by* CÆSAR HAWKINS, Esq.

139. The uterus and ovaries. The latter are observed considerably enlarged, and have undergone transformation into dense fibrous structure ; a small mass of calcareous matter has been deposited in the left ovary. Two of the Nabothian glands of the cervix uteri are slightly enlarged.

140. Fibrous tumour of the ovary, from a woman, aged 50, who died of disease of the heart. The uterus also contained a fibrous tumour in its walls.

141. Section of a fibrous tumour from the ovarium of an old woman.

142. Encephaloid disease of the right ovary. The tumour is of large size, and contains numerous cysts filled with gelatinous fluid in the recent state. The opposite ovary was in an incipient state of the same affection. (The uterus, which was healthy, and the left ovary, may be seen at the back of the preparation.)

The patient was a married woman, 26 years of age, who died on May 7, 1857. No other malignant disease was found in any other part of the body. Warty projections were found

on the inner surface of the peritoneum and in the omentum; but they appeared to be the result of old inflammation. She had only been conscious of illness for three weeks. *Post Mortem and Case Book*, 1857, p. 102.

143. Epithelial cancer of the clitoris removed by operation. *Presented by* Sir B. C. BRODIE, Bart.

144. Enlarged nymphæ, which were removed from a patient in the hospital by an operation. They are tuberculated on their surface, and present, when cut into, a structure apparently consisting of condensed areolar tissue, with fatty matter intermixed with it. The patient left the hospital cured.

145. Large globular tumour of nympha, which was attached by a thin pedicle. The surface is wrinkled and uneven. On section the structure appears uniform, except that there are one or two openings which lead to small spherical cavities. Under the microscope the structure appears to consist of fibrous tissue (white), containing in its interstices a great number of oval cells or nuclei. It is covered by thick mucous membrane. This tumour was removed by an operation. *Presented by* T. A. STONE, Esq.

146. A greatly enlarged nympha, which was removed during life. It is of the size and shape of a large pear. It was attached by a very thin stalk. It is covered by a strong membrane, of which the surface is corrugated. Underneath this the substance of the mass is soft and elastic. Under the microscope it appears to consist of a network of white and yellow fibrous tissue, with a great multitude of oval nuclei. The structure is that of a very soft fibro-cellular tumour. *Presented by* T. A. STONE, Esq.

147. Two masses of coagulable lymph, forming complete casts of the interior of the uterus, voided in dysmenorrhœa. *Presented by* T. A. STONE, Esq.

148. Rupture of the cervix uteri. The uterus is contracted to the obliteration of its cavity. The laceration has extended along the lateral aspect of the cervix into the vagina. A section has been made through the uterus which displays the closure of the cavity. The preparation has been injected.

The rupture occurred during labour; the fœtus escaped into the peritoneum, no labour pains were afterwards felt, and the patient shortly died. From the size of the uterus, it appears that the labour must have taken place at or near the proper period. *Presented by* T. A. STONE, Esq.

149. Laceration of the side of the uterus. The uterus appears to belong to about the sixth month of pregnancy. The os is not dilated. The cavity of the uterus is empty, but not contracted. The rent extends from very near the attachment of the Fallopian tube to the os, passing between the lips. The vagina

does not seem to be involved. *Presented by* T. A. STONE, Esq.

150. Rupture of the uterus, the opening having partially closed. There is a large hollow passing out of the side of the uterus close above the os, which is separated from the abdominal cavity only by a layer of peritoneum. Externally the peritoneum is seen with flakes of lymph upon it. It presents an oval hole about half an inch long, which is partially closed by a thin, transparent film of areolar tissue.

The preparation was taken from a patient in whom the uterus was ruptured during labour. Delivery was accomplished by turning, and at the time it was thought that the whole of the child had passed through the rent into the abdominal cavity except one hand, which remained in the uterus. The patient lived ten days.

151. Uterus belonging to the full period of pregnancy, in which are many rents in the peritoneal coat and adjacent part of the muscular substance. The largest rent is on the posterior part of the fundus, and passes from the origin of one Fallopian tube to the same position on the other side. This passes nearly a quarter of an inch deep into the tissue of the uterus. Beside this are many smaller and more superficial rents, some of which scarcely go beyond the peritoneal coat. They are all on the posterior surface of the uterus. An incision has been made into the front to show the position of the placenta, which is still adherent to the uterine wall. The uterus is uncontracted. It does not contain the fœtus. *Presented by* T. A. STONE, Esq.

152. Uterus with retained placenta. The uterus has been cut open along its anterior wall, showing some more or less globular masses in its interior connected together by some filamentous tissue. These are attached near the fundus to the uterine wall: one is fixed to a depression near the attachment of the right Fallopian tube.

The preparation was taken from the body of a woman who died a fortnight after delivery, the placenta having been retained. *Presented by* T. A. STONE, Esq.

153. Uterus with retained placenta. The walls of the uterus have been partly cut away, so as to show a part of the placenta, which lies close above the os and adheres closely to the walls. Portions of the placenta are seen in the vagina, and are adherent to its surface. The os still remains partially open; the uterus, however, is much contracted. From the thickness of the uterine walls, as well as from the small amount of change which the placenta has undergone, it is evident that the preparation must have been obtained soon after delivery. The preparation has been injected. *Presented by* T. A. STONE, Esq.

154. A large ovarian tumour, dried. The tumour was successfully removed during life from an unmarried woman, aged 25. It had been growing for about two years, and had been very repeatedly tapped, always filling very rapidly. The quantity of fluid withdrawn varied from four to eight gallons. The fluid was at first quite limpid, but gradually became more thick and gelatinous. Of late, after the tappings, there had been symptoms of peritoneal inflammation, so that she consented to submit to the operation. Her general health was quite good. The operation was performed on March 27th, 1865, by an incision below the umbilicus; the large cyst was tapped and drawn out as far as possible. Some very firm adhesions to the abdominal walls in front were partly torn, and partly divided with the knife. The pedicle, which was of no great thickness, was secured by a double silver wire passed through it, and twisted round each half; and the wire and the pedicle having both been cut short off, were returned together into the pelvis. The wound was sewn up with silk sutures. The patient suffered little after the operation, and left the House on May 4th, quite well. No indication of the position of the pedicle and wire could be found at the time of her discharge, either from the exterior of the body, or from the vagina. See *Path. Soc. Trans.*, Vol. XVI.

END OF SERIES XIV.

SERIES XV.

DISEASES OF THE MAMMARY GLAND.

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MALE BREAST.

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1. Portion of a female breast taken from a patient in the Hospital. She was admitted in 1822 in consequence of the mammæ having attained an immoderate size, one weighing 11 pounds. She died of erysipelas. There appears no morbid alteration of structure in the gland itself, and she suffered no inconvenience except from the great size of the glands. *Presented by* SIR BENJAMIN BRODIE, Bart.
2. Small cyst developed in the substance of the breast, close to the nipple. The interior of this cyst is quite smooth; there is no morbid structure growing from it.
3. Section of a large cystic tumour of the breast, removed from a young lady by Mr. Keate. Nearly the whole of the back part of the tumour consists of a congeries of thin-walled membranous cysts, varying in size from a millet-seed to a small bean, and containing an opaque, and almost structureless jelly-like fluid. The front of the tumour is more solid, and the growth had made its way through the skin, where it formed a large rounded projection. The patient did well, and Mr. Keate never heard of the disease having recurred. This disease resembles Sir Astley Cooper's cystic disease of the testicle.

4. Opposite section, from the same as the preceding specimen.
5. Sero-cystic tumour (Brodie) of the mamma. This preparation was removed from a private patient under Sir B. Brodie's care in 1836. The tumour had existed for many years, gradually, but slowly, increasing in size. At the time of removal it was not larger than a small orange, and irregular in shape. Near the base of the nipple is a membranous cyst which contained two or three drachms of very dark coloured serum. Some smaller cysts, which also contained serum, are seen in the neighbourhood, and a bristle introduced at one of the ducts of the nipple has entered one of the cysts by a small circular aperture. The tumour on a superficial view appeared to be one uniform mass of solid substance, but on a closer inspection it is seen to consist of a congeries of membranous cysts, the cavities of which are completely filled with solid matter. In many of the cysts, on examination with a probe, this solid matter seems to have an attachment to one point of their inner surface, lying in contact with the lining membrane elsewhere, but having no actual adhesion to it. For particulars of the case see *Medical Gazette, No.* 22, *Feb.* 21, 1840. p. 811.
6. Sero-cystic tumour of the breast. The cyst is about the size of a walnut, and about one-fourth of its cavity is occupied by an irregularly-shaped excresence attached to one portion of its internal surface. The cyst itself contained serum. See *Medical Gazette, No.* 22, *Feb.* 21, 1840.
7. Sero-cystic tumour of the breast. Sir B. Brodie was consulted by a lady, in 1837, respecting a tumour of the breast, about the size of a nutmeg, globular in shape, and evidently containing fluid. It was punctured with a grooved needle, and a yellow serum escaped. There were no other indications of disease. Afterwards a free opening was made into the cyst with a lancet, and the whole of the fluid being evacuated, a piece of lint was introduced with a view to obliterate the cavity by granulation. An abundant suppuration, and a good deal of inconvenience followed this trifling operation. At the end of two months, although the abscess had not quite closed, the patient, believing herself to be quite well, left London of her own accord. About fifteen months afterwards she again consulted Sir B. Brodie. In the situation of the cyst, which was formerly punctured, there was a considerable solid tumour of about the size of half an orange projecting through an opening in the skin, forming an irregularly-shaped fungus. An operation for the removal of the tumour was performed, and on examining it in its recent state, some remains of the original membranous cyst containing a small quantity of serum were found at its basis. A large quantity of solid substance projected from its inner surface, assuming a peculiar plicated or fimbriated

appearance, and a portion of this excresence protruding through the skin formed the external fungus. The structure of the tumour could only be compared to imperfectly organized fibrine. It was not confined to the cavity of the cyst alone: for external to the cyst, and embedded in the gland of the mamma were numerous cysts of the same kind, varying in size from a pea to that of a horse-bean. See *Medical Gazette, No.* 22, *Feb.* 21, 1840. p. 810, 811.

There is a drawing of this tumour in the Museum.

8. Sero-cystic tumour of the breast. The patient, Harriet S., aged 40, was admitted December 16, 1839. The tumour, according to the patient's account, had first made its appearance about fifteen months before admission. It was about the size of a walnut when she first observed it, and as it went on increasing, she applied to the Hospital, and the tumour was punctured with a needle; some serous fluid, tinged with blood, was let out. It was punctured a second time, a fortnight afterwards. Some two months after this, serous fluid was discharged from the nipple. As the tumour still increased in size she was taken into the Hospital; the tumour was punctured and a large quantity of thin yellow fluid, mixed with blood, was let out. A month after this the tumour had regained its former size, and it was then about the size of the head of a fœtus; it was laid freely open, a quantity of bloody fluid was evacuated, and as there was some bleeding, the parts were dressed with blue lint. On the 23rd the dressings were removed and a dark coloured fungoid growth was seen, protruding through the incision. On the 2nd of January, 1840, the breast was removed; and the patient left the house, some time afterwards, in a very good state of health. On examination, the tumour was found to consist of a membranous cyst containing three or four ounces of fluid. The greater part of the cavity of the cyst was occupied by a number of excresences which projected from its inner surface. These excresences were of different sizes, the smallest not larger than a pea, and the largest equal in size to a small orange. On cutting into them they presented a variety of structures, some resembled albumen recently coagulated, others fibrine imperfectly organized, some had somewhat the appearance of fat, and one or two resembled medullary disease. Each of these excresences was covered by a thin membrane, continuous with that of the cyst. The inner surface of this membrane, where it was free from these excresences, was smooth, but with some slightly elevated ridges running across it. The two tumours that in this preparation are hanging to the cyst were found loose in its cavity.

9. Sero-cystic tumour of the breast. The patient from whom this specimen was taken was under the care of Sir B. Brodie, in

the year 1818. Sir B. BRODIE had no notes of the early history of the case, but the disease had been probably of long duration, as, at the time of his being consulted, the breast had attained an enormous size, being not less than seven pounds in weight. She was a middle-aged person, otherwise in good health, and the skin and the axillary glands were free from disease. Under these circumstances, the diseased breast was removed. The wound healed favourably, and Sir B. BRODIE heard of the patient being alive and well several years afterwards. The greater part of that portion of the tumour which is displayed in the preparation, presents a uniform solid appearance, which is indistinctly striated like dense fibre-tissue. There are, in one part of it, several membranous cysts of various dimensions, which, when first cut into, were found to contain serum. One of these is distinguished from the rest by its greater size, being capable of containing several ounces of fluid, but also by its being occupied by a large excresence attached to one part of its inner surface, and protruding into its cavity. This excresence is of a very irregular shape, and similar in appearance to some of those which may be seen in other preparations of the same nature. In its recent state it seemed to consist of masses of recently coagulated albumen, semi-pellucid, some of a light-yellow, others approaching to a purple colour, and altogether bearing a great resemblance to a bunch of white and purple grapes. These peculiar appearances have been destroyed by the immersion in alcohol.

10. Section of a sero-cystic tumour of the breast.

11. Section of a sero-cystic tumour of the breast, the greater part of the disease being solid.

12. Large sero-cystic tumour of the breast, removed in the Hospital. The diseased growth in this case springs from the interior of a single cyst, and the solid structure presents a flocculent and shreddy appearance.

13. Large sero-cystic tumour of the breast. The tumour consists of one large and single cyst, which contained, at the time of its removal, about a pint-and-a-half of dark reddish-brown fluid, in which were floating great quantities of flakes of lymph. At the bottom of the cyst, and projecting into its cavity, are several irregular-shaped tumours, about two inches in the broadest diameter, and the largest about three-quarters of an inch in height. These vegetations were very vascular, and when cut into presented a fibrous appearance, the fibres running perpendicularly to the cyst. They were semi-transparent, except where the vessels were numerous, and were covered by a fine smooth membrane. The probe could be passed underneath some of them, the broad parts having coalesced, while the attachment to the cyst was rather by pedicles. The

whole of the inner surface of the cyst was covered by layers of discoloured fibrine, portions of which may be seen hanging down from the cyst.

The breast was removed on the 11th of September, 1845, from a woman aged 52, who was admitted into the Hospital with a large tumour occupying the left mammary region, the skin of which was very tense, and of a slightly purple tinge. The tumour itself was soft in many places, with apparent fluctuation, and with several prominences on its surface. It had existed about seven years, and had made its appearance after the patient had weaned a child; when first perceived, it was of the size of a walnut, and situated at the upper part of the breast. At first its increase was slow, but within the previous seven months it had been rapid. It had been punctured in two places four years before her admission, when serum escaped from one of the punctures, and blood from the other. Two days previous to the operation, a grooved needle was passed into the inferior part of the tumour, and let out about six ounces of dark reddish-brown fluid, after which the tumour became smaller, but subsequently increased in size again. There were no enlarged glands in the axilla; the tumour was quite moveable, and the subcutaneous veins somewhat enlarged. The general health of the patient was good; she was rather of a spare habit, and tall. After the operation, an erysipelatous blush made its appearance in the neighbourhood of the wound, and the patient was for some time in a dangerous state, but she ultimately recovered, and was discharged on the 22nd of October, the wound being nearly healed. She had extensive hæmorrhage from the lungs after going up some high stairs, accompanied by cough, some two or three weeks after going out. After this time she got stout, and was known to be in good health, without any return of the disease in the breast.

14. Section of a sero-cystic tumour of the breast, in which a large portion of the skin had been destroyed by ulceration, and the tumour projected through the opening in the shape of a large fungating growth. The projection of the tumour beyond the skin is marked by a portion of the skin of a dark colour, which is situated above the tumour. The whole mass of the disease weighed seven pounds when removed; it had existed about 19 years, and its origin was attributed to great pressure of the breast against the mattrass during her first delivery, at which time ecchymosis occurred, and a lump as big as a tea-cup formed, which never disappeared. Five or six years before the operation this tumour began to increase in size, and continued to do so slowly, without causing much pain. There were no enlarged glands in the axilla. The operation was

performed in April 1844, and in May, 1846, the patient was again seen, in excellent health, and without any disease about the breast.

15. Some dark brown fluid, removed by Sir BENJAMIN BRODIE from a sero-cystic tumour of the breast. *Presented by* Sir B. BRODIE, December, 1849.

16. Sero-cystic tumour of the breast. This tumour was removed from the breast of an old woman aged 64, in May, 1848. It consisted of one large cyst containing a yellowish mucus-like fluid, with two or three solid projections, and a second cyst filled with solid contents. The tumour, prior to removal, appeared solid and freely moveable, being situated on the inner side of the right breast, and extending to the nipple, which was very slightly drawn in on the side to which the tumour was connected. The skin covering the tumour was of a dark blue colour, and adherent to the areolar tissue beneath. The skin itself was not implicated. She suffered no pain, or even tenderness of the part. The mammary gland was healthy, and the axillary glands were not enlarged. She left the Hospital in July, quite well.

17. Specimen of the tubero-cystic tumour of the breast, removed at the Hospital in 1851.

18. Chronic mammary tumour. *Presented by* SIR BENJAMIN BRODIE, Bart.

19. Chronic mammary tumour. *Presented by* SIR BENJAMIN BRODIE, Bart.

20. Chronic mammary tumour. *Presented by* SIR BENJAMIN BRODIE, Bart.

21. Chronic mammary tumour. *Presented by* SIR BENJAMIN BRODIE, Bart.

22. Chronic mammary tumour, removed from the breast of a patient under the care of Sir B. Brodie. It has been hardened in spirit, and a section made to display its structure.

23. Chronic mammary tumours.

24. Chronic mammary tumour. The surrounding cellular tissue has been dissected off, so as to display the lobulated appearance of the external surface of the tumour.

25. Chronic mammary tumour, taken October 6th, 1830, from a patient, 32 years of age, in good health, but thin. Both breasts were flabby and knotty ; menstruation regular. The tumour had been growing seven months when removed. It was painless, separate from the gland, and moveable, though attached to its margin. There was some hardness of the pectoral muscle, and a large gland in the axilla. Erysipelas followed, but the cavity healed. *Presented by* CÆSAR HAWKINS, Esq.

26. Chronic mammary tumour, removed by operation. *Presented by* CÆSAR HAWKINS, Esq.

27. A fibrous tumour removed by operation from the side of the

mamma. The patient was a young woman. She suffered no inconvenience from the tumour, and discovered it accidentally about a year before it was removed. The tumour is enclosed in a thin membranous cyst which had scarcely any adhesion to the surrounding structures, except at the point at which the vessels entered. *Presented by* SIR BENJAMIN BRODIE, Bart.

28. Large hydatid of the breast. The patient, a female, was operated on by Mr. Keate: a single incision being made, three pints of transparent fluid escaped, and a thin cyst, of which this preparation contains the greater part, was pressed out. The wound healed readily. *Presented by* CÆSAR HAWKINS, Esq.

29. Hydatids of the mamma. Mary C., aged 37, was admitted Nov. 3, 1841, with a tumour in the upper part of the left breast, which commenced two years previously, and grew more rapidly while suckling. The child, at the time of the patient's admission, was 11 months old. Watery fluid, with scarcely any trace of albumen, was evacuated, and lint inserted on Nov. 8, and on the 15th, a large putrid hydatid came away. She was discharged, cured. *Presented by* CÆSAR HAWKINS, Esq.

30. Colloid disease of the female breast, removed by Mr. Charles Hawkins. The disease existed also in the cellular tissue of the axilla, and a preparation of it will be found in Series XVII.

This preparation was taken from a lady, aged 42, unmarried, who had suffered for two years with a tumour in the breast, which on its first appearance felt soft and spongy, something like a collection of enlarged ducts, situated deep in the substance of the gland, and accompanied by a good deal of pain. Shortly afterwards a similar, but smaller, tumour made its appearance on the edge of the anterior flap of the axilla, just external to that space. Various remedies were tried to the diseased breast, but without any avail, and the tumours were removed, together with the gland, in September 1857. The wound healed kindly, and the patient recovered without a bad symptom. She died, however, in the month of April, 1860, in consequence of a return of the disease in the cicatrix, and, as seemed probable, in the lungs also, No post mortem examination could be made. *Presented by* CHARLES HAWKINS, Esq.

31. Section of a scirrhous breast.

32. Section of a scirrhous breast. Ulceration of the skin had just begun.

33. Portion of a male breast affected with scirrhus, removed by operation. A smaller tumour of a similar nature is appended to it.

34. Scirrhus affecting the breast of a male. The diseased structure was removed by operation.

35. Section of a scirrhus tumour removed from the mamma by operation.

36. Section of a breast affected with scirrhus. The skin is implicated in the disease, and excessively thickened. Superficial ulceration appears to have taken place just above the nipple. From the same patient as the preceding.
37. Section of a breast affected with scirrhus.
38. Breast affected with scirrhus. Blood appears to have been extravasated in two or three places.
39. Scirrhus of the breast. The diseased structure had begun to make its way towards the skin. From a private patient of Mr Keate.
40. Portion of the right mammary gland of a gentleman, aged 64, affected by the scirrhous form of carcinoma, removed by Mr. Cæsar Hawkins, Jan. 28, 1850. The following history is connected with it :—The patient had perceived the swelling gradually increasing for the space of eight years previously. At the time of operation, the swelling was about the size of a large walnut, and not attached below to the muscle. It was adherent to the skin, and no glands in the axilla were enlarged. There was no pain, and none had ever existed. The patient attributed the tumour to a blow on the breast from a stone. After the operation he speedily got well.
41. Scirrhous carcinoma of the mamma. The patient, Sarah T., aged 47, was admitted June 17th, 1840, with cancer of the mamma, which had been first observed a year before. The tumour was hard and moveable, with two red prominences and some tortuous veins over it, and was situated at the outer side of the left breast, having a chain of small tubercles passing along the border of the pectoral muscle to a gland, the size of a nut, in the axilla. The tumour, with the tubercles and gland, were removed June 25th, and the wound healed very well, though a cough came on, which continued long. She was re-admitted in November 1840, and a small tubercle near the axilla the size of a pea, unattached to the skin, was removed. The cicatrix was sound.
42. Cancer of the mamma, from a female, aged 58. A small tumour had been observed in the breast one month, with pain one week. The whole breast was removed November 4, 1840, the nipple and structure of the breast being quite healthy. The wound continued sound. In the summer of 1843, however, she had pain and swelling of one clavicle, then the same of a rib, then in a few weeks in one thigh, of which she lost the use, and when examined, this also was found enlarged and broken across the middle. *Presented by* CÆSAR HAWKINS, Esq.
43. Portion of the mammary gland, and one of the neighbouring absorbent glands affected by the scirrhous form of carcinoma, and removed by Mr. Cæsar Hawkins, from a lady, aged 44, in the year 1850. The patient first perceived swelling about the

nipple six months previously, after which period there had been great pain in the nipple, and much mucous discharge from it. After the extirpation the wound healed quite well, but the patient died about six months subsequently of some internal disease, of which no history exists. *Presented by* CÆSAR HAWKINS, Esq.

44. Specimen showing ulceration of an encephaloïd tumour of the mamma.

45. Encephaloïd disease of the breast.

46. Portion of a female breast affected with fungus hæmatodes. The breast was removed by Mr. Joshua Brookes.

47. Malignant disease of the breast. The patient, Ellen K., aged 40, was admitted Feb. 10th, 1836. A tumour appeared, nine months before admission, in the left breast, hard and firm, with redness and thickening of the skin, and with glands enlarged in the axilla and above the clavicle, at which time it appeared cancerous. No operation was recommended. It was then just beginning to ulcerate, without great suffering, but a fungus soon protruded. The irregular knots, before perceived, softened; and the disease resembled fungus hæmatodes, with fœtid discharge and bleeding, and much pain and suffering of the general health, so that the breast was removed with much surrounding skin on the 12th, at which time the tumour was about seven inches prominent, with a foul fungus of several inches circumference in its centre. The cellular membrane was much diseased, and a large portion of the pectoral muscle, and part of the intercostals were removed. There were found in the muscles a number of small white tubercles from a pin's-head to a pea in size, both in groups and single. The section of the tumour showed the flat surface next to the pectoral muscle, hard, condensed, and white, as in ordinary cancer, while the rest of the tumour was softer, bloody, and dark coloured, with the appearance of distinct masses radiating from the base ; these portions looking like fungus hæmatodes, especially towards the rounded extremities on the sloughy external surface. The tubercles in the pectoral muscle were scirrhous, but very vascular for ordinary cancer. Her health became much re-established after the operation, and the wound, in time, entirely closed, the glands subsided, and she became an out-patient, March 16th.

In April two small tubercles appeared near the wound, one of which was excised, the other destroyed by chloride of zinc, which brought on erysipelas, abscess of the axilla, &c., for which she was admitted April 27, and left again on the 25th of May, with very good health, and the wound almost healed.

Towards September a tumour appeared in the axilla, and she was re-admitted Oct. 26, with sloughing in the tumour which looked like fungus hæmatodes, and with some cough, with which

she soon expectorated blood in considerable quantity, and she died on Nov. 30th, nine months after the operation, at which time, but for the removal of the disease, she did not seem likely to have lived three weeks.

The tumour in the axilla was sloughy and extensively ulcerated; the base, where it was least altered, was soft, and like inflamed brain in appearance, some parts more vascular and darker coloured. There was some bloody serum on both sides of the chest, with adhesion of the lungs, especially on the left side, the back part of which could not be separated without tearing. In both lungs were tubercles, the smaller of which were firm and white, of the size of an almond or walnut; the larger were soft and vascular like the tumour, and the whole of the centre and back part of the left lung was broken down into a soft bloody pulp, in which none of the original texture could be perceived. *Presented by* CÆSAR HAWKINS, Esq.

48. Medullary carcinoma of the breast. The patient, a governess, about 23 years of age, was operated on by Mr. Keate, in the Asylum, the wound healing rapidly. The tumour was rather softer than the mammary tumour generally is, and some milky fluid could be pressed out of its separate portions, not unlike the matter of a scrofulous tumour.

49. Scirrhous tumour of male breast. This is globular, and of about an inch in diameter. It grows over one side of the nipple, which is seen to be somewhat retracted. Under the microscope the growth had the character of scirrhus.

The tumour was removed by operation from Abraham W., a farm labourer, 58 years of age. It was first observed four years before its removal, when a little bloody discharge passed from the nipple; and the patient having his attention thus drawn to the part, discovered a small knot. Since that it had slowly but steadily increased, and had occasionally been painful. On admission, December 28th, 1863, a hard nodulated tumour, the size of an orange, was felt in the right breast; it was intimately adherent to the skin, but freely moveable on the parts beneath. The skin was discoloured; the nipple retracted. A gland in the axilla was enlarged. The operation was performed December 29. The patient quickly recovered, and left the Hospital apparently well. It was said that the patient's father had died at the age of 80, of the same complaint; it had existed for 13 years.

50. Sero-cystic tumour of male breast, removed by operation. The tumour is elongated in shape, and nearly three inches in its longest diameter. There is a cavity in its interior, which has been laid open. Small nodules project from its wall.

This tumour was removed from the breast of Edward G., aged 54, October 8th, 1863, in the Hospital. A swelling beneath the

left nipple had been observed for two years; during the last six months it had grown with increased rapidity. On his admission, three days before the operation, a hard inelastic tumour was felt between the skin and the pectoral muscle, as large as an orange. A slight yellowish discharge had, at times, passed from the nipple. A puncture was made before the operation, and a little bloody serum escaped. There was a little erysipelas about the wound after the operation, but in other respects the patient progressed favourably, and left the Hospital well.

END OF SERIES XV.

SERIES XVI.

INJURIES AND DISEASES OF THE ORGANS OF SPECIAL SENSE, AND OF THE SKIN.

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1. Epithelial growth affecting that part of the conjunctiva which covers the front of the cornea. Removed by operation. *Presented by* SIR BENJAMIN BRODIE, Bart.
2. Ossification of the human lens, forming a species of cataract. *Presented by* CÆSAR HAWKINS, Esq.
3. Ossification of the lens of the horse. *Presented by* CÆSAR HAWKINS, Esq.

4. Abscess of the globe of the human eye. The common carotid artery of the same side was tied by Mr. Wardrop for an aneurism by anastomosis on the temple, and about seven or eight days afterwards the eye protruded, suppurated, and burst. The man died about nine months afterwards with lumbar abscess and purulent secretion at the base of the brain. The carotid artery and jugular vein were both found obliterated for about $2\frac{1}{2}$ inches. See *Medical Gazette*, Vol. I., p. 261. *Presented by* CÆSAR HAWKINS, Esq.
5. Fibrous tumours of the orbits, taken from a man aged 27. Four months before admission, after cold, pain and protrusion of the right eye took place, and in four weeks he was quite blind of that eye. The tumour commenced in the orbit, and pushed the eye downwards and outwards; the cornea sloughed, and the humours were evacuated to relieve him from the violent pains he experienced. After he had been in the Hospital for some time the tumour began to increase much more rapidly, and hæmorrhage took place from it occasionally. Then the other eye began to protrude, and the cornea ulcerated; and he died worn out by suffering and loss of blood. The tumour is seen to be composed of separate portions, moveable upon one another, in the back of the orbit. The eyeballs and the optic nerves are surrounded by the mass of tumours, but have not undergone any change of structure. The bones of the orbit are softened, and the dura mater covering the roof of the orbit is altered, and part of the right anterior lobe of the cerebrum is adherent to it, and changed in structure. The ethmoid and sphenoid bones are converted into the same kind of tumour with that in the orbit, and are capable of being cut with a knife, as are the spongy bones where they descend from the ethmoid. On the left side the disease is confined to the loose tumours, except on the inside, where they are attached to the ethmoid bone. *Presented by* CÆSAR HAWKINS, Esq.
6. Fungus hæmatodes of the eye. Both eyes were affected with the same disease, but the opposite eye to the one which is preserved was more extensively so. The tumour is still confined to the interior of the globe, which, however, is considerably altered in shape. The patient died from an extension of the disease into the brain. *Presented by* Sir BENJAMIN BRODIE, Bart.
7. Melanosis of the eyeball, removed by operation. Some time after the operation the patient died, and there was found melanosis of the liver, a preparation of which is preserved as Series XI, No. 312.
8. Melanosis of the eyeball.
9. Melanosis of the eyeball, removed by operation. The diseased

mass so completely filled the orbit, that it was found impossible to remove the whole of it at once; and it was, therefore, removed in two different portions.

10. Fungus hæmatodes of the eyeball. The patient, a girl aged 16, was admitted on the 8th of December, 1841. The left eye was affected with fungus hæmatodes, the tumour projecting beyond the lids. The glands in front of the ear, and under the angle of the jaw, were enlarged. The disease had first made its appearance about four years before, and had since then continued to progress slowly; the glands became implicated about three months before admission. The general health appeared good. The eye was removed, and the portion of the optic nerve remaining after the operation was examined, and appeared quite healthy. In the ensuing month the patient was discharged, relieved. On the 3rd of April, 1842, she returned, complaining of pain in the head, and loss of vision of the right eye. These symptoms increased daily; added to which she suffered from sickness after meals. The glands about the neck and ear increased in size, and a fungous growth sprouted from the bottom of the left orbit. She died on the 19th of June, 1842, having suffered constant severe pain in the head, and incessant vomiting. A tumour was found spreading from the left optic nerve into the cranium (see Series VIII., No. 44). The portion of nerve remaining in the orbit was quite soft, and converted into a small tumour of a medullary nature, which was adherent to the inner part of the upper eyelid. The structure of the diseased glands was soft and medullary. The viscera were healthy.

11. Melanosis of the eye, removed by Mr. TATUM, from a private patient. The disease has spread beyond the eyeball, and forms, at the back part, a large mass, which nearly surrounds the optic nerve. *Presented by* T. TATUM, Esq.

12. Portion of an eye, which was removed on account of malignant disease of the eyelid and conjunctiva, which had spread to these parts from one of those cancerous affections so commonly observed about the face. The disease of the face had been repeatedly destroyed with caustics, but had always returned. After the removal of this portion of the eye, the patient remained well for some time, but subsequently the disease returned in the orbit, where its progress was very slow. The patient, when last heard of, was in good general health; this was about three years after the operation had been performed on the eye.

13. Malignant disease of the eyeball; a tumour of similar nature is seen external to it. *Presented by* SIR BENJAMIN BRODIE.

14. Worm taken from the anterior chamber of the eye of an horse in India. *Presented by* Dr. WOLLASTON.

15. Piece of wood from the orbit. About four months before his admission into the Hospital, the patient received a blow on the eye with a firebrand from an explosion, but was not aware of anything having passed through the skin. He was admitted for what appeared to be a bony tumour growing from the roof of the orbit, slighting pushing the eye downwards. It was cut down on, and the wood extracted. *Presented by* CÆSAR HAWKINS, Esq.

16. Fibrous tumour removed from the lobe of a young lady's ear. She had her ears bored for ear-rings two years before the time of the operation. Some time afterwards a hard tumour was found surrounding each puncture made for the reception of the ring. At the end of a year the use of the rings was discontinued, but the tumour continued to increase. Mr. Brodie states—"When I was consulted in December, 1826, there was a tumour in the lobe of the ear, and surrounding the canal made for the ear-ring, which still remained pervious. I removed the tumour by a circular incision completely through the lobe, a method which I found to succeed in another similar case, leaving no perceptible mark. The tumour of the other ear being as yet small, and occasioning no disfigurement, I did not recommend its removal." *Presented by* SIR B. C. BRODIE, Bart.

17. Cancerous disease of the external ear. It was removed by Mr. Davis from a clergyman, in the year 1832. The patient recovered, and had no return of the disease when last under observation in 1849. Previous to its removal, he had been in the habit of taking between 200 and 300 drops of laudanum, in order to obtain sleep; but the first night after the operation 36 drops produced the desired effect.

18. Inflammation of the external ear in a rabbit. This preparation is intended to illustrate the signs of inflammation, viz., increased redness, and swelling. In the bottle are suspended sections of the two ears of a rabbit, both injected. The smaller section shows the natural state of the parts; the ear from which the other section is taken has been inflamed by having been immersed in a freezing mixture, and subsequently thawed. Two days after the experiment was performed, the temperature of the inflamed ear was 15 degrees higher than the uninflamed one. On the third day the increase of temperature had risen to 18 degrees, and there was considerable effusion of serum and lymph in the areolar tissue. On the same day both ears were injected with size and vermilion, to show the increased vascularity of the inflamed one, and the large size of the blood vessels.

19. Another section near the extremity of the ear, from the same as the preceding.

20. Polypus removed from the meatus auditorius externus of a lady,

by Mr. Keate. It completely filled the meatus, and projected externally. Mr. Keate had removed a similar tumour from the same patient 13 years before. *Presented by* SIR BENJAMIN BRODIE, Bart.

21. Polypus removed from the ear. *Presented by* SIR BENJAMIN BRODIE, Bart.

22. Polypus removed from the meatus auditorius externus. *Presented by* SIR BENJAMIN BRODIE, Bart.

23. Disease of the tympanum, extending to the brain. The patient, Matthew P., aged 28, was admitted on August 24th, 1835, three weeks after having received a blow on the head from the edge of a door; this was followed by intense pain in the seat of the blow, and afterwards over the whole head. In a week there was delirium, with frequent attempts to destroy himself. A few hours before his death on the 27th, he became gradually comatose. The anterior and middle lobes of the left hemisphere of the brain contained a large abscess, the parietes of which were in a state approaching to gangrene. The abscess communicated with the tympanum through an opening in the roof of that cavity; the surrounding bone was denuded of its dura mater, it is rough, and may be seen to be covered with much new porous bone. This patient had for some years been subject to discharge of pus from the ear, which occasionally ceased, at which times he became very deaf. *Presented by* CÆSAR HAWKINS, Esq.

24. Disease of the tympanum with extensive caries of the temporal bone extending to the brain. The patient, Isaac B., aged 27, was admitted on February 26th, 1840, with purulent discharge from the right ear, deafness, pain in the head, and other symptoms of inflammation of the brain, of moderate severity. The disease had commenced six months previously. The discharge became in March very fœtid and copious, and mixed with blood, both from the ear and from the Eustachian tubes, and at the end of the month there was some oppression of the brain, with paralysis of the right portio dura. In April the malleus and stapes came away entire, and on June 7th copious hæmorrhage from the ear occurred, and was the immediate cause of death, phthisical symptoms having in the meantime much reduced his strength. On post mortem examination the upper surface of the right temporal bone was found carious: it was cribriform, and dark coloured, and the dura mater was partly adherent to it, inflamed and sloughy, and in parts absorbed. Just above this the under surface of the middle lobe of the cerebrum was sloughy, and the medullary matter around softened with a small quantity of foul matter. On the posterior surface of the petrous bone was a small quantity of ivory deposit. The groove for the lateral sinus was partially carious, and the sinus at that part was inflamed and almost sloughy, but there

was no opening in its coats. Around the carotid artery where it ascends by the side of the sella turcica, was a small quantity of effused blood; but whence it had proceeded could not be ascertained. The bony floor of the meatus auditorius and of the tympanum was absorbed, and there was a large collection of foul matter in the cavity thus formed, which communicated with the joint of the lower jaw, the condyle of which was almost wholly absorbed.

There were old adhesions of both pleuræ, and the lungs were both filled with tubercles in all their stages, with a few small abcesses; and in the mediastinum was some recent lymph. On the left ventricle of the heart was a patch of cartilaginous substance. The peritoneum was studded with tubercles, and the intestines adhered to each other. *Presented by* CÆSAR HAWKINS, Esq.

25. Caries of the petrous portion of the temporal bone, following suppuration of the internal ear, and attended with abscess in the brain. From a boy, aged 8, who was admitted into the Hospital August 19th, 1846, with the following history. He had been in good health till within six weeks of his admission, when he was attacked with what appeared to be an epileptic fit, which lasted four hours. After this fit he was rather drowsy, but recovered by the next day sufficiently to go out. At the end of a week he was again attacked with a fit of a convulsive character which lasted about four-and-twenty hours, from which he gradually recovered sufficiently to recognise his friends after a little time, though he was still in a half silly condition: during the continuance of the last fit, he passed urine and fæces involuntarily. From early childhood he had had slight purulent discharge from the left ear, with some slight deafness, and occasionally some pain: since the last fit there had been ptosis of the left eyelid. When admitted there was profuse and very offensive discharge from the left ear, ptosis of the left eyelid, dilatation of the pupils, especially the left, which was hardly sensible to light, the mouth was rather drawn, and articulation imperfect. No improvement took place while in the Hospital under treatment, and he died on the 25th of April, in a comatose state which had come on two days previously.

The petrous portion of the temporal bone will be seen extensively destroyed by ulceration in its interior, and also its upper surface, through which latter there is a large perforation, and a bristle is passed through this opening into the cavity of the tympanum, and then through the external meatus. Corresponding to the opening in the upper wall, there existed a small ulcerated opening through the dura mater, and a large abscess was found in the substance of the

middle lobe of the brain communicating through this opening in the dura mater and temporal bone, with the cavity of the tympanum. The vessels of the dura mater and surface of the brain were considerably congested, and the convolutions much flattened. The surface of the brain on the left side about its middle and outer part, was lighter in colour and more transparent than usual. A large abscess occupied the greater part of the middle lobe of the left hemisphere—the cyst of this abscess was remarkably firm and tough, and was lined with a blackish sloughy membrane capable of containing about six ounces of fluid, and was filled with most offensive pus. The substance of the brain surrounding the abscess was extremely soft, so that the cyst readily fell away from it entire while the brain was being removed from the skull. *Post Mortem and Case Book*, 1846, p. 189. For preparation of brain see Series VIII. No. 29.

26. Extensive caries of the temporal bone, following inflammation and suppuration of the tympanum. From a girl, aged 16, who was admitted into the Hospital on September 6th, 1848, with the following history. She stated that two months before her admission she was attacked with inflammation of the right ear, which was soon followed by partial deafness. She had attended at a dispensary where the membrana tympani was twice punctured without relief. On her admission the discharge from the ear became very profuse, and the sense of hearing was entirely lost. The functions of the portio dura were also at first much impaired, and at last total palsy of the facial muscles was observed. Numerous abcesses formed which when opened exposed a considerable portion of dead bone in the situation of the mastoïd process. She became very weak and restless, and on January 11th was observed to have a "fit." On the 14th she became delirious, and a remarkable alteration took place in her voice. The pupils were dilated. She died on the 19th without any other symptoms being observed which had reference to inflammation of the brain.

There was extensive caries of the right temporal bone as shown in the preparation, the caries affecting the squamous, mastoïd and petrous portions. The anterior portion of the mastoïd process is quite destroyed, as also were the styloïd, vaginal, and auditory processes of that bone. No trace of the stylo-mastoïd foramen could be discovered. The ulceration did not encroach upon the occipital bone. That portion of the mastoïd element of the temporal bone which forms the floor of the lateral sinus was ulcerated for the extent of an inch in length and three-quarters of an inch in breadth, the sinus itself being almost impervious from the effusion of lymph

into its cavity. Nearly the whole of the base of the petrous portion was destroyed, and the cavity of the tympanum laid open. The back part of the glenoid cavity, the commencement of the zygomatic process, and the lower part of the squamous portion were also very extensively ulcerated. The dura mater covering the bone was very vascular. The right middle lobe of the brain was more vascular and softer than natural; lymph was found in the cavity of the arachnoïd, and in the sub-arachnoïdean areolar tissue at the base of the brain. *Post Mortem and Case Book*, 1849, p. 36.

27. Extensive caries of the petrous element of the left temporal bone. There is also caries of that portion which enters into the formation of the left lateral sinus, as well as of the external auditory meatus and the margins of the opening of that canal. The dura mater corresponding to the carious portion was ulcerated, and an abscess of considerable size was found in the middle of the left cerebral hemisphere, which was greatly softened. The brain generally was soft, especially its central white parts. The patient, James C. was 51 years of age. The case is related in the *Path. Soc. Trans.*, Vol. III., p. 241. *Post Mortem and Case Book*, 1851, p. 139. (For preparation of brain, see Series VIII., No. 30.)

28. Disease of the left temporal bone, partly recent and partly of old standing. A portion of the mastoïd process has been removed. The surface of the bone outside the external auditory opening, as well as that lining the auditory canal, is seen to be porous, as also that portion of the occipital bone which has been left in contiguity with the temporal. Part of the groove for the left lateral sinus is in the same condition, and also that portion of the petrous element which forms the roof of the internal ear. In the recent state the dermoïd layer of the external auditory canal, as far as the membrana tympani, was thickened, of a dark, livid colour, and easily detached from the bone. The part covering the membrana was also thickened, the bone was softened and vascular, and occupied by many large vascular depressions. The membrana tympani was thickened, softened, and flattened, and in the cavity of the tympanum the mucous membrane was vascular, and there was much mucus in the tympanum. On dividing the bone backwards, it was found to be injected and softened. For the post mortem appearances, and history of the case, see the following preparation.

29. A portion of the right temporal bone, from the same case as the preceding. When recently examined, the dermoïd layer of the external auditory canal was very vascular, but the corresponding bone, as well as that surrounding the external opening, presented a healthy character. The membrana

tympani had a dull appearance, was thickened, and had lost its convexity. The lining membrane of the tympanum was vascular, and the head of the malleus and the incus were firmly united to each other. The following were the post-mortem appearances:—There was much limpid fluid in the sub-arachnoïdean tissue. The pia mater generally was congested, and its vessels, on microscopic examination, were seen to have some small particles of fatty matter connected with them. The substance of the brain was of a darker hue, more vascular, and softer than natural. The lateral ventricles contained a large amount of clear fluid.

Both specimens were taken from Hannah N., aged 18, admitted June 25th, 1851. On admission there was some swelling behind the left ear, and total deafness on that side, but without any pain in the head. She stated that nine weeks previously she had great pain in the left ear, and much swelling in the neighbourhood. The swelling burst four weeks subsequently, and the discharge, at first watery, became purulent. The patient had been subject to tic douloureux, and attributed the attack to cold. Repeated blisterings relieved her much, but she was subject to occasional severe attacks of pain in the head. At times there was pain in the other ear, but never any discharge from it. She left the hospital for Carshalton August 20, but on November 12 was again brought to the hospital, having been seized on the previous day with a fit, attended with symptoms of cerebral inflammation. These symptoms continued, notwithstanding the most active treatment. On November 18 she was said to have another fit, followed by coma. She died November 25. *Post Mortem and Case Book*, 1851, p. 236.

30. A temporal bone. This is perfectly healthy, excepting that on the surface corresponding to the lateral sinus there is a trifling alteration of texture, such as would result from the contact of pus. A section has been made through the bone to show the healthy condition of the mastoïd cells.

The preparation was taken from a man who came into the hospital with sore throat and a purulent discharge from the ear. He died of pyæmia, and subsequently it was discovered that the lateral sinus on the affected side was full of pus, which had burrowed thence in the brain. It was believed at the time that caries of the temporal bone must have been the source of the mischief. The preparation was preserved to show the contrary. (See Series VIII., No. 175; also *Post Mortem and Case Book* for 1863, No. 117.)

31. A temporal bone, illustrating the communication of disease from the internal ear to the lateral sinus. Previous to maceration it was ascertained that the membrana tympani was perforated,

and that exposed bone existed in the tympanum, which cavity was full of sanious matter. There was, however, no softening, and it was believed, after repeated examinations of the bone, that there was no caries. A small hole was found leading from the tympanum to the groove for the lateral sinus, through which the purulent infection had travelled into the sinus. The bone is now seen subsequent to maceration. It is evident that the interior, especially in the neighbourhood of the tympanum, has been honey-combed by disease, and that the opening communicating with the sinus is the result of destruction of tissue by disease. Every part of the bone is naturally hard. At the post mortem examination it was found that the right lateral sinus was distended with pus, and the right arachnoïd cavity occupied in the same manner. Opposite to the hole in the bone was a perforation in the wall of the sinus. (For dura mater and sinus see Series VIII., No. 175A; see also *Post Mortem and Case Book*, 1863, p. 312; also *Path. Trans.*, Vol. XV., p. 26.)

It must be observed that the description in the Pathological Transactions is erroneous as far as regards the freedom of the bone from disease.

32. A temporal bone in which a large cavity has been excavated by disease, which corresponds with the upper part of the mastoïd cells. There is no opening upon the cranial surface of the bone, but the pus had evidently soaked through a very thin plate of bone which forms the upper wall of the cavity, and had excited inflammation of the under surface of the dura mater, between which and the bone was a small quantity of purulent matter. The dura mater was altered in character through its whole thickness, and had apparently communicated inflammation to the arachnoïd cavity, which was distended with pus.

The preparation was taken from the body of a young woman, 16 years of age, who died in the hospital December 16, 1864.

33. A temporal bone extensively diseased. The petrous part appears to be honeycombed by caries, though it has not been cut across. There is a large hole, which opens upon the groove for the lateral sinus, and a smaller one, which appears on the anterior surface. A probe, passed into either of these holes, will come out at the other, or at the external auditory meatus. The bone belongs to the left side. The wall of the lateral sinus had been perforated opposite to the hole described, and the vessel was filled with flakey purulent matter. The suppuration had extended a little way into the jugular vein, and the cavernous sinus and ophthalmic vein on the same side were occupied by purulent matter. Around the latter, in the back part of the orbit, was a small, circumscribed abscess. The pia

mater was generally vascular, and there was pus in both cavities of the arachnoïd, as well as in both lateral ventricles.

The preparation was taken from the body of Amelia B., who died at the age of 24 years, in the hospital, Sept. 15, 1864. She had been delivered of a six months' child eight days before her death. The labour had been followed by several distinct rigors. For some time past she had been subject to pain on the left side of the face, and it was said that she had had a discharge from the ear, though the history was very imperfect. When in the hospital she was nearly unconscious. The head was hot and perspiring, the left side of the mouth was slightly drawn down, the pulse was quick and intermittent. There was a remarkable prominence of the left eye. She was only in the hospital for one day. (For further details see *Post Mortem and Case Book* for 1864, p. 243.

34. Temporal bone much excavated by disease, illustrating the communication of disease from the ear to the interior of the cranium. The bone has been honey-combed by disease, though no part is softened. The bone has been superficially destroyed, to some extent, close to the foramen of the vestibule, on the posterior surface. A fine probe here introduced comes out at the external meatus. It was not by this channel, however, that the mischief travelled. The internal auditory meatus, though perfectly natural in its walls, has a considerable opening at its base, which passes directly into the tympanum. At the post-mortem examination it was found that pus had burrowed from the auditory meatus into the cerebellum. It made a considerable excavation in the upper part of the left lobe, which was that in contact with the mischief, and passed a little way across the middle line. The suppuration was limited by adhesions, so that there was no arachnitis. The ventricles were distended with clear fluid.

The preparation was taken from the body of Jessie R., 7 years of age, who died in the hospital November 26, 1863. She had scarlatina two years before, and for the last four months had had a fœtid discharge from the left ear, with frequent pains in the forehead, causing shrieking. Four days before her death she had a fit, without much convulsion, but with the head drawn back and the limbs stiffened. Seizures of this kind were frequently repeated. The child retained her consciousness during the convulsion. After one of them, more than usually severe, she died. (See *Post Mortem and Case Book*, 1863, p. 284.)

35. A polypus of the nose, which hung down into the pharynx. It was removed by ligature August, 1829. The polypus was of a fibro-nucleated structure, and was as large as a walnut previous to the application of the ligature. The ligature was

applied by means of a bougie passed through the nostril, and brought out of the mouth. The polypus was easily included in the loop of the ligature, which was afterwards tightened by means of a silver canula passed into the nostril. The ligature came away forty-eight hours after its application, bringing with it the polypus.

The patient was a young lady from whom two gelatinous polypi had previously been removed. *Presented by* Sir Benjamin Brodie, Bart.

36. Gelatinous polypus extracted from the nose.

37. Gelatinous polypus extracted from the nose.

38. Gelatinous polypus of the nose, extracted by the forceps. A portion of the ethmoïd bone is attached to it.

39. Gelatinous polypus of the nose, removed from the nostril by the forceps. It had existed a long time, and did not return.

40. A common gelatinous polypus, extracted from the nostril. It is put up to show its narrow pedicle, lobulated appearance, and density at the lower part. The latter was so considerable, that it presented very much the appearance of a fibrous tumour. A very similar polypus was removed shortly afterwards, and the patient (a middle-aged woman) then recovered perfectly.

41. Section of a portion of the left side of the head, showing a very large fibrous polypus of the nose. The diseased mass completely filled and distended both nostrils. The disease was confined to the soft parts lining these cavities, the bones not being in the slightest degree contaminated.

The patient, Robert P., was admitted into the Hospital in 1839. At that period, the tumour filled both nostrils, and protruded through the left one; it could not be detected at the posterior nares, although, as the preparation shows, it filled that opening on the left side. It had ulcerated through the skin at the upper part of the nose. Some twenty years back, a tumour made its appearance in the right nostril. It was removed at different periods by the knife, and by caustics. In the last operation, which took place two years previously, the septum nasi was broken through, and two or three portions of bone subsequently came away. The disease then spread to the left nostril, and had, since that period, rapidly increased. An operation was not deemed advisable, and the patient died with typhoïd symptoms, twenty-two days after his admission; the day before his death he had general convulsions. At the post mortem examination, the membranes of the brain were found more vascular than natural, and the ventricles were distended by a considerable effusion of fluid.

42. Section of a portion of the opposite side of the head of the same patient. The cavity of this nostril has been enormously

distended by the diseased mass which was situated in it. The nasal process of the superior maxillary and the nasal bone are completely everted. At the superior margin of the middle turbinated bone is a polypus of a cauliflower appearance, which is attached by a long pedicle. This forms the central stem of the growth, and from it spring, at certain intervals, primary branches, of similar structure, from which, again, secondary and tertiary outgrowths arise. The entire mass of the preceding growth already described consists essentially of a similar structure. In the middle meatus are several minute excrescences, some of which have pedicles, others not. The free margin of the middle turbinated presents a large vesicle containing a limpid fluid.

43. A portion of a large fibrous polypus, which was removed from the nose by MR. HAWKINS, in December, 1845. The tumour, which had been observed for three years and a-half previous to the operation, occupied the greater part of the right nostril, which was greatly dilated by its growth. The surface of that portion of the tumour, which projected beyond the nostril, was of a dark purple colour, and apparently very vascular. The right side of the nose was pushed out considerably towards the cheek, and the nasal bone of that side was expanded and very thin; the vomer was pushed over to the left side, so as nearly to obstruct all breathing through the nostril, and on looking into the mouth the palate was seen to be much depressed on the right side. When the tumour was first observed, it had been removed with the forceps; and caustics had been afterwards applied, but it soon returned again. This operation had been repeated without benefit. The patient was 16 years of age, and in pretty good health. An attempt was first made to pass a ligature round the tumour by means of a catheter, but the instrument could not be made to pass along the upper surface of the tumour, owing to its attachments there. The nostril was, therefore, slit open, and another attempt made to tie the most prominent parts; but as this did not produce any effect on the tumour, it was excised with a strong pair of scissors. Considerable hæmorrhage ensued, but was stopped by applying lint saturated with sulphate of copper. The patient's general health improved, and there did not seem to be any disposition to a return of the tumour. The cicatrix was firm and white. The boy left the Hospital, with all the parts soundly healed, and his appearance much improved.

44. Portion of the septum of the nose, on the left side of which the mucous membrane close to the anterior nostril presents a warty growth, partly ulcerated, which during life was mistaken for a polypus. The patient, a woman aged 50, was operated upon for strangulated hernia, and died. *Post Mortem and Case Book*, 1846. p. 22.

45. Section of the antrum of Highmore in a diseased state. The patient was a pauper in the workhouse, and stated that he first perceived an enlargement of the parts about eleven years before, but that the disease had been more active within the last two years. The face was much distorted by the swelling, and he suffered acute pain; the disease affected his general health, and he died worn out. The antrum contained about two ounces of fluid, and was lined with a soft spongy mass, looking in many places (to the eye) like fungus hæmatodes.
46. Opposite section to the preceding.
47. Malignant tumour removed from the left nostril by SIR B. C. BRODIE, on the 9th November, 1839. The disease reappeared in several parts of the body, and the patient died on the 12th of May, 1840. For the history see Series V., No. 47, where there is a preparation from the same patient, of cancer in the spinal column. A malignant tumour of the sternum from the same patient is also preserved as Series II. No. 209.
48. Section of the head of the child, from whom the previous preparation was taken. This preparation consists of a portion of the left side of the head and face, as far as the root of the zygomatic process of the temporal bone, and basilar surface of the occipital. A portion of the malar bone, and that portion of the superior maxillary which forms the outer wall of the antrum have been taken away, so as to afford a better view of the disease. The whole of the nasal cavity is filled with a deposit of a malignant nature; the cavity of the antrum is occupied by a similar growth, which has caused the partial absorption of the lower wall of the orbit. From these parts, the disease has spread in different directions, viz., outwards, into the zygomatic fossa, where it has absorbed a portion of the frontal bone, and has come into contact with the dura mater; downwards, into the mouth, where it has destroyed the palate bone, and the corresponding portion of the superior maxillary; backwards, where it has completely destroyed the body of the sphenoïd bone, the place of which it occupies, (the cartilage which in young subjects separates the basilar surface of the occipital from that of the sphenoïd, being quite healthy;) and upwards, where it has made its way into the skull, by destroying the cribriform plate of the ethmoïd. The os planum of that bone, and the inner surface of the great wing of the sphenoïd are also partially absorbed, from being in contact with the morbid growth. The parts of the dura mater in contact with the disease were much thickened, but the brain was healthy.
49. Cancer of the nose. The patient, Robert B., aged 59, was admitted in April, 1835, and died in February, 1836, about two years after the disease commenced. A small lump on the

bridge of the nose first formed, ulcerating in six months, and extending to the bones, and interior of the nose. The patient had amaurosis of both eyes for several years. Post mortem examination showed the brain healthy, except a little serum. The optic nerves passed close to the disease of the sphenoïd bone, and were flattened and darker coloured, but had their natural appearance in the orbits. All trace of the nasal bones was lost, and the nasal eminence of the frontal bone was slightly infiltrated with the morbid deposit. The dura mater covering the cribriform palate of the ethmoïd, and part of the body of the sphenoïd was thickened, and in isolated spots projected into the skull, from the elevation of small portions of the tumour beneath it. A great part of the ethmoïd and body of the sphenoïd, with the nasal and palatine processes of the superior maxillary bone were infiltrated with a firm white substance, presenting under the microscope the ordinary elements of hard cancer. The ethmoïdal cells were full of the same deposit, the vomer and septum nasi were infiltrated throughout, and the same growth partially blocked up the right nostril. The antra were healthy. The sphenoïdal sinus contained a little pus, and a part of the bony wall of the sinus was dead and partly loose. The olfactory nerves going through the tumour were healthy. The liver was granular, but all the other viscera were healthy, and no gland seemed to be contaminated. *Presented by* CÆSAR HAWKINS, Esq. Vide *Med. Chir. Soc. Trans.*, Vol. XXI. p. 82.

50. Cuticle removed from the foot of a boy affected with scarlet fever. The eruption had made its appearance about seventeen days before; it was distinct, and very vivid. There was no ulceration of the throat, and complete and rapid recovery occurred. *Presented by* WILLIAM FULLER, Esq.

51. Cutis from a child who died of small-pox. The cuticle has been removed from some of the pustules, to shew the inflammatory vascularity around them, with their central slough. *Presented by* CÆSAR HAWKINS, Esq.

52. A portion of the scalp from a man who died of diffuse inflammation, to shew the thickening produced by this disease beneath the tendon of the occipito-frontalis. *Post Mortem and Case Book*, 1860. p. 230.

53. Portion of the skin of the leg, shewing an ulcer.

54. An ulcer, the result of a burn, injected to shew the extreme vascularity of the granulations. *Presented by* SIR BENJAMIN BRODIE, Bart.

55. The hand of a patient in the Hospital who laboured under epileptic fits. The patient, during a paroxysm, thrust his hand into a fire, which occasioned the appearances seen in the preparation. The part was amputated about three weeks after

his admission, on account of the great loss of skin, and the imperfect limb which would be left, had the parts been made to cicatrise. The preparation is injected with size and vermilion, and illustrates very well the appearances and vascularity of the granulations of an ulcer.

56. Ulcer of the leg, of two years' standing, in a man aged 35, encircling the leg, attached to the periosteum, which is thickened. The limb was amputated. *Presented by* CÆSAR HAWKINS, Esq.

57. Extensive rodent ulceration of the skin, bones, and other parts of the face. The extent of the ulceration may be defined by a somewhat circular line, commencing at the anterior margin of the right ear, passing upwards and forwards to a point $1\frac{1}{2}$ inches above the external angle of the right orbit; thence passing inwards about an inch above the right orbital arch to the median line; and from thence obliquely downwards, through the centre of the left eyebrow and upper lid of the left eye towards its outer angle; downwards over the left malar bone, and through the left cheek into the lower lip, the upper half of which was destroyed; passing from left to right across the median line, through the lower lip; then dipping rather suddenly downwards on the right side, and then passing upwards to the anterior margin of the right ear, from which point the description commenced. Almost the whole substance of the soft tissues included by this line was entirely destroyed by ulceration, that is to say, from the margin of the right ear to the left malar bone, the integument was entirely gone, as also from an inch above the root of the nose, to the lower half of the lower lip; all the right cheek was destroyed, the contents of the right orbit, and a considerable part of the right masseter and temporal muscles, the right eyelid, eyebrow, and the skin above the eyebrow; the skin and cartilages of the nose, the upper lip, the greater part of the left upper and the whole of the corresponding lower lid, the greater part of the contents of the left orbit, the greater part of the left cheek, and half of the lower lip. There is also an isolated spot of ulceration under the right side of the lower jaw. The whole of the right malar bone, the right superior maxilla, the right nasal, palate, and turbinate bones, were entirely destroyed. The right frontal sinus was laid open by ulceration, and the under surface of the right orbital plate of the frontal bone was carious. The front of the pterygoid process, and the external pterygoid muscle of the same (right) side, were exposed. On the left side, part of the nasal bone, the greater part of the superior maxillary, malar, and palate bones were destroyed, the back wall of the left antrum remained. There was a communication, by ulceration, between the nostril and left orbit; the right orbit, nares, and mouth were laid open into a common cavity. At

the back of the mouth the soft palate is seen, with a deeply ulcerated anterior edge. The left eyeball remained, but the cornea was opaque and sloughy, the soft structures on its inner side being much ulcerated, and the globe lessened in size. The tongue was unaffected.

This specimen was taken from the body of a man aged 70, who was formerly an out-patient at the Hospital, when the disease was confined to the skin and globe of the right eye, all of which were converted into an ulcer, clean on its surface, with raised, irregular, and slightly tuberculated edges. The ulceration commenced originally (about 2 or 3 years before he became an out-patient) in the lower lid of the right eye. Chloride of zinc was applied, from which temporary good only followed. The patient ultimately died in St. George's Workhouse. No history was obtained beyond the brief one given. The parts implicated in the disease were examined microscopically, but the characters of a carcinomatous growth were wanting. The above description is mainly quoted from the *Path. Soc. Trans.*, Vol. III., p. 192, in which it was introduced by Mr. POLLOCK.

58. A portion of the skin of the front of the leg, injected with size and vermilion, exhibiting cicatrices of former ulcers, and shewing their degree of vascularity. *Presented by* SIR BENJAMIN BRODIE, Bart.

59. Portion of skin from the same as the preceding. *Presented by* SIR BENJAMIN BRODIE, Bart.

60. The arm of a child, which was amputated in the Hospital in consequence of the extensive suppurating surface and contraction of the wrist, the result of a burn. *Presented by* SIR BENJAMIN BRODIE, Bart.

61. Warty tumour removed by operation from the back. The patient had been a soldier in India for many years, and had been several times flogged. He did not, however, recover from the last punishment, which was of 1000 lashes, eleven years previously, as small warts sprang from the centre of the cicatrix, several of them increasing rapidly in size, and thus growing together formed the irregular mass presented in the preparation. Between these irregular masses were interspaces along which a probe might be passed to the base of the tumour. The surrounding skin was of a dark colour, and studded with warts. The patient recovered from the operation without any untoward symptom, and no return of the disease took place. *Presented by* SIR BENJAMIN BRODIE, Bart.

62. Warty growth arising from a cicatrix. This growth was removed from the back of a soldier who was admitted into the Hospital many years back. He had been twice flogged, and the disease originated in the cicatrix of the floggings. There was con-

siderable hæmorrhage after the operation, which was restrained by the application of the actual cautery. The man died in the Hospital. *Presented by* Mr. GASKOIN.

For a more complete account of these two preparations the reader is referred to 'Mr. Hawkins' cases of Warty Tumours in Cicatrices,' in *Med. Chir. Trans.*, Vol. XIX., p. 19.

63. Warty growth arising in a cicatrix, the result of a gun-shot wound of the leg. The leg was amputated, after repeated attempts had been made to destroy the disease by potassa fusa, nitric acid, and the actual cautery, without any avail. The patient had received a gun-shot wound of the leg some years previously, from which bone had separated, but none had come away for a long time before the operation. *Presented by* CÆSAR HAWKINS, Esq. Vide *Med. Chir. Trans.*, Vol. XIX., p. 32.

64. Warty tumour arising in a cicatrix. This preparation was taken from Susan F., aged 28, who was admitted into the Hospital October 23rd, 1833. The left leg and foot had been scalded severely when she was a child; the sore was more than a year in healing, and the cicatrix afterwards frequently ulcerated. A fresh ulcer formed four months before her admission, and in about six weeks put on its present appearance. The surface of the tumour discharged much fœtid pus, it was very painful, and the general health was much affected from excessive pain and irritation. The leg was amputated November 28th, 1833, and the stump healed favourably. This patient was in the Hospital two years afterwards, having had no return of the disease, and died soon after of some affection of the chest, at her own home. The body was not examined. *Presented by* CÆSAR HAWKINS, Esq.

65. Another portion of the disease, from the same patient as the preceding. It will be seen that the disease did not extend below the fascia, the bone being a little enlarged, from simple inflammation. *Presented by* CÆSAR HAWKINS, Esq. Vide *Med. Chir. Trans.*, Vol. XIX., p. 25.

66. Warty tumour of cicatrix. The patient, a man aged 47, was admitted on December 13th, 1837, with a sore on the back of the hand, with elevated and hard base, very tender, and in part inclined to be warty. He had had the cicatrix of a burn on the hand for twenty years, which had occasionally ulcerated. The present ulcer had existed for above a year, with much pain; the latter symptom had not been before perceived. It was excised on January 27th, and the wound healed after erysipelas. The base of the ulcer looked quite like cancer, and the warty appearance arose from distinct processes shooting up from the base perpendicularly. *Presented by* CÆSAR HAWKINS, Esq.

67. Warty growth originating in the cicatrix of a burn, which implicated the skin of the hand and lower part of the forearm. The burn occurred during childhood. The patient, at the time of the amputation of the fore-arm, was 64 years of age. He stated that four years previous to his admission into this Hospital, he first noticed a small wart which made its appearance in the cicatrix, on the ulnar border of the hand. This he frequently picked off, but it ulcerated and spread, and gradually assumed the appearance seen in the preparation. It was accompanied by great pain, which had, however, been much less of late. Caustics had often been applied, but without any permanent good result. An enlarged gland existed immediately above the inner condyle, and another in the axilla, both being hard. The operation was performed shortly after his admission; the stump healed kindly, and the patient left the Hospital very much improved in health and spirits, the enlarged glands being however of the same size. Nothing has been heard of the patient since he left.
68. Section of a toe removed on account of a large corn. The thickened cuticle forming the corn can be seen, and a bursa mucosa is formed beneath it. *Presented by* Sir BENJAMIN BRODIE, Bart.
69. A small warty growth removed from the scalp. Its section presents a radiating appearance. *Presented by* Sir BENJAMIN BRODIE, Bart.
70. Warty tumour. *Presented by* Sir BENJAMIN BRODIE, Bart.
71. Small warty growth, from the instep. *Presented by* Sir BENJAMIN BRODIE, Bart.
72. Small warty growth removed from the instep of a woman in the Hospital. *Presented by* Sir BENJAMIN BRODIE, Bart.
73. Warts of the labium. The patient, a young female of 19, had had a warty tumour (with leucorrhœa) on each labium for five years before they were removed with the knife, which was done at the Lock Hospital. The parts readily healed without return and the discharge was cured. *Presented by* CÆSAR HAWKINS, Esq.
74. Tumour removed from the integument of the back. The separate papillæ covering the surface of the growth were of a fibro-epithelial structure. The free ends of several of the papillæ terminated in dark coloured prominences. Several hairs are seen growing from the surface of it. It was removed from a patient in the Hospital.
75. Warty tumour removed from the back by operation. *Presented by* Sir BENJAMIN BRODIE, Bart.
76. A small tumour removed from the face of an old gentleman 64 years of age. The tumour has been divided by a longitudinal incision. It was firm in texture and of a brownish colour.

The surface of the tumour consists of a thin, firm, horny layer, composed of compact laminæ of epithelium.

Sir B. BRODIE says, "Such tumours of the face are not uncommon. If allowed to remain, they continue unaltered in some instances for a considerable length of time, but ultimately they enlarge and ulcerate, terminating in ill-conditioned and troublesome ulcers. In a state of ulceration this disease is occasionally mistaken for cancer, from which, however, it differs inasmuch as it does not contaminate the general system, and seldom or ever the absorbent glands. I have seen only one instance in which the latter became affected, and this was in a gentleman from whom I removed a tumour of this description from the upper lip. These tumours seem to have their origin in the cutis, or in the cellular membrane immediately below it. I have never known an instance in which after being once carefully removed the disease has returned either in the cicatrix or elsewhere." *Presented by* Sir BENJAMIN BRODIE, Bart.

77. Horny growth removed from the face. *Presented by* Mr. C. ROBERTS, of York. Mr. ROBERTS' report was the following:—"The horny growth which I enclose was removed by me from the face of an old woman, about 75 years of age, the wife of a blacksmith, residing in a small agricultural village a few miles from York. It was growing from the skin immediately over the edge of the lower jaw on the left side, at a point corresponding to the angle of the mouth. The patient stated that about three years ago a small wart (which she had had all her life) became irritable, and from frequent scratching bled freely. As the irritation subsided, a horn grew, and slowly increased in size for two years, when she broke it 'short off.' The enclosed horn has been the produce of the last twelve months, and has increased in diameter and length much more rapidly during the last three months. The soft, bulbous base was very vascular and painful, and the horn, by hanging down into the neck and catching the dress, was a source of great pain and inconvenience to the patient. In removing it, it was only necessary to divide the skin, as the tumour had no connexion with the deeper tissues." *Path. Soc. Trans.*, Vol. XVI.

78. A small fibro-cartilaginous tumour with small masses of calcareous matter imbedded in it, removed from the cutis of the arm of a man who died in the Hospital. It was not known to have occasioned any pain. *Presented by* CÆSAR HAWKINS, Esq.

79. Keloid tumour, removed from the upper part of the chest. The patient, Richard C., aged 21, admitted May 13th, 1841, reported that the tumour first made its appearance about ten years previously. It was then perfectly moveable, and of the

size of a small pea. The skin over the part was red, and at times he suffered from shooting pains. The tumour increased in size, its greatest diameter being transverse. Two years before his admission a ligature was applied to it. Shortly afterwards the disease reappeared, and caustic was then applied but without any good effect. After a consultation, it was determined that the diseased part with a portion of healthy skin should be removed by the knife. The patient did well for some time, but three months afterwards he returned to the Hospital, the disease having made its appearance in several distinct tubercles, some of these were evidently situated in the places where the ligatures had been passed for the purpose of bringing the lips of the wound together, the others could not be traced to this source. The new formation was apparently an hypertrophy of the fibrous tissue of the dermis.

80. Keloid tumour.

81. Cancer of the skin, removed from a man aged 50. The disease was situated on the back, just above the right scapula ; it had existed about six years, and first made its appearance as a small wart, which afterwards ulcerated and discharged matter. One or two enlarged glands existed in the neighbourhood. About a mouth after the operation, a fungous growth sprang up from the surface of the wound, which was nearly cicatrised. This was destroyed by the chloride of zinc, but small, hard tubercles were speedily developed in the neighbouring skin, and several glands enlarged, which soon ran into ulceration, and the patient died exhausted some little time after the operation. The viscera were not examined, but the diseased structures proved to be of the same character as the tumour which had been removed. The general appearance of this tumour is similar to those described as warty tumours of cicatrices. A section through the growth shows it to consist of fibres which rise up vertically to the surface, and these are blended into irregular masses separated from one another by deep fissures ; the fibres consist of filamentous tissue with many circular nuclei imbedded between them, and towards the surface of the growth intermixed with much epithelium.

82. Epithelial cancer of the skin contaminating the bone and parts in its neighbourhood, from a man, aged 54. The man had been in the army, and when in Germany in 1809, after continual forced marches of a fortnight's duration, he felt severe pain along the skin and about the sides of the right leg, of a darting, acute character. This was accompanied by redness and swelling, the part being soft to the touch. The leg had continued in the same state (sometimes appearing almost sound, and at other times the above symptoms being very

severe), until eight months before admission when, he said, it first assumed its present appearance. Upon his admission there was an extensive warty-looking ulcer, affecting the skin over the inner side of the tibia. The disease extended down to the bone, which was affected by it. The limb was removed September 19th, 1837. After the operation the patient did very well for three weeks, when one morning, after eating his breakfast as usual, he suddenly died. Post mortem examination showed a large quantity of serous effusion in the brain. The liver was very much enlarged, the other abdominal viscera healthy. The heart was pale and flabby; no calcareous deposits in the valves. The aorta and iliac arteries were sound. A considerable deposition of purulent matter existed around the vessels in the right groin. The femoral artery was calcareous; the femoral vein presented spots of calcification. In the vein there were several coagula, in the centre of which were small deposits of pus.

83. Epithelial cancer of the skin spreading to the tibia, from a patient aged 30, who was admitted Feb. 24, 1841, with cancerous ulceration of the leg and knee, very painful, very vascular, and with much warty growth, occupying eight inches by five of the leg and knee, a deep cavity in the centre leading into the tibia, where the limb was flexible. Twenty years before, his leg was caught in some machinery, and some pieces of bone afterwards came away; then it remained well till ten months before admission, when the skin ulcerated over the patella, but he used it till six months previously. The limb was amputated April 10, 1841, and the patient recovered. The tuberosities of the tibia and upper part of the shaft are converted into a white, opaque tissue, rendering the bone perfectly pliable; remnants of osseous tissue may still be traced in the morbid structure. At the posterior and lower part the compact tissue of the bone is but slightly contaminated. *Presented by* Cæsar Hawkins, Esq.

84. Corresponding section to the preceding preparation. *Presented by* Cæsar Hawkins, Esq.

85. Epithelial cancer of the skin of the face removed, with a portion of the parotid duct, from a man aged 65, in May, 1832. The disease first made its appearance two years before, in the shape of a small wart of a brown colour. It gradually increased, but within the last six months it had increased much more rapidly, and began to ulcerate: it caused severe shooting pain. The glands below the jaw were slightly enlarged. After the removal of the disease the patient suffered for some time from salivary fistula, but this ultimately was cured. The cancerous affection had not returned two years after the operation.

86. Cancer of the lip removed from a man aged 56, July 10, 1834.

It healed readily. It began about a year previous to its removal. *Presented by* CÆSAR HAWKINS, Esq.

87. Cancer of the lower lip. The surface of the ulcer is excavated. *Presented by* CÆSAR HAWKINS, Esq.

88. Cancer of the lip. The patient, James P., aged 68, was admitted on September 20th, 1842, with cancer of the lower lip. It seemed to affect the whole lip, and to have reached the gums, which were spongy and apparently diseased, and the lip seemed quite fixed to the periosteum, and some glands were enlarged. In the centre of the lip was a deep scar and ulcer, where some caustic had been applied. The case was thought at first to be beyond operation, but by the local use of iodine some parts seemed to have recovered, and the whole lip was removed on November 3rd. In July, 1843, there was no return of the disease. *Presented by* CÆSAR HAWKINS, Esq.

89. Scirrhous tubercles of the skin. Taken from Charlotte B., who had similar deposits in different organs. *Post Mortem and Case Book*, 1841, p. 70. For a preparation of the same deposit in the liver see Series IX., No. 310.

90. Scirrhous tumour of the face. William S., aged 79. The tumour was attached to the malar bone. It was removed by the knife July 18th, 1833, eight months after its origin, and three months after its ulceration. The disease returned under the cicatrix in October following, and its further removal was not agreed to. *Presented by* CÆSAR HAWKINS, Esq.

91. The patient from whom the above preparation was removed was readmitted January 15th, 1834. After his admission the tumour ulcerated deeply, with a border of surrounding scirrhous cancer, and proceeded gradually with great pain, and with swelling and hardness of a gland under the chin, and two under the sterno-mastoïd muscle; the strength gradually declined. In July the tumour affected the eyelid, and extended to the temple, and projected about an inch and a half above the proper level; the centre (ulcerated and occasionally sloughing slightly) admitted the probe through the malar bone, four inches to the bottom of the orbit, the tumour around the opening not presenting any feeling of ossific matter. The parotid duct opened by the ulcer gave him much inconvenience by pouring out a quantity of saliva. He died November 22nd, 1834, weak, but without any impairment of mind to the last, further than slight drowsiness, as if from the opiates he took constantly. The malar bone, the zygoma, and roof of the antrum were destroyed, the antrum being thus laid open into the ulcer. Its lining membrane was healthy. The soft parts around, wherever they were not ulcerated, had the appearance of scirrhus, the outer part being the thickest. The tendon of the temporal muscle was laid bare, and converted into scirrhous

matter: the coronoïd process forming part of the disease. The masseter muscle was destroyed, as well as the parotid duct, the gland being diminished in size. The lower jaw was in part changed at the upper part. The outer and lower walls of the orbit were destroyed, the inferior oblique and external rectus muscles, and the globe of the eye, being insulated and covered by granulations. The ulceration had made a small opening through the sphenoid bone just above the optic foramen, and the dura mater was found adherent to the bone around the opening, and perforated by the ulceration. On removing the calvarium, the right hemisphere was found flattened and depressed very much, and a thin layer of cerebrum was found to cover a large cavity occupying the anterior two-thirds of the hemisphere. This cavity was vascular, but dry and perfectly empty, having been evacuated through the small opening of the dura mater and sphenoid bone before alluded to. Around the cavity the substance of the brain was vascular and coloured, as round an apoplectic coagulum. (See Series VIII., No. 23.) The glands in the neck were enlarged, one containing a kind of scrofulous matter, and another a green fœtid pus in a cyst of the size of a walnut, but neither of them looked exactly like scirrhous substance. The right kidney had an aqueous, encysted tumour. (See Series XI., No. 19.) The liver presented a large, dark mass, like fungus hæmatodes. (See *Med. Chir. Trans.*, Vol. XXI., p. 69.) *Presented by* Cæsar Hawkins, Esq.

92. Scirrhous cancer of the labium, from Flora G., aged 50. The following notes have been preserved:—"Small tumour twelve months, ulcerated three months, discharge profuse, pain not great; sarsaparilla and oxymuriate tried two months without benefit. Tumour removed November 13th, 1834, leaving apparently healthy fat below. The wound healed December 10th with thickening, and remained well for five weeks only, when a small tumour was formed which ulcerated in five weeks more, and a second operation was performed Feb. 12th, 1835. This was attended with troublesome hæmorrhage and sloughing, which opened into the symphysis pubis, and separated the periosteum from the pelvic side of the bone. No hardness was felt around the wound. No glands were enlarged. The left ovarium was hardened with some small cysts, the uterus and right ovary united by strong bands to the rectum and side of the pelvis." *Presented by* Cæsar Hawkins, Esq.

93. Scirrhous cancer of the skin over the sternum. The patient, Philip I., aged 46, was admitted January 9th, 1839, with a cancerous ulcer of the skin covering the sternum and cartilage of the ribs an inch below the clavicle. It had appeared like a mole twenty years, and had ulcerated slightly ten years previously.

Two years before admission it began to be painful, and had spread much for three months. The whole ulcer was excised on the 12th, and the wound healed up in about six weeks. The cellular texture below the ulcer was perfectly healthy, and the base of it was evidently cancer. *Presented by* CÆSAR HAWKINS, Esq.

94. Encephaloid tumour in connection with the skin, at a point a few inches below the inferior angle of the left scapula. Taken from a man, aged 31, who died in the Hospital 26th February, 1851, with extensive encephaloïd deposits in the axillary lymphatic glands, in a state of ulceration, following an abscess in the axilla which had been laid open. The bronchial and mesenteric glands were also greatly affected, and there were encephaloïd tubercles in the substance of the lungs, heart and omentum. The patient stated that he had had a small tumour on his back since childhood, which was said to be a nævus. About four or five months before his death it had been ligatured, which caused it to be very painful and to increase rapidly. The abscess in the axilla appeared only two months before his death, and arose spontaneously. Before death he spat up much thick, purulent, bloody fluid and semi-solid matter, attended by much cough and dyspnœa, and suffered much from hæmorrhage from the ulceration in the axilla. He died exhausted. *Post Mortem and Case Book.* 1851. p. 44.

95. A portion of skin from the side of the chest, which is raised in many situations by deposits of encephaloïd cancer. The preparation does not show the character of the disease as clearly as it did when recent.

The patient, a man, 70 years of age, was admitted into the Hospital with his body covered with hemispherical prominences, about as large as nuts, and of a congested appearance. Over these the skin was readily moveable. He became very much depressed, and sank after having been about a month in the Hospital.

After death a considerable encrustation of epithelial cancer was found about the glans penis and on the prepuce. Deposits of malignant disease existed also in the heart and spleen, as well as in almost all the absorbent glands of the body. From the greater advancement of the disease in the track of the lymphatics leading from the penis, it was presumed that the disease had originated in that member. See *Post Mortem and Case Book.* 1862. No. 32 ; also *Path. Soc. Trans.*, Vol. XIV., p. 240.

96. Melanosis of the skin, removed from the back of a lady by Sir B. BRODIE in April, 1843. The disease originated in a mole which Sir B. BRODIE removed in 1841. It returned in

the cicatrix shortly before the second operation was performed. At this second operation a large portion of the skin was removed together with the diseased structure. A small melanotic deposit was found in the adipose tissue, close to the margin of skin that had been removed.

97. Melanotic tubercles in the skin ; some of the group are devoid of colouring matter.

98. Tumour of the skin, from a man, aged 44. The tumour began seven years before, admission, and reached the size of an egg ; fourteen months before, it burst, and discharged a pint of blood, and the surface ulcerated and frequently bled largely, never giving any pain. Its colour was dark and livid. The tumour was removed November 29th, 1834. The structure was dense and uniform, like udder. *Presented by* CÆSAR HAWKINS, Esq.

99. Tumour attached to the skin of the thigh, from a boy, aged 12. The patient was admitted with a small, round, purple tumour fixed to the skin of the middle of the thigh on the outside of the femoral artery. He was of an irritable constitution, and the wound did not heal for several months. The tumour began six months before it was removed. *Presented by* CÆSAR HAWKINS, Esq.

100. Pendulous tumour. The patient, Samuel W., aged 26, was admitted with a pendulous tumour attached to the skin of the nape of the neck by a narrow root, fixed to the inner layers of the cutis, or to condensed cellular membrane. It was soft, irregular, as if composed of lobes. It was covered by a very thin skin, and contained in its interior a large number of oval-shaped, flattened masses, varying in size from a horse-bean to a millet-seed. These masses were of a whitish colour, smooth, moderately firm in consistence, and connected to the inner surface of the cyst by fine areolar tissue. In structure they consisted of nuclei arranged in concentric masses, and presenting an appearance not unlike the normal structure of the thyroid gland. *Presented by* CÆSAR HAWKINS, Esq.

101. Tumour of the lip of uncertain nature. The patient, Mary P., aged 61, was admitted August 12th, 1840, with a globular tumour close to the left angle of the mouth; the skin over it being hard and slightly ulcerated. The disease commenced two years before on the inside of the mouth, in the form of a moveable tumour, which gave no pain till half a year before, shortly after which time the pain began, and an ulcer appeared. The tumour was removed August 13th by the V incision. The operation was followed by erysipelas and ulceration.

On October 14th she was readmitted, the cicatrix being puckered, with a white, warty appearance in the centre, and with a line of hard substance extending from the angle of

the mouth in the cheek to the masseter, which was about one-third of an inch in diameter, and did not adhere to the skin or mucous membrane; the hardness of this part joined the cicatrix which was also very firm. There was much pain which was somewhat relieved by lotions. The tumour removed may be seen to be perfectly insulated, as if in a cyst, and the diseased portion of skin over it was not adherent to the circular mass. *Presented by* CÆSAR HAWKINS, Esq.

102. Three sebaceous encysted tumours, removed from the scalp. *Presented by* CÆSAR HAWKINS, Esq.

END OF SERIES XVI.

SERIES XVII.

TUMOURS.

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1. A cyst, the contents of which were probably serous, removed by operation from the gluteus maximus by Sir Everard Home. The wall of the cyst is thick and fibrous, and its cavity is crossed by a dense rounded fibrous band. Numerous small fibrous growths are attached to the inner surface of the cyst, and project into the cavity. *Presented by* Sir Benjamin Brodie.
2. Calvaria of a child aged six weeks, with the dried walls of a cyst connected with its upper part. At the time of the examination the cyst was pedunculated, and contained a quantity of perfectly clear fluid; the cyst itself was formed by skin, by a dense fibrous tissue, and by a smooth membrane apparently of a serous nature, all of which were firmly adherent to each other. No direct communication could be discovered between the cyst and the cavity of the skull, but a communication had in all probability existed at one time, which had been cut off by the visceral arachnoïd becoming firmly attached to the parietal layer at the circumference of the opening of the pedicle of the cyst. A large quantity of clear fluid was also found in the posterior half of the cavity of the arachnoid where it was perfectly circumscribed, the third and lateral ventricles being very much expanded, and forming part of the walls of the cavity containing the fluid within the skull. The posterior half of the falx major is bifid. An extensive deficiency exists between the parietal bones and the lateral halves of the frontal, in the median line, part of which is filled up by a large Wormian bone, the pedicle of the cyst being connected with that part which is merely blocked up by a membrane, most probably the dura mater and its arachnoid. A small hole exists in the left parietal, which is merely stopped up by the membranes of the cranium. The cyst was punctured during the life of the child, and a quantity of fluid let out; but it soon regained its former size, and subsequently went on increasing until the child's death. *Post Mortem and Case*

Book, 1844, p. 199. There is also a drawing of this child's head, made some time before its death; and in connection with this case, see also a plaister cast of another case, apparently of the same nature. *Presented by* SIR BENJAMIN BRODIE.

3. The tongue and neighbouring parts, the seat of extensive cystic disease. Large collections of cysts form rounded swellings on each side of the tongue at its hinder part, below the isthmus of the fauces, which must have been much narrowed by their means. That on the left side is much the larger; it is not smaller, taking its downward projection, than a tennis ball. The cysts of which the swellings are composed, are of smooth, thin membrane. They vary in size from a large walnut, downwards. There is no general communication between them, but the large ones have blind depressions in their walls, as if smaller cysts had opened into them. Commencing above in the position of the tonsils, the cystic growths have extended much underneath the tongue, so as to raise it up. One or two minute cysts are to be seen in the muscle, at the lower and anterior part of the organ; but for the most part this structure appears to be exempt. The tonsils, and the areolar tissue, appear to have been the parts primarily affected.
4. Sebaceous encysted tumour, removed from the scalp. The tumour is surrounded externally by a thin membranous capsule. One portion of the walls of the cyst is very thick, and of horny consistence. It would appear as if this cyst had given way at one point, so as to allow the contents to escape. The thick opaque portion of the cyst-wall is composed of closely compressed epithelium; the contained white matter is sebaceous. *Presented by* SIR BENJAMIN BRODIE, Bart.
5. Encysted tumour removed from the scalp. The tumour is invested externally by a thin membranous capsule, its interior being partially subdivided into saccular cavities by membranous septa. The contained matter consists partly of solid masses of a dark brown colour and of horny consistence, partly of white opaque matter of softer texture, and of a dark amorphous granular composition. *Presented by* SIR BENJAMIN BRODIE, Bart.
6. Congenital sebaceous encysted tumour, removed from the orbit of an infant. It contains sebaceous matter, and numerous small hairs, some of which are attached to the inner surface of the cyst wall.
7. Large sebaceous encysted tumour, removed from the scalp of a lady aged about 65. It was situated at the back part of the head, and caused very great inconvenience. Several other tumours of the same nature were removed at different periods from the same patient. A tumour of the same nature, but not so large, was removed from the daughter of this lady. The

scalp of the younger lady was thickly studded with sebaceous tumours. This tumour is invested in a thin capsule of fibrous membrane, internal to which is another thickened wall composed of compressed epithelial cells. The cavity of the cyst is full of sebaceous matter, having embedded in it irregular shaped and more transparent horny masses, also epithelial in structure.

8. Small sebaceous tumour removed from the scalp. The thick wall of the cyst consists of compressed epithelial scales, mixed with particles of sebaceous matter, similar in structure to the secretion contained in the interior of the cyst.

9. A tumour removed from the back of a girl aged 15. The white opaque contents of the tumour are formed chiefly of epithelial scales. From the history of the case it appears that there was a small tumour situated over the posterior inferior angle of the scapula, and that she received a blow upon it, after which it rapidly enlarged. The cyst was probably ruptured by the blow, and its contents infiltrated into the surrounding areolar tissue.

10. Small sebaceous tumour from the cheek. It is intimately adherent to the integument, covering the greater part of its surface, and is not enveloped in a separate cyst.

11. Large sebaceous tumour, removed from the back of the head. The patient, an elderly woman, had several other smaller tumours on the scalp, which were not interfered with, as they gave her no inconvenience. She had a severe attack of erysipelas after the operation, but recovered.

12. Muco-cystic tumour, removed from the labium pudendi. The cyst contained a small quantity of fluid; the greater part of its cavity, however, was filled up by solid matter, which was adherent to the internal surface of its parietes. A small opening was found in one part of the cyst, the existence of which led to the opinion that the tumour had originated in one of the mucous follicles which exist in the labia. Previous to the operation, the tumour being apparently quite solid, was thought to be of a fibrous nature. The cavity of the cyst has been laid open; its inner surface presents a mamillated appearance; its lining membrane is thick, opaque, and covered with a layer of spheroidal epithelium.

13. Large cyst, the wall of which is formed of condensed fibrous tissue. It contained an hydatid, and was removed from the ham by Mr. BABINGTON.

14. Hydatids removed from a tumour in the axilla. A patient was admitted with a large tumour in the axilla, the nature of which could not be ascertained before the operation. It was cut down upon, and a large quantity of hydatids escaped. The patient left the Hospital quite well.

15. The cyst of an hydatid, removed from the neck by operation. It contained a transparent gelatinous fluid. *Presented by* Sir B. C. Brodie, Bart.

16. Hydatid removed from the subcutaneous areolar tissue below the axilla, and to the outer side of the right mamma of a female.

The patient was admitted into the Hospital with a small tumour, the size of a walnut, occupying the above-mentioned position. It increased slowly, but the exact time of its earliest appearance was not known. It was unaccompanied by pain, and at the time of her first admission was not tender to the touch. Fluid was felt within what appeared to be a globular distended cyst. Puncture with a small trocar was had recourse to, and a perfectly limpid fluid escaped. The cyst, although emptied of fluid, did not entirely collapse, but a fulness remained, notwithstanding that no solid could be detected; this suggested the idea that it was an hydatid. The patient objected to any operation, and left the Hospital. She returned after an interval of some weeks, with a tumour in the same place as the former, but larger, and tender to the touch. An opening was made into it by means of a lancet, and the fluid which escaped was thicker, more viscid, of a dirty yellow colour, and containing pus-globules. After the fluid had ceased to flow, a pair of forceps was introduced, and a single hydatid, of the size of a walnut, was withdrawn. The wound shortly healed, and the patient left the Hospital.

17. Small encysted tumour removed by operation. The greater part of the wall of this cyst is formed of thick plates of bone, and the cavity of the cyst is partially subdivided by thin septa of the same material. *Presented by* Sir Benjamin Brodie, Bart.

18. Small sero-cystic tumour, removed from the anterior wall of the abdomen. It is invested externally by the integument, and is composed of two or three cysts, one of which is much larger than the others. The surface of the cysts is for the greater part smooth, except at some points where there are small soft and highly vascular growths projecting into the cavities of the cysts. These projecting masses are composed of a fine delicate fibrillated tissue, with nuclei disseminated through it, and of numerous delicate cæcal pouches, or branching tubular follicles, the cavities of which contain granules and nuclei.

19. Sanguineous cystic tumour of the thigh. This tumour was removed from the subcutaneous cellular tissue, just above the sheath of the femoral vessels in the left groin. It consisted of one principal cyst, the contents of which were bloody serum mixed with clotted blood, and several secondary cysts, also containing coagula. The principal cyst has been laid open,

and one of the secondary cysts has also been opened and a bristle put into it to display its contents. These secondary cysts are formed apparently by the separation into two laminæ of the wall of the parent cyst.

The patient was a young married woman, aged 25, from whom a fibro-plastic tumour, situated in the left popliteal space had been removed four and a half years before. The present tumour had existed for two years, had at first been, to all appearance solid, and had increased considerably and presented manifest fluctuation, a few days before her admission, after she had been walking. The sheath of the femoral vessels was exposed in the operation, which took place on August 5th, 1857 ; she recovered slowly, with symptoms of phlebitis and formation of matter in the opposite buttock and calf, and left the Hospital on September 27th. *Path. Soc. Trans.*, Vol. IX., p. 383.

20. Fatty tumour removed from the glutæal region. The skin was ulcerated over the most prominent part of the tumour. The patient did well.

21. Fatty tumours removed from the mesentery of a patient who died of phthisis and was excessively emaciated. The tumours are enveloped in a very thin cyst of condensed areolar tissue. *Post Mortem and Case Book*, 1843. p. 61.

22. Fatty tumour removed from Sarah O., aged 28, a needle-woman, who was admitted into the Hospital May 14th, 1851. The tumour was situated at the upper and back part of the thigh extending from the trochanter to the middle of the back of the limb. It was freely moveable, and measured on its removal twelve inches by eight. The skin covering it was tense and of natural colour. No sense of fluctuation could be detected during life. It was first noticed two and a half years before her admission, and was then of the size of an orange. There was little or no pain ; its growth was slow at first, but for three months before removal became rapid. The general health during the whole period of the growth of the tumour remained good. The tumour was removed on May 22nd. There was little hæmorrhage, all the nutrient vessels entering at one point. It was covered by a thick investment of areolar tissue, but there was no decided capsule. The operation was followed by slight pain and uneasiness about the wound and hip, and afterwards by rigors and the formation of a small abscess at the upper part of the wound. She left the Hospital well, on July 5th.

23. Fatty tumour enclosed in a distinct capsule of firm fibro-areolar tissue, removed from the integument in front of the leg a little below the tubercle of the tibia. There is no history connected with this case.

24. Fatty tumour of the end of the finger, which was removed by amputating the terminal phalanx, as its size precluded any attempt to save the part.

25. Fibrous tumour, removed from the gum of a child by operation. It consists of firm, compact, interlacing bundles of fibrous tissue. *Presented by* Sir Benjamin Brodie, Bart.

26. Fibrous tumour. The surface of the section presents interlacing bundles of fibrous tissue; near the centre is a small, irregular shaped cyst. *Presented by* Sir Benjamin Brodie, Bart.

27. Fibrous tumours, removed from the neighbourhood of the parotid gland. Sir Benjamin Brodie makes the following remarks upon these tumours:—"Such tumours are not of very unfrequent occurrence. I have removed them from as many as nine or ten patients between the years 1814 and the present time (September 1829). They appear to have their origin either in the substance of the parotid gland or immediately behind it, not however in the structure of the parotid, but in a small absorbent gland which exists in this situation. In some instances where I operated, the tumour had attained a very large size, and had become confounded with the parotid itself. Probably in cases where the parotid gland is said to have been removed, the disease was of this kind, not originating in the parotid, but in the absorbent gland in the neighbourhood. The tumours in this preparation were taken from two different patients, in both of whom there was a recurrence of the disease some time afterwards which ultimately destroyed life. The result of all the other cases was more fortunate. In one of them some small tumours formed in the cicatrix some years afterwards. In the others, to the best of my knowledge, the disease never recurred."

Both tumours are of fibrous structure. On section their tissue is firm, closely set, and compact, and contains small calcareous masses in its interior. In one specimen the surface is nodulated, with much calcareous matter in the fibrous capsule at certain parts as well as in the superficial parts of the tumour. The remainder of both tumours consists of closely interlaced bundles of fibrous tissue. *Presented by* Sir Benjamin Brodie, Bart.

28. Tumours removed from the situation of the thyroïd gland. Examined microscopically, in many different parts they were found to consist entirely of firm, white fibrous tissue. *Presented by* Sir Benjamin Brodie, Bart.

29. Fibrous tumour, removed from the labium. It was taken from a girl, aged 23, who was in very good health. The tumour had existed for some time; when first perceived it was of the size of a walnut; for the two years before operation

it had been increasing more rapidly. The patient had some symptoms of secondary inflammation, but ultimately she did well and left the Hospital. A section has been made through the tumour so as to obtain an even surface and thus display the nature of the tumour. It consists of bundles of white, fibrous tissue, densely interlaced, with fat globules interspersed among the fibres. The outer surface of the tumour is divided into several lobes.

30. Section of a large fibrous tumour, attached to the outer surface of the labium pudendi, and extending considerably into the surrounding parts. The mass was removed by operation, and although the woman was of advanced age, no untoward symptoms followed. *Presented by* SIR BENJAMIN BRODIE, Bart.

31. Fibrous tumour, removed by MR. BROUGHTON, from the back. It is composed of waving bundles of white fibrous tissue. *Presented by* SIR BENJAMIN BRODIE, Bart.

32. Tumour removed by SIR BENJAMIN BRODIE, from the fascia of the thigh. The tumour is soft, contained in a thin and loose investment of areolar tissue, and its cut surface presents faint traces of fibrillation. It consists of a granular blastema, containing oval and circular-shaped nuclei, and nuclei elongating into spindle-shaped fibres, in some parts consisting of completely formed fibrous tissue. *Presented by* SIR BENJAMIN BRODIE, Bart.

33. Fibrous tumour removed from the cheek by an operation at the Hospital in 1826. The tumour is of small size, irregular form, and lobulated surface; its consistence is firm, and it is composed of bands of fibrous tissue, in the intervals left between the meshes of which are some granular circular-shaped nuclei.

34. Fibrous tumour from the finger of a gentleman. It was situated at the posterior part, near the articulation with the metacarpal bone, and was not attached either to tendon or ligament, but seemed to be formed in the cellular texture. It was hard to the touch, possessed but little sensibility, and had existed nearly a year. Mr. BRODIE says, "I removed one very similar to it some years ago from the prepuce of a gentleman. This had not recurred four years subsequent to its removal." The tumour consisted of well-formed and densely interlacing bundles of fibrous tissue.

35. Fibrous tumours in the subcutaneous areolar tissue, removed together with a portion of integument from the thigh, by MR. GOOD. The disease did not return. Two of the tumours were of the size of a walnut, a third as large as a filbert, and several smaller ones are also developed in the integument. In structure they consist of a granular plasma, faintly fibril-

lated, containing numerous varying-sized, highly-refractive granules, and several oval or spindle-shaped cells of extreme delicacy, many of which appear to be elongating into fibres. In some parts a more distinct fibrous structure may be found.

36. Parts removed during life from William H., aged 25, in order to the removal of a fibrous tumour springing from the base of the skull. The case will be found related in the *Post Mortem and Case Book*, 1848. p. 102, and by Mr. Prescott Hewett in *Med. Chir. Trans.*, Vol. XXXIV. p. 43, where will also be found an account of the circumstances attending the death of the patient, who died under the operation.

In the preparation are seen the bones, superior maxillary and malar, which were removed, and the portions of tumour which were extracted from behind them. The bones are seen to be perfectly healthy, but altered in shape from pressure. The tumour was of the fibrous variety. Its attachments may be seen in the following preparation.

37. Parts removed after death, in the same case. They are thus described by Mr. Prescott Hewett:—"The morbid growth had originated in the roof of the left nostril, and especially on the inner side of the pterygoïd process, and under surface of the body of the sphenoïd, to which parts small portions of the tumour were found still firmly attached. The sphenoïdal sinuses were filled with diseased structure, and very much dilated, so much so, that, at one point, the bone had altogether disappeared, and left a small hole, where the tumour was lying in contact with the dura mater. A small portion of the growth was also found at the upper and back part of the septum nasi, which was forced over to the right side, and partially destroyed by absorption. Here the mucous membrane was somewhat thickened, and there was a small pendulous body, loosely connected to the velum palati, which was hanging by the side of the uvula.* Small flattened growths, of a similar nature, and a bulbous shape, were found deeply embedded in the spheno-maxillary and temporal fossæ,† as well as at the back part of the orbit.‡ They were all connected to each other; none of them had any attachment to the bones, but they were connected with the growths in the nostril by a slender pedicle passing in the direction of the spheno-palatine foramen; the growth in the orbit had reached this situation by creeping through the spheno-maxillary fissure.

* A bead of blue glass has been attached to the part in the pharynx.

† A white bead has been placed upon the portion in the spheno-maxillary and temporal fossæ.

‡ A green bead is slung upon the portion in the orbit, above which is seen the optic nerve. Between the two latter portions, a ligature (probably placed during life) shows where the root of the tumour was exposed.

The bones of the orbit were quite healthy. The structure of these growths resembled that of the tumours removed at the operation; it was purely fibrous." (Op. cit. p. 47).

38. The superior maxillary bone and a fibrous tumour lying behind it, which was successfully removed by operation. The patient, a healthy lad 16 years of age, named William P., was admitted on December 30, 1857. The operation was performed next day. The tumour projected only into the pharynx, and had been the source of repeated hæmorrhage. The upper jawbone (which was itself perfectly healthy) having been removed, the tumour was found to be attached to the body of the sphenoïd, between the pterygoïd processes, whence a portion had passed up into the sphenoïdal sinus, but was easily extracted. The whole tumour appeared to have been removed, in four portions, which are seen in the preparation. Its structure was fibrous. The patient recovered rapidly, and was known to be free from any return of the disease in the year 1864.

39. Fibrous tumour of the dura mater, projecting through the skull, and making pressure upon the brain. The patient from whom this preparation was taken, William M., was originally admitted on December 13, 1842, under the care of Mr. CÆSAR HAWKINS, with a tumour on the crown of his head, which had been noticed about three years. It was discovered accidentally at first, and was then about three inches in diameter, and raised somewhat above the surrounding parts. When he was admitted, the tumour had increased considerably; he had frequent attacks of giddiness, on turning round quickly, or stooping, and had shiverings and twitchings of the limbs, but never suffered any grave inconvenience till a few days before admission, when he fell down in a state of insensibility, which lasted for a considerable time, apparently without paralysis, leaving him, next day, weak and complaining of pain in the legs. His memory was much impaired since the commencement of the disease. The tumour was considerably elevated above the surface of the skull. The outer table of the skull was absorbed in places, and here pulsation was to be felt. Its surface was irregular, chiefly osseous, but softer in the depressed parts. He remained in the Hospital till March, 1843, and was then discharged without any material change. He had had no fit, and complained principally of pain in the head, and tenderness of the tumour. The latter was relieved by a blister applied on the swelling. The treatment consisted chiefly in the administration of iodide of potassium. He was re-admitted next month (April, 1843), and had several severe fits. Again he became an inmate of the Hospital in November, 1844, and remained, with an interval of three

months, till October, 1845; during this time he was brought under the influence of a course of mercury, but without any particular change in the symptoms. He had no fits during this period, except one a few days before his admission, and another during the interval when he was an out-patient. In December, 1844, he had a very bad cough, and it is noticed that the tumour increased considerably in size during coughing. At this period two depressions existed in the tumour, soft and pulsating, and capable of being diminished by pressure, when the level was restored by apparently three beats of the vessels. In October, 1845, he had a hydrocele tapped. His next admission was in August, 1847, when the only fresh symptom noticed was considerable dimness of sight. Iodine was now applied to the tumour, but without benefit. He was not again in the Hospital till January, 1850, when he remained till July 24. The tumour had scarcely altered during the past year. His memory was still very defective. Pressure on the tumour made him faint and oppressed, as before; and the other symptoms remained nearly unaltered. He had some severe epileptic seizures during this period, and again suffered from chronic cough. The hydrocele was cured by injection during this stay in the house. He was a patient again in the years 1851 and 1853, and was finally admitted on June 7, 1854, on account of inflammation of the right lung, for which he was put under the care of the physician; but the inflammation passed rapidly into gangrene, and he died on June 16th, between fifteen and sixteen years after he had first noticed the tumour. Nothing of importance was noticed about the tumour, which indeed seems to have been nearly stationary for several years.

Post Mortem Examination showed the pericranium closely adherent to the tumour, and considerably thickened. The bones of the skull were not thickened, but there was no diploë. The tumour was composed superficially of bone, lobulated on its surface, more deeply of a fibrous structure, of a reddish-white colour, mixed with delicate spiculæ of bone. Below this was a perforation in the skull, about as large as a four-penny piece, leading to a similar deposit of bone and soft growth between the skull and dura mater. There was also a perforation of similar extent in the dura mater, where the growth pressed directly on the brain. The membranes were adherent at this part. The brain was considerably compressed by the tumour, but not otherwise affected. The soft parts of the tumour were composed entirely of a mass of spindle-shaped fibres. *Post Mortem and Case Book*, 1854. p. 155.

40. A large fibrous tumour, weighing, when fresh, 2½ lbs., removed by operation from the right side of the face. The patient was

a labouring man in good health. The tumour had been growing slowly for fourteen years. Its base was very broad, and was, at one time, firmly attached to the parts beneath, and extended from the meatus auditorius externus down to the base of the jaw. After the persevering use of pressure externally, the attachment of the tumour to the parts below became relaxed, so that it was possible to push the hand below the tumour. It was then removed with the knife, with little hæmorrhage. The patient made a rapid recovery. The substance of the tumour was found to consist, in all the parts examined, of fibrous tissue, with a few nuclei. Its surface is seen to be indented with depressions and cicatrices produced by irritant substances applied at various times to the tumour.

The tumour was removed, and presented to the Museum by J. A. BLAGDEN, Esq., of Petworth. The case is reported in the *Path. Soc. Trans.*, Vol. XI., p. 231.

41. A large globular tumour, removed by operation from the scalp. It is between two and three inches in diameter. It is attached to a narrow pedicle, which covered the space of about half-a-crown. It is still covered with skin, thin, translucent, and devoid of hair. Under the microscope it appears to consist of pure fibrous tissue.

This was removed by MR. HEWETT from a farm labourer, 30 years of age. The tumour grew between the left ear and the occipital protuberance. It began three years before, as a minute swelling, which was mistaken for a boil, and gradually increased till it became somewhat pendulous. When removed, the pedicle was found to be closely attached to the aponeurotic fibres of the trapezius and sterno-mastoïd. The patient recovered satisfactorily. Further particulars will be found in a clinical lecture by MR. HEWETT, printed in the *Medical Times* for March 29, 1862.

42. Fibroid tumour of the iliac fossa, removed by operation. The patient, Anne W., aged 41, a healthy-looking married woman had been an out-patient for some months, on account of a hard round tumour, situated in the left iliac fossa. This tumour was covered by the abdominal muscles, was unaffected by the condition of the bowels, and had no connexion with the vagina or ovary. It had been slowly increasing in size while she was under observation, and latterly had grown so quickly that it had doubled its apparent size in six weeks. When the tumour had attained its extreme size, it was possible to trace a stalk or pedicle, going down towards the venter ilii, near the anterior superior spine. The tumour was removed on October 1, 1863, by a simple transverse incision over its long axis. The muscles having been divided, it was necessary to

take great care to avoid the peritoneum, which lay in close contact with the tumour. The pedicle of the tumour was surrounded by a ligature, and divided. On the removal of the tumour, the intestines, covered by peritoneum, bulged freely out of the wound. The patient recovered favourably, and was seen from time to time for about eighteen months after the operation, during which she remained quite free from any return of the disease. The only inconvenience from the operation was a ventral hernia of large size. The tumour is firm and solid, presenting very much the usual appearance of the recurrent fibroïd, both to the eye and under the microscope, by which oat-shaped nuclei and fibre cells were readily detected. The case is reported by MR. HOLMES, in *Path. Soc. Trans.*, vol. XV. p. 211.

43. Portions of bone removed after death from a large congenital fibro-tumour situated at the lower part of the back. The tumour was composed in part of solid matter of a fibrous character, but chiefly of cysts containing adhesive semi-fluid matter, mixed with pus of an offensive character. It was occasionally of the size of a man's head, but when recently removed had evidently shrunk. It was attached above to the inner surface of the lower part of the sacrum, projecting much below the apex of the coccyx and anus, causing a projection backwards and displacement of the sacrum, and pressing on the rectum anteriorly. It contained embedded in its substance a considerable number of small portions of bone, which had some fancied resemblance to different parts of the fœtal human skeleton. These bones, when examined microscopically by Mr. TOMES, were seen to consist of perfectly-formed bone. There was a distinct communication between the tumour and the rectum, which contained much hardened fæces. The patient was born in 1810 with the tumour connected with the sacrum, and projecting at the posterior part of the pelvis. He grew up and had a family, and, excepting occasional attacks of inflammation of the integument covering the tumour, did not suffer greatly from it. On one occasion one of the cysts in the tumour gave way, and discharged much gelatinous fluid. An incision was also made into the tumour a year or two before his death, which was worse than useless. After this different cysts suppurated, discharging pus and adhesive fluid. Sometimes a collection of fluid and pus pressed on the rectum, occasioning a difficulty of expulsion of the fæces, and then opening and discharging into the bowel; he had occasional attacks of fever, lost flesh, and died August 1st, 1851. The tumour had been seen by CLINE, ASTLEY COOPER, ABERNETHY, STANLEY, and FERGUSSON. The above notes were mainly furnished by Sir B. BRODIE. This seems to have been an instance of the

"inclusion of one fœtus with another." For further details see *Path. Soc. Trans.*, Vol. III., p. 445.

44. Fibro-cystic tumour of the nates and labium in a young woman, aged 26. The patient was admitted on July 11, 1855, and the tumour removed by operation. The dissection proved that the tumour had its origin in the pelvis, as its neck passed through the great sacro-sciatic foramen. It was doubtful, therefore, whether the whole had been removed. The patient died about three weeks after the operation, of diffuse cellular inflammation within the pelvis, as it appeared. No post-mortem examination could be obtained.

45. Fibro-cellular tumour connected by loose areolar tissue to the outer surface of two of the lower ribs. Its section in the recent state was semi-transparent and of gelatinous consistence. The appearance of the tumour was attributed to a fall. It had existed many years, and its presence occasioned no inconvenience. The patient died ultimately of phthisis. *Presented by* Sir BENJAMIN BRODIE, Bart.

46. Portion of the same tumour as the preceding. Both portions of this tumour were of gelatinous consistence. In structure it consists of a mass of delicate fibrillæ inextricably interlaced together. The tumour is invested in a thick and dense fibrous capsule. One or two small cyst-like cavities are contained in this section.

47. Fibro-cellular tumours from the labium pudendi, removed by Mr. KING, of Whitehaven, and sent to Sir BENJAMIN BRODIE. The disease had existed for three years; there was no pain and no inconvenience, excepting that occasioned by the weight of the tumours, until about three months previous to their removal, when one of the smaller ones became inflamed, hardened, suppurated, burst and discharged a thin, sanious fluid. During the operation very little blood was lost, one vessel only required tying. The patient was 40 years old, a widow, and had one child. Her health was generally good; at times she suffered from menorrhagia. The tumours weighed altogether seven pounds and a half avoirdupois. In their natural state they were quite smooth, the cellular tissue containing some fluid, which, on the tumours being cut into, escaped. A section of one of the larger tumours has been made, to show its internal structure.

48. A large fibro-cellular tumour from the skin of the thigh, removed on January 19th, 1854, from Cécile D., aged 16. The tumour was lobulated on the surface, ulcerated at the top, and discharging foul, sanious matter. It was found to consist of fine fibres, with structureless parenchyma, involving many nuclei. To the eye it was thought to have a malignant aspect. The girl recovered after a severe attack of phagedæna in the

wound. She was re-admitted in 1859, on account of a small tumour, similar in structure, having occurred near the cicatrix. This was also excised, and showed the same microscopic appearances. The general health was still quite good.

49. Fibro-plastic tumour removed from the parotid region. It is about the size of a large orange, and is contained in a thick and dense fibrous capsule. The tumour was moderately firm in structure, and consists of solid matter contained in a thick cyst, to the inner surface of which it is closely adherent. Some of the solid matter is of a milk-white tinge, and somewhat transparent, whilst the greater portion is rather of a yellowish-white hue and opaque. The more transparent portion consists of delicate cells, with branching processes; these communicating form areolæ, in which a granular, apparently albuminoïd, product is contained. The more opaque portion consists of granular cells of a circular form, intermixed with fibres.

The patient, a female aged 40, married, was admitted into the hospital on March 14th, 1849. The tumour was situated at a point corresponding to the angle of the jaw on the left side; its surface was smooth, and the skin not implicated. It was first observed about eleven years and a half before, when it was of very small size, and freely moveable; for the first two or three years it was painful, and about five years from the time of its commencement it increased in size until it attained its present dimensions. The patient left the hospital quite well.

50. Large fibro-plastic tumour removed from the parotid region. The cut surface of the tumour presented on section, after maceration in spirit for some years, a well-marked lobulated outline, the separate lobules being divided from each other by delicate bands of fibrous tissue. The solid matter contained in the lobules presented a mottled appearance, some containing a milk-white solid mass, others a greyish-white mass, or these intermingled; in one part an opaque, mottled white patch was observed. The yellowish-white, opaque portion consists almost exclusively of small, irregular, circular-shaped, granular vesicles. The transparent part consists of bundles of delicate fibrillæ, and separate fibres interlacing in various directions, these fibres enclosing circular spaces containing a mass of circular-shaped, granular vesicles.

The patient, John S., aged 48, was admitted May, 1841. The tumour was first perceived about thirty-four years previously. It was then the size of a small horse-bean, and situated at the angle of the lower jaw. For several years it gradually increased in size, but for twenty years it had been stationary. At first it gave him no pain, but for the last two or three

months it had been inflamed and very painful. It was found to be imbedded in the substance of the parotid gland. All the branches of the facial nerve were behind it. The patient left the hospital on the 9th of June.

51. Section of a large tumour situated in the parotid gland. It was removed from a patient in the hospital in 1819, by Sir BENJAMIN BRODIE. The structure of this tumour was similar to that last described, the transparent portion containing in some parts cells like cartilage-cells, and these, with the fibrous tissue bounding them, resembled somewhat fibro-cartilaginous structure. The tumour was deep-seated, and Sir B. BRODIE believed it to be situated, not in the substance of the parotid gland, but beneath it. The portio dura was divided in the extirpation of the tumour, so that the face was paralysed. The patient recovered, and the disease had not returned two or three years afterwards.

52. Tumour removed from the region of the parotid gland. This tumour consisted of an external capsule of dense, fibrous tissue, numerous offsets from which intersected its interior; the intervening tissue was of a fibro-plastic structure.

53. Small fibro-plastic tumour removed from the cheek. It consists of a thin cyst, with contained soft substance arranged partly in laminæ, partly as a soft growth from the inner wall of the cyst. This growth is formed by a mass of delicate, spindle-shaped, nucleated fibres, closely packed together, and containing between their meshes a few oval or circular nuclei.

54. Section of a fibro-plastic tumour, about the size of an orange, situated on the outer side of the right elbow of a child. The tumour is quite superficial, being situated external to the muscles, and covered by the integument, which has sloughed at the most prominent part of the tumour. It was composed of a few nucleated cells, separate nuclei, numerous fat globules, and small caudate fibres. The firmer and whiter portion of the growth consisted of nucleated, spindle-shaped fibres, placed parallel with one another. From Mr. HEAVISIDE'S Museum.

55. Section of a large fibro-plastic tumour, removed by operation from the head of a man. The mass composing the preparation consists of a portion of integument from the scalp, beneath which is a broad, membranous, fibrous layer, apparently the pericranium, connected to the integuments in most parts by a dense areolar tissue. To the under surface of the pericranium numerous large lobulated masses of a moderately firm substance are attached. These masses are for the most part partially separated from one another, moderately firm, and of a greyish-white colour. At one point several broad, thin, laminated, bony spiculæ are connected to the under surface of the pericranium. Small bony spiculæ

were also found in the growth at one or two points. In structure it is composed of oval or circular dotted nuclei, scattered about in a mesh of fine, delicate, nucleated fibres and granules. The disease had existed from childhood, and had been removed four times. The cranium was deficient underneath, so that the base of the tumour could not be removed. The pulsation of the brain could be distinctly seen during the operation. *Presented by* Sir BENJAMIN BRODIE.

56. Fibro-plastic tumour removed from beneath the integument below the ear, and behind the angle of the jaw. It is seen to be of a loose, shreddy texture, and to be inclosed in a capsule, which is more or less adherent to its surface. It is composed of fibrous tissue, in the meshes of which are numerous small nuclei.

57. Portion of a fibro-plastic tumour removed from the side of the head. It consists of an external, dense, fibrous membrane, enclosing numerous spaces separated by fibrous bands and septa, and containing firm, greyish-white, lobulated masses of fibro-plastic structure. The tumour originally was situated on the side of the parietal bone in a young man, and was removed by Mr. EWBANK when about the size of a large egg; it was apparently unconnected with the bone, and was soft and brittle, and very much like brain. The wound healed completely, but a few months afterwards he was re-admitted into the Hospital with a tumour near the cicatrix, of which he soon died, the bone, which was soft and spongy, having become affected and expanded into the tumour, which projected inwards towards the brain, as well as externally. The preparation shows the tumour removed at the operation.

58. Fibro-plastic tumour removed from the mamma. The subject of the disease was Lucy H., aged 47, a widow, who had not borne children for twenty-two years. She was a person of but little physical strength, though of good general health. The catamenia were quite regular. She was admitted into the hospital January 12th, 1848, with a tumour of the size of a child's head in the region of the right mamma. The tumour was adherent to the superficial integuments, which were very thin; it was moveable, had an irregular surface, and seemed to consist of an admixture of solid and fluid parts, being very elastic. On January 22nd she had some fever; the skin presented a dark purple tinge on the surface of the tumour, and contained many injected vessels. These symptoms subsided shortly, and on the 28th had entirely left her. On the 3rd of February the tumour was removed by two elliptical incisions; much blood being lost. A portion of the mammary gland was left. The tumour was not preserved; it consisted of a collection of cysts which contained a small quantity of fluid, and

were partially obliterated by projections into them. No appearance of carcinoma existed, but the microscopical characters of the tumour were not observed. After the operation the patient experienced considerable feverishness and rheumatic symptoms, but on the 8th of February the wound was found to have healed to some extent, and on the 29th the patient left the hospital quite well. About the month of September, 1849, another tumour was first perceived in the right mamma, and on the 27th of March, 1850, the patient again appeared at the hospital with a tumour somewhat, but a very little, smaller than the one previously removed. The skin covering it was greatly discoloured, and on puncture yielded a sero-mucous fluid. On the 4th of April a small slough had formed near the puncture, which eventually gave way, allowing much thick and grumous fluid to escape. A considerable quantity of the tumour entirely sloughed away, but under the influence of stimulants and nutritious diet the sloughing cavity was filled up by healthy granulations, the solid part forming a large, solid mass with the skin adherent to it. On the 9th of May the tumour was removed by oblique incisions along with most of the attached skin, and was found to consist of a soft mass of organised lymph, with but slight vascularity, and containing much granular matter, but no cells. It was smooth on the under surface, where it lay on the subjacent muscle. The mammary gland was healthy (such as was left by the previous operation), excepting a small cyst. The patient was discharged as cured June 26th, nothing untoward occurring after the operation. Her health continued to be good until the month of January, 1851, when for the third time another tumour was observed in the situation of the preceding; it increased slowly, and was attended with occasional shooting pains. The last few weeks before her admission, which was April 30th, the tumour had increased with great rapidity, and the pain had been more severe. The patient fancied she had noticed the tumour to increase more quickly when she had been out of health from a cold, or weakened by any cause. When admitted her countenance was of a yellowish, dusky hue, and the tumour presented the following characters:— It was of the size of an orange, occupying the position of the inner part of the mammary gland, oblong, irregular on its surface, with cyst-like projections, containing straw-coloured fluid; it was elastic, firmly attached to the subjacent parts, and very painful. The skin covering it was of a light red and purple hue, and presented at its upper part the cicatrix of the former operations. The axillary glands were unaffected, but a small cyst or possibly some condensed muscular fibres, were to be felt half-way between the tumour

and the axilla. On the 3rd of May the tumour was very painful, and the lower part presented superficial ulcerations, exposing a soft, gelatinous-looking mass, with a quantity of serum flowing from it. The ulceration increased, and much surrounding inflammation arose. On the 8th the tumour had become twice the size of what it was when the patient was admitted, and on the 9th the tumour was removed. Many vessels required a ligature during the operation. The subjacent structures were found healthy. The tumour weighed 12½ ozs. The surface was generally of a pale pink colour, but livid at the lower part; it presented two or three small patches of ulceration, and one larger one, with a smooth pink base in part, and in part of a livid colour. On section the tumour was of a yellowish-white, glistening character, something resembling the colour of straw, and with occasional shades of pink, especially near the circumference. There were no cysts containing fluid in its structure, but one or two places were foliated; otherwise it was generally smooth. There was a small cleft in the centre, as if torn in the line of the original union between contiguous cysts. Here and there were seen portions streaked by a structure of more dense and whiter character. Under pressure the structure of the tumour gave way like a gelatinous substance, and when examined by the microscope the following appearances presented themselves: —The main tumour was of a delicate fibrous character, and there were found intermixed circular nuclei with contained granular matter; also occasional nucleated cells, and large quantities of granular matter. The wound occasioned by the operation did not heal so readily and kindly as did the former wounds, but irritation and suppuration supervened. Eventually the wound improved, and the patient was discharged from the hospital on the 10th of May. About the beginning of July a tumour for the fourth time was noticed, about the size of a pea, in the scar of the former operation; it increased, and on the 23rd of July she was again admitted into the hospital. The tumour was of the size of a small walnut, and below it was another smaller swelling in the same cicatrix, and a third one also at the termination of the cicatrix, which had escaped the patient's own observation. These tumours were elastic to the touch, but not painful, and this was especially the case with the upper one. They were unconnected with one another, and could be moved on the subjacent structures. There was occasional shooting pain through them, and the integument covering them was of a red colour. There was found also a soft gland in the axilla, enlarged, but free from pain. On the 24th the tumours and the cicatrix were removed as deep down as the pectoral muscle. On examina-

tion with the microscope their structure presented the following appearances:—They consisted chiefly of cells passing into fibres like rapidly-forming fibrous tumours; they were more solid and organised than the tumours described above. After the operation some degree of headache and restlessness followed, but she quickly got well, and left the hospital August 12th.

59. The three small tumours removed together with the cicatrix left by a previous excision of a tumour, and described with the preceding.

60. Section of a tumour removed by operation from the same patient as Nos. 58 and 59. The date of the operation was the year 1853.

61. Two sections of portions of a very large tumour removed after death from the same patient as the three preceding preparations. She died of exhaustion from the sloughing and consequent impairment of nutrition. The disease had then been in progress for eighteen years, and had been removed ten times in succession without any symptom of constitutional affection. *Post Mortem and Case Book*, 1857, p. 129.

62. A loose, pendulous tumour removed from the end of the nose. It consisted for the most part of fibro-plastic material, but had in its centre a small cavity containing sebaceous matter.

The patient, a man aged 77, was in the Hospital in May, 1857; the tumour was said to have been growing one year.

63. Portion of skin from the back part of the scalp, with tumours apparently of the nature described by Dr. HUGHES BENNETT as "fibro-nucleated." One of the tumours is of the size of a large walnut, of a rounded form, with several smaller ones in the substance of the skin. The tumours, on section, were firm, uniform in tint, not presenting a fibrous, areolar surface, as is usual with fibrous tumours, the cut surface being smooth and shining. The tissue composing them was a coarse, granular stroma, with highly refractive granules like oil globules disseminated through it. On the addition of acetic acid myriads of minute, elongated nuclei of various forms were brought into view; they appeared to be arranged here and there together with the granular basis in certain determinate directions. These tumours were originally developed in the tissue of the skin, subsequently spreading to the parts below. The disease had existed many years, and had been destroyed by escharotics, but had always reappeared. The smaller tumours had only made their appearance a short time before the parts were excised.

The patient, a man past the meridian of life, did well, and left the hospital, but no account of him has been obtained since his departure.

64. Section of a large fibro-cartilaginous tumour. It was removed from the inside of the thigh by a surgeon not belonging to this Hospital. The femoral vessels passed through the tumour, and the patient is reported to have died on the operating table. The tumour was not attached to the femur.

The surface of the tumour is slightly lobulated and enclosed in a dense and closely adherent cyst of fibrous tissue. A fresh section of the tumour presented a yellowish white, buff, or cream colour, and it was of extreme density and firmness throughout; the surface is marked by fibrous septa, which traverse it in various directions. It consists of a dense and compact fibroïd tissue, having disseminated through it numerous nuclei of variable size, chiefly round or oval, and especially numerous in the situation of the points of ossification: cartilage cells are also disseminated throughout the fibrous structure; they are oval or circular, and contain single nuclei. In two or three spots the surface of the tumour presents an alveolar appearance; the structure surrounding this is softer, milk white, and less opaque. In these situations the tissue was evidently breaking up, being sprinkled with fat globules. Numerous small isolated masses of calcareous matter are deposited in the tumour in various parts.

65. A small enchondromatous tumour, removed from the cellular tissue of the arm. It was entirely unconnected with bone or any glandular structure. The patient was a female, aged 30, who had noticed for seven years the existence of a lump about the size of a pea, immediately beneath the skin at the upper part of the right arm, just about the situation where the pectoralis major crosses the biceps. It had been steadily enlarging for two years, and caused a certain amount of pain and inconvenience in lifting weights. The tumour was loose and easily removed. Externally it consists of very firm cartilage presenting the structure of ordinary cartilage, except that some of the nuclei are caudate or stellate in their form The interior is occupied by an irregular-shaped mass of more dense structure, presenting to the touch and to the naked eye the appearance of bone. It appeared, on microscopical examination, to consist for the most part of a granular deposit of calcareous matter in the intercellular substance, embracing and surrounding the cartilage-cells, which had become somewhat modified. In other situations the ossific deposit appeared shooting out in fibres, presenting some resemblance to the intra-membranous form of ossification as described by Dr. Sharpey and others. No lacunæ, canaliculi, or Haversian canals were seen. There is a drawing of the microscopic appearance of this tumour in the Museum. For fuller account see *Path. Soc. Trans.*, Vol. II., p. 335. *Presented by* ATHOL JOHNSON, Esq.

66. Cartilaginous tumour of the skull and face. In the preparation the usual horizontal incision has been made through the bones of the skull, and the back part of the cranium has been removed by an incision vertically through the base of the skull, just between the glenoïd fossa and the foramen magnum. The soft parts of the face have then been removed in order to show the large tumour which projects into the cranium, the orbits, the antra, the nasal, zygomatic and pterygo-maxillary fossæ, and appears in large masses on the cheek. It occupies the base of the skull from the front, where it touches the perpendicular part of the frontal bone, to the back, where it encroaches somewhat on the pituitary fossa of the sphenoïd, and laterally involves almost the whole of the orbital plates. It trenches slightly on the middle fossa on the left side and on the right there is a distinct process which is attached to the bones of the middle fossa nearly as far back as the section reaches. The part in the anterior fossa is nearly two inches in height in some parts, and must have reached nearly to the vault of the skull. The dura mater is seen covering the lateral portions of the tumour. On the right side the optic, the third and fourth nerves are seen raised and flattened by the tumour ; on the left, the three branches of the fifth nerve are seen, the two first of which seem involved in the growth. Both orbits are completely filled by the growth, which projects out of them in large masses on to the cheeks. The shrunken remains of the globes of the eyes may be seen pressed outwards and backwards, and resting on the tumour. All the above mentioned fossæ are seen to be quite filled up, and the bones of the face and orbits are extensively absorbed. The hard palate is pressed downwards, so that the teeth on the two sides deviate from their natural line, and the left central incisor crosses that of the right side. The distance also between the glenoïd cavity and the last molar tooth is much greater than natural.

Microscopical examination of the tumour shows it to be composed principally of cartilage. The tumour with the bones attached weighs 1 lb. 14 ozs.*

This preparation is from the body of Emily L., aged 23 on admission, who originally came under the care of Mr. CÆSAR HAWKINS on August 23rd, 1848. She was a domestic servant, who was said to have enjoyed good health. She was fair, delicate, and thin. Both eyes were pushed forwards and outwards by soft elastic tumours in the orbits, visible on the inside of each eye, and scarcely felt except in the inner half. The disease had commenced in the right orbit two years before,

* The whole base of the skull with the vertex removed was weighed in two instances, and in each was 9½ ounces.

and in the left about one year. The tumours consisted of several small portions attached to, and elevating the skin, and whitish in colour: one at the inner canthus of the right eye was ulcerated and covered by a scab, which confined a few drops of pus. The nose was not altered in shape externally, but was somewhat painful between the orbits; the right nostril, also, had bled and discharged occasionally, and the probe did not pass along it so readily as the other. There was no power of smell in either nostril. The right maxillary bone was fuller below the orbit than the left, and the right half of the bony palate was larger and more depressed than the other, but in neither of these parts was there any softening. There was pain and numbness of the right cheek and lip, and a little pain on either side of the forehead. There was epiphora of both eyes. Vision was weak, though single and otherwise perfect. The motions of the eyeball were perfect and the pupils natural. There was no giddiness or headache. On September 11th, however, she began to have occasional attacks of giddiness, and said that she lost the sight of both eyes for a few minutes every day. The tumour increased slowly in size, and a small abscess formed over it on the left side. She improved somewhat in health under the use of sarsaparilla and iodide of potassium, but during the month of November complained much of pain in the head and intolerance of light and sound, and on December 15th had a slight convulsive attack. She remained in the house for several months. In March, 1849, the sight of the left eye began to be much affected, and the other eye soon began to participate; and this affection now rapidly increased so that in May she was quite blind. She left the Hospital in July. At that time it is noted that the protrusion was greater, and there was occasional conjunctival inflammation from want of closure of the eyelids, with œdema where the edges of the tumour pressed upon the conjunctiva. The appearance of the eyes was not otherwise changed. There was a harder and more prominent growth in the orbit chiefly in its inner half. There was a discharge of pus from the right nostril. The fulness of the infra-maxillary region was greater, and she complained of feeling the whole cheek pushed up, from the palate yielding when she masticated, though there had been no apparent change in this of late. There were occasional pains in the head, chiefly in the forehead, and some appearance of prominence—though this was not quite certain—of the frontal surface on the right side. There was no redness anywhere, except the pinkish appearance of the two round prominences in each inner canthus, probably the lachrymal sacs partly filled with soft substance. Her health was little disturbed; she was calm and composed, without

any of the whiteness of cancerous patients. She returned to the Hospital in the following month, complaining of intense pain in the head and face, vomiting after food, and loss of sleep. These symptoms were allayed by morphia, salines with hydrocyanic acid, and the local application of chloroform, but recurred frequently. In November it was noticed that the left eye had become much more prominent of late, and that the solid mass had increased equally, so that more was felt at the lower part of the orbit and also at the upper. The upper eyelid could still cover the eyeball, though with difficulty and straining. Notwithstanding the frequent attacks of cerebral disturbance, she had not lost much flesh, and was calm and resigned. In December she had an attack of erysipelas of the face and eyelids, and suffered for some months afterwards from occasional abscesses of the face, eyelids and forehead. In February, 1850, it was noticed that the superior maxillary bones projected nearly an inch beyond the inferior, so that she had some difficulty in masticating, and the tumour continued to make slow progress during the rest of her stay in the house. During the summer (July—September) she suffered from an aggravation of the symptoms described above, but recovered her usual condition before October, 1850, when she finally left the Hospital. A portrait of the patient, drawn by Mr. Carl Haag, is in the Museum, and will show the appearance of the tumour at this period. The patient survived her discharge from the Hospital about three years, and then sank very gradually. Up to the period of her death she had no loss of intellect, and it is believed, no paralysis.

67. A hand, extensively affected with tumours, probably of an enchondromatous nature, The forearm was removed by amputation, from an old man in the country, and sent up to the Hospital. All that is known of the history is that he had laboured under the disease for many years, but probably not from childhood, that it was believed to be malignant by most of those who saw it, and the operation was therefore considered by them unadvisable. However, he made a good recovery.

In the preparation some of the tendons have been left attached, to show that except from pressure, the soft parts were unaffected. The radius and bones of the thumb appear healthy, but almost all the others are affected by tumours, apparently of the same nature, but in different stages of development. These tumours where they are smallest and apparently most recent, show no signs of ossification ; and resemble, in all respects to the eye, enchondromatous tumours. The microscope, however, failed to detect cartilage cells. The more advanced tumours are extensively ossified, and they have ulcerated on the last two fingers, exposing a large surface of

porous bone. The joints are remarkably unaffected. A cast of the hand before dissection is preserved in the Museum. The specimen is described by Mr. HOLMES in the *Path. Soc. Trans.*, Vol. IX., p. 382.

68. Ossific tumour, of an hour-glass shape, about three inches in length and an inch in breadth in its broadest part. It is formed of two different portions united by a soft, apparently cartilaginous tissue which allowed of the two parts playing upon each other, something like the two phalanges of the thumb. The greater part of this tumour is of firm, osseous tissue, a small part of it presenting the appearance of cartilage. It was situated between the trapezius and rhomboïd muscles and was intimately connected with both, having their fibres attached firmly to its surfaces. One end was fixed to and partly ossified with the spinous process of the sixth and seventh dorsal vertebræ, the other end was smooth from playing on the edge of the scapula. The patient, aged 22, was admitted into the Hospital with large swellings in various parts of the body which had commenced a week before his admission, with violent pain, after he had got wet through. The swellings were at first firm but not bony, and after having made their appearance in various regions, appeared to subside for a time. Four months after the commencement of the disease, the osseous deposit was first observed in the neighbourhood of the left scapula. The deposition of bone went on rapidly, and this tumour was removed a month afterwards. Subsequently other tumours, at first soft, made their appearance, and ossific deposits appeared to take place among the muscles, in various parts of the body, rendering these parts unpliable and comparatively speaking useless. The case is fully reported in a clinical lecture by Mr. CÆSAR HAWKINS, *Med. Gazette*, Vol. XXXIV., p. 274.

69. Tumour of phosphate of lime, with slight trace of carbonate of lime. It appears, from its singular form, as if the calcareous deposit had been formed in convoluted vessels, of very fine texture, but without retaining exactly the appearance of either absorbents or veins; the whole is enclosed in a thicker cyst of cellular texture. It was found in the subperitoneal tissue on the front of the abdomen, and near its centre, about halfway between the pubes and umbilicus. *Presented by* CÆSAR HAWKINS, Esq.

70. A tumour removed from the thyroïd gland. The patient, James S., aged 20, was admitted into the Hospital December 17th, 1846, with this tumour occupying the situation of the right lobe of the thyroïd gland, of eleven years' standing. On the 21st of January the tumour was removed, and it was found to be attached by a root to the right lobe of the thyroïd. A

double ligature was passed through the base of the tumour, each one tied separately, and the tumour then cut off. He died on the 4th of February, with extensive suppuration about the neck, running down into the anterior mediastinum, accompanied by pleurisy and secondary abscesses in both lungs. The tumour was composed of solid matter, with a few small cysts near the centre; its structure is analogous to that of the normal gland. The size of its root of attachment to the gland may be seen on the side opposite to where the tumour is cut into.

71. Portion of the larynx and trachea, with the thyroïd gland attached, from the same as the preceding.

72. Tumour removed from the upper lip by Mr. HAWKINS, in August, 1845. This tumour consists of two very different parts; one is a large single cyst, which, at the time of the examination after the operation, was lined by a soft white membrane, and contained a thin and flaky fluid. The other part consists of a solid substance, which was partly fibrous, and partly red, soft, and vascular, with radii proceeding from the centre. Mr. HAWKINS thought that the tumour was probably formed from some salivary gland, or two glands united with a collection of the secretion in the duct. It had existed about 8½ years, and had never been painful or discharged. The solid portion of the tumour consisted of fibrous tissue, nuclei, and nucleated cells, with traces of indistinct gland tissue. The wall of the cyst is composed of fibrous tissue, lined with epithelium. The patient, a middle-aged woman, did well, and shortly after the operation left the Hospital.

73. A tumour with a nerve situated over it and partly embedded in its structure. The tumour is enclosed in a very thick and dense fibrous capsule; a thin section shews it to be composed of fine fibrillæ, arranged more or less parallel with one another, and in the intervals between the fibres are many granules and irregularly-circular highly refractive nuclei. *Presented by* Sir BENJAMIN BRODIE, Bart.

74. A small painful subcutaneous tumour, which has a small nerve embedded in it. The tumour was removed with the portion of skin beneath which it was situated. It is of the hard fibrous variety.

75. A large neuromatous tumour, connected with the sciatic nerve. Before the removal of the limb, the tumour was as large as a cocoa-nut. It had been observed for only eight months. The patient was a girl, aged 16, in good general health. The thigh was amputated high up, and the patient did well. The tumour consisted of one large central cavity (laid open in the preparation), which contained reddish serum, and a few smaller cavities behind. A large mass of fibrous tissue inter-

venes between the cysts and the branches of the sciatic nerve, which are seen spread out behind them. The operation was performed in July, 1858.

76. Cancer affecting the lower lip, removed by operation. A section has been made through the lip, from its cutaneous to its mucous surface. Opposite the ulcerated surface the disease appears to affect the entire thickness of the substance of the lip, nearly as deep as the mucous surface. There are a large number of nuclei and nucleated cells, of an oval or rounded form, with granular contents disseminated either singly or in masses throughout the tissue of the lip. These cells did not present the usual form of the epithelium found in this situation. *Presented by* SIR BENJAMIN BRODIE.

77. Cancer of the lower lip, removed by operation in the Hospital. There was no return of the disease two years after the operation. The free edge of the lip presents a large irregular ulcer. On cutting through the ulcer in the middle line, it appears to extend into the substance of the lip for one-third of its depth, in the form of a moderately firm opaque white mass, consisting of numbers of nuclei and nucleated cells of a circular form, infiltrated in the tissue of the lip. Many of these cells were collected together and included in circular nests, formed apparently of fibrous tissue. The cells on the surface were of the squamous variety of epithelium.

78. Epithelial cancer of the lip. The diseased growth projects from the free surface of the part, and does not extend deeply into its substance. It was removed by SIR BENJAMIN BRODIE.

79. Cancer of the lip. The disease is chiefly confined to the free edge of the lip, which presents an rregular ulcerated surface, not extending, as the section shows, very deeply into its substance.

80. Epithelial cancer of the lip, removed by operation. The growth, which is of a rounded form, projects chiefly from the surface of the lip. In the recent state it presented a very soft appearance, looking like fungoïd matter.

81. Epithelial cancer of the nose. The growth was removed in August, 1848, from the left side of the nose of an old woman, aged 73. The tumour is about an inch and a quarter in diameter, of a circular form, and elevated about half an inch from the surface, with a brown, tuberculated, scabby projection in the centre, the highest part of which is about an inch from the level of the skin. There was some hardness beyond the tumour, over the front of the nose but a line of healthy skin is left at the aperture of the nostril. The growth of the tumour was accompanied with some pain. The solid portion of the base of the tumour consisted of nuclei and nucleated cells, some of the latter being collected together in masses, and included in capsules formed by superimposed laminæ of

epithelial scales. The free flocculent surface of the tumour consisted entirely of laminated epithelium. The tumour first commenced six months previous to her admission by the enlargement of a wart which had existed in that situation for 3 years previous to its increased growth. The tumour returned five weeks after the operation.

82. Section of a tumour which was removed by Mr. LISTON, together with the clavicle. The disease returned some time after the operation. The tumour is lobulated, covered by the integument, to which it is not adherent, its deep surface being intimately connected with the periosteum covering the surface of the clavicle. In this situation the bone is partially softened its surface absorbed, and the superficial laminæ separated. The growth consists of a mass of spherical or irregularly spherical granular vesicles imbedded in a delicate fibrillated network. The sternal end of the bone is infiltrated with a deposit similar to that of which the tumour is composed. *Presented by* SIR BENJAMIN BRODIE, Bart.

83. Section of a medullary tumour, removed from the thigh of a patient in the Hospital. The tumour was attached to the fascia of the thigh, and several smaller tumours had begun to form in the neighbourhood. A recent section of the tumour is of a buff yellowish white colour, subdivided as if consisting of two cysts full of solid matter, in both of which the deposit is deeply stained of a dark red colour from admixture with blood. Numerous small cavities are seen in the substance of the solid portions of the growth. The pale yellow portion consists of a delicate granulo-fibrillated mesh with numerous small, oval, dark-edged refractive nuclei disseminated through it. Numerous blood globules are found in the darker portions of the tumour. *Presented by* SIR BENJAMIN BRODIE, Bart.

84. Tumours of the same kind as the preceding, taken from the neighbouring parts.

85. Encephaloïd tumour, removed from the arm of John C., a patient who was admitted into the Hospital May 29th, 1833, under the care of Mr. BRODIE. The operation was performed on the 12th of June, 1833. The disease had existed two years, but without producing any inconvenience. His health was good, and he could not trace the existence of the disease to any accident. During the operation he suffered the most violent pain, which led many to suppose that the tumour was connected with and involved one of the large nerves of the arm, but on dissection only a small branch of nerve was seen extended over but not involved in the tumour. About three months after the removal of this tumour, he applied a second time, the disease having recurred. Amputation at the shoulder joint was proposed, but he refused to submit. It is noted in

April, 1834, that since that time the tumour had ulcerated and bled continually. The disease appears to have originated in the short head of the biceps muscle and occupied the upper and inner part of the arm. The tumour consists of a mass of small circular, or irregularly circular vesicles, delicate walled, with fine granular contents, without any intervening granular plasma or fibres. In July, 1834, this patient died from repeated attacks of hæmorrhage.

86. A tumour which from its history and general appearance seems to be of a malignant character, removed with a portion of the surrounding integument from the epigastric region of a man, aged 43, March 15th, 1849. The tumour was about the size of a small apple, and presented a lobulated and ulcerated surface. When removed a portion of it was found adhering to the health of the rectus muscle. The tumour was first noticed about five years before, as a small pimple. It increased in size slowly, and was in August, 1848, about the size of a walnut. Soon after this, a ligature and chloride of zinc were applied to the tumour, which then sloughed off and left a large unhealthy sore. The caustic was again applied but without any good effect. The tumour had, since then, rapidly increased in size, and the complexion was sallow, but the health good. He stated that his father suffered from some malignant disease of the rectum, and that one of his brothers had had one of the testes removed. After the operation the man recovered, and left the Hospital on May 2nd. The tumour was composed of a fibro-granular matrix, containing in its meshes circular homogeneous nuclei, granules, and some fat globules.

87. Encephaloïd and melanotic tumours, developed in the subcutaneous areolar tissue. They were taken from a man, aged 64, who died with similar tumours in the liver, spleen, mesentery, and intestines. The subcutaneous tumours were very numerous, especially over the chest and abdomen, but scarcely any part of the body from the hips upwards was entirely free from them. They were most of them about the size of a pea or a little larger, but about half-a-dozen were of the size of a good-sized walnut. The smaller ones were tolerably firm and elastic, without the hardness of scirrhus; the larger ones were lobulated, firm at their base, but towards their summits they were soft and yielded to pressure without fluctuation, and the skin covering them was more or less discoloured. The patient, a carpenter, stated that about two years before admission, he received a trifling blow on the inner side of the right arm, of which he took no notice at the time. About six months afterwards a small tumour made its appearance at the place where the blow was received. For many months the tumour increased in size but slowly,

and caused neither pain nor inconvenience. About ten or twelve weeks previous to his admission (February 20th, 1849), he discovered numerous other tubercles beneath the integuments of the abdomen. From that time until his death on the 7th of the following April, they began to multiply with great rapidity. The last four weeks of his life were attended with great abdominal pain and tenderness, and much emaciation. *Post Mortem and Case Book*, 1849. p. 65.

88. Section from a large encephaloïd tumour measuring thirty-two inches in circumference, which was connected with the upper part of the femur, and also with the external surface of the ilium. On close examination it will be seen to contain several foliaceous processes of bone. This specimen was taken from the body of William A., aged 19, who died in the Hospital June 2nd, 1850. *Post Mortem and Case Book*, 1850. p. 98.

89. Specimen of a small medullary tumour. *Presented by* SIR BENJAMIN BRODIE, Bart.

90. Encephaloïd and cystic malignant tumour from the side of the neck, taken from John S., aged 22. The right testicle of this patient had been removed by operation seventeen months before his admission. The tumour in the neck commenced six months before admission, and one in the abdomen about four months before. He was admitted March 17th, 1829, and died March 25th. The tumour in the neck was punctured with a needle, and some dark, transparent fluid evacuated. Two days before his death acute peritonitis came on. In the abdomen there was much serum mixed with recent lymph and pus, and a very large number of globular tumours, commencing in the right lumbar region (the same side from which the testis had been removed), extending up to the diaphragm, and surrounding the aorta, so as to raise it from the spine. The great omentum was composed of a considerable mass of similar tumours, and there were several smaller ones in the lesser omentum. The greater part consisted of a number of cysts of various colour and consistence, but many, especially about the stomach and root of the mesentery, were full of a milky fluid like chyle; others were more solid and pulpy, and of the usual appearance of fungus hæmatodes. The tumour in the neck had a similar appearance to that in the abdomen, with the exception of the milky fluid; some parts being solid, some fluid, the largest cyst having partially filled since it was punctured. It was at the side of the trachea and larynx, but not attached to them, and the vessels were separated by it, the jugular vein being in front and nearly obliterated, the vagus nerve on the inside, and the

carotid artery behind, nearly four inches from the vein. For the preparation of the disease in the testis, see Series XIII., No. 87.

91. Encephaloïd tumour of the shoulder. The patient, aged 32, was admitted November 27th, 1841, with a tumour the size of a large fist in the lower part of the right side of the neck, and fixed to the upper angle of the scapula, being situated under the trapezius muscle. It was tense and elastic, and with a cyst of thin fluid. It was not painful, but the skin was somewhat reddened. He had perceived it two years before, and had also numerous small tumours the size of peas, or marbles, or walnuts, in various parts of the body, which he had had from his youth; in some the central point of a sebaceous follicle was still perceptible, and they all appeared as if they had had this origin, but were now solid without cells, some tense, others soft and flaccid, some of the colour of the skin, others redder and shining. The tumour, having increased, was removed on February 6th; three semi-circular flaps being made, meeting in the centre, the wound healed, and he went out March 24th. The tumour was composed of well-marked fungoïd substance, with some cysts in it. For sequel see next preparation.

92. Section of a tumour taken from the same patient as the preceding. The patient was re-admitted on July 30th, 1841. He had remained well till three or four weeks before his re-admission, when a tumour showed itself in the lower part of the neck, just above the cicatrix of the former operation. Four days before his admission it was as large as an orange, free from pain and redness, and his health was good; but two days after this he had fever, and the tumour suddenly became twice as large, and the skin over it red and œdematous. On August the 19th the tumour was removed, the operation being attended with much hæmorrhage, from the size of the arteries supplying it. The wound was nearly healed on October 7th, when a small tumour appeared in the upper part of the spine of the scapula, and then others, and he was again re-admitted December 13th, 1841, with much cough. An immense sloughing tumour formed, and much swelling in front and under the pectoral muscle; several subcutaneous tubercles appeared about the front of the chest, and the sebaceous tumours enlarged and inflamed (varying in size, however). The tumour finally carried him off with irritation and pain, and a little hæmorrhage, March 15th. The back of the scapula presented an immense sloughing tumour, with the same gelatinous fungous appearance as when last removed, and a firmer basis of scirrhus. It involved the entire periosteum, and the bone was in part softened and absorbed. There was

one large cyst containing grumous blood and lymph and sloughs. The periosteum of the clavicle was also much diseased, and the bone softened. The subclavian vessels were surrounded by the disease. There were one or two small tubercles of scirrhus in the upper part of the left lung. The liver, spleen, pancreas, kidneys, and mesenteric glands were healthy; so also was the heart and pericardium. There was a deposit in the lymphatic vessels around the exterior of the bladder. *Presented by* CÆSAR HAWKINS, Esq.

93. Scirrhous tumour. The tumour consists of a fibrous stroma, containing in its areolæ vesicles with granular contents, the majority of which contained two nuclei. Besides these, there were numerous, irregular-shaped granules and granular masses with caudate cells.

94. Melanotic carcinomatous tumour removed from the arm of a woman, April 29th, 1852. The history of this patient is as follows:—

Her age was 52. The tumour was about the size of an apple, situated in the subcutaneous areolar tissue, on the inner side of the arm, and posterior to the course of the brachial artery. It was moveable on the deeper parts, of a livid red colour, and lobulated on its surface, but occasioned no pain, excepting from its weight. It had been growing about one year, and had increased very rapidly of late; it had also ulcerated and bled, but not very copiously. It was removed, together with the subjacent fascia, the deeper parts being unaffected. The wound healed kindly, and the patient left the house on the 5th of May.

95. Colloïd cancer in the cellular tissue, near the axilla, in a case of the same disease of the mamma. For history and description see Series XV., No. 30.

96. Melanotic tumour removed from the labium. The patient, a lady aged 59, had first observed the tumour about eight months before the operation; it was thought to have come on a brown spot, on the cutaneous surface, which was known to have been there for many years. Its growth had been very rapid for a short time before the operation; it was ulcerated (towards the lower part), and bled frequently. The glands and skin of the right groin and pubes were affected. The operation was performed as a palliative measure, on account of the pain and the offensive discharge. The whole tumour, the black spots on the skin, and all the enlarged glands in the groin, were removed. Two or three black spots, scattered deep in the wound, were also dissected out, leaving the cut surface apparently clear throughout. The wound healed kindly, but after a time nausea and vomiting came on after meals, and she rambled occasionally. Two months after the

operation small black spots appeared near the cicatrix; and in the following month cerebral symptoms supervened. She was insensible at one time for three weeks. Towards the end of her life, however, she was perfectly sensible, and quite free from pain. She died suddenly, six months after the operation. The black spots near the cicatrix had then increased to the size of beans. There was no post-mortem examination. The preparation shows the black spots on the skin and those in the wound, as well as a cavity (at the lower part of the preparation), where the tumour had ulcerated. The melanotic character of the disease is well seen.

97. Section of a knee-joint. A malignant tumour is seen to be developed between the integument and front of the joint. It involves the subcutaneous areolar tissue, and the ligamentum patella, and by its pressure upon the lower margin of the patella has formed a deep excavation in it. The tibia and femur are quite sound, and the growth did not make its way into the knee-joint.

This preparation was taken from John M., aged 36. The tumour began nine months before his admission, a blow having been received four years before. Four months since it had reached its present size, and a lancet was passed by a surgeon; blood to some extent followed, and a fungus took place, which on his admission was very prominent, and the size of the fist; from the fungus a good deal of hæmorrhage took place. The tumour appeared to be of the femur, as the outline of the patella was easily distinguished. Amputated August 8th, 1833. Five days afterwards he began to complain of heartburn and uneasiness of the bowels, somewhat relieved by vomiting (ten days after the operation) some dark fluid mixed with blood, which continued at intervals for two days, when he died; the stump not having been very healthy. The lungs and stomach and intestines all contained a good deal of the same fluid which he vomited, and there was about a pint of bloody serum in each pleura. The small intestines were much congested, and in some parts there were ecchymoses, and at the pyloric end of the duodenum were some spots of ulceration. The tumour was chiefly brainlike, but some parts were hæmatoïd, and the whole mixed with bony spiculæ. *Presented by* CÆSAR HAWKINS, Esq.

98. Malignant tumour from the abdomen. Taken from William S., from whom the testis had been previously removed by operation (see Series XIII., No. 84). The tumour in the abdomen had not been previously seen, and being in great part composed of half-coagulated blood, it had probably increased rapidly after the operation, and during the peritoneal inflammation. The tumour consists of a mass of carcinomatous

deposit, containing small nodulated masses of cartilage. *Presented by* CÆSAR HAWKINS, Esq.

99. Melanotic deposit from the inguinal region, probably commencing in melanosis of those glands. Taken from the body of George K., aged 35, who had had a tumour (of unknown nature) removed from the front of the abdomen six years before admission. He was admitted with tumours in various parts of the body, including each groin. As he pressed for the removal of these latter, they were excised on May 1st, 1856, and proved to be melanotic. The wound healed kindly, and he was discharged on June 11th, but readmitted on July 14th for cerebral symptoms, which had been previously noticed on one or two occasions, and which increased up to the time of his death on July 28th. On post-mortem examination melanotic tumours were found in the brain, heart, lungs, pancreas, liver, mesentery, omentum, and glands in many parts of the body. The melanotic deposits displayed in places the colour and structure of ordinary encephaloïd. The present specimen shows the tumour found after death in the right groin. For that in the mesentery and omentum see Series IX., No. 244; and for that in the brain see Series VIII., No. 45. *Post Mortem and Case Book*, 1856, p. 178.

100. Portion of a medullary tumour, which was situated under the right breast of a lady aged about 50. The tumour, which surrounds some of the ribs, projected into the cavity of the chest, but was still covered over by the pleura. The structure of the ribs appeared to be destroyed; the disease originated most probably in the tissue of those bones. The pectoral muscle was involved in the disease. Sir B. C. BRODIE was consulted three or four months before the patient's death, which took place in the autumn of 1824. She had been supposed to labour under a disease of the breast, but on examination, Sir B. BRODIE satisfied himself that the breast was sound, and that the tumour was situated underneath it. The tumour at this time was of a considerable size, lifting up the breast much above the level of that of the opposite side. The use of iodine with sarsaparilla was prescribed, and under this treatment the tumour diminished very much, the diminution being evident to herself as well as to others. The iodine being omitted, the tumour again increased in size; the iodine was again resumed for a short time, but without any effect upon the disease. For some months previous to her death she had complained of pain in the left shoulder, and latterly some degree of swelling was manifest in that situation. A large medullary tumour was found surrounding the neck of the scapula, which was destroyed, although the articulating extremity remained entire.

101. Fungus hæmatodes near the male breast. Thomas C., aged 30, April, 1823. The tumour commenced five months before his admission, in consequence of rupturing the pectoral muscle, while catching a runaway horse. The tumour was above and distinct from the breast itself. The operation was performed by Mr. GUNNING, April 14th, and the wound healed, when a tumour of the size of a bean appeared by the side of the cicatrix. June 20th it began to enlarge and form a fungus, which was repeatedly destroyed by arsenic and other caustics, but continued growing until he died in the following September. The tumour, at the time of the operation, was apparently not attached to the pectoral muscle, and the structure internally seemed to be a mixture of scirrhus and fungus hæmatodes. At the time of his death, the following appearances were observed: (see following preparation). *Presented by* CÆSAR HAWKINS, Esq.

102. The tumour in this preparation is seen affecting the ribs, which were softened and changed; it projected also internally, and the lung was attached to it, with some fluid in the pleura. Its structure was much darker and more fragile than at the time of the operation. *Presented by* CÆSAR HAWKINS, Esq.

103. Tumour from the axilla. The patient was admitted into the Hospital under the care of MR. BRODIE, on account of a tumour situated on one side and a little below the axilla. It was the size of a small orange, unattended by pain or other marks of inflammation, and perfectly moveable under the skin. MR. BRODIE states, "Having removed the tumour by the knife, after having made a section of it, I found that it was composed of a brown solid substance, of a firmer consistence, and to all appearance more highly organized than fungus hæmatodes, and of an uniform structure throughout, except that it was covered externally by a thin membranous cyst which adhered closely to it. Some time after the removal of this tumour the same patient applied to the Hospital a second time, having two tumours in the neck, each of the size of a double walnut. These bore no resemblance to the common enlarged glands which occur in this situation, and so resembled in feel and appearance that which was removed from the axilla, that no one doubted of their being of exactly of the same nature. Conceiving that there were obvious objections to a second operation for the removal of a disease so manifestly depending upon a constitutional cause, and knowing nothing better else to be done, I prescribed iodine internally. Under this course of treatment, which was persisted in for several weeks, the tumours gradually diminished in size, and ultimately disappeared. Having heard nothing of the patient for several years, and he knowing that on a recurrence of the

disease he would be immediately admitted into the Hospital, I think that in all probability he has had no return of his complaint."

The tumour consisted of vesicles of varying size and form, the great majority of which contain small circular highly refractive particles like fat globules, some containing circular nuclei with contained nucleoli. A few vesicles had connected with them caudate prolongations. *Presented by* SIR BENJAMIN BRODIE, Bart.

104. A large tumour removed from the side of the neck by SIR BENJAMIN BRODIE, in the year 1842. The tumour, which was lying immediately upon the vessels, was covered over by the sterno-mastoïd, inwards, it was bounded by the windpipe, etc., and outwards it was partly covered by the trapezius. In removing the tumour, the carotid artery was laid bare to some extent, and it was found necessary to remove three inches of the internal jugular vein, after the application of two ligatures. The vein was so closely adherent to the morbid structure that it was impossible to dissect it off. When the tumour was nearly removed a small vein was wounded, and immediately a hissing sound, as if produced by the entrance of air into a vein was heard. The young lady immediately became faint, and for half-an-hour the pulse was scarcely perceptible, even in the carotids. At length she rallied, and ultimately recovered, without a bad symptom. The disease had not returned some six months afterwards. The portion of jugular vein, with a bougie passed through it, may be seen at the posterior part of the preparation. A recent section of the tumour shows it to consist of numerous white pearly fibrous bands, which intersect each other in every part, and form by their junction a number of varying-sized meshes, in which a soft light brown, and somewhat pulpy substance is contained. This consists of an exceedingly delicate filamentous tissue, containing small circular-shaped granular nuclei, a few nucleated cells, and in some parts masses of fat granules and globules. No separate vesicles, such as compose the thyroid gland, could be seen. An analysis of this substance made by DR. BENCE JONES proves that it was not of a fatty nature.

105. A small tumour removed from the thigh of an old gentleman. In the centre of its surface, is a small circular mass of a yellowish-brown substance. It was composed of a fibro-granular material, with irregular masses of a red colour, apparently the colouring matter of blood. *Presented by* Sir BENJAMIN BRODIE, Bart.

106. Specimen of granulations of very large size, removed from the extremity of the medullary cavity of the femur after amputa-

tion. The mass seems to have grown rapidly, and on examination by the microscope was found to consist of fibrous tissue, with numbers of nuclei of small size, and cells passing on to fibres. The patient recovered well.

107. Specimen of a tumour with a roughened slightly lobulated surface, removed from the left ala of the nose. On section it was found to be firm, and of a light flesh colour, somewhat striated with reddish lines, and by the aid of the microscope, large numbers of small cells and nuclei were found, with granular matter and much fibrous tissue. The interest of the specimen is its extremely rapid growth. The patient, Thomas G., aged 17, was admitted July 15, 1852. He had a tumour much resembling a strawberry in look and size, connected with the left ala nasi, but unattended by pain. This had appeared about ten days before admission, and had grown very rapidly. The cartilage was cut freely away, along with the tumour, leaving a large opening into the nostril. No appearance of fresh growth was evident during the patient's stay in the Hospital.

END OF SERIES XVII.

SERIES XVIII.

MALFORMATIONS, MISPLACEMENTS, AND DISEASES OF OVUM.

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1. Twin fœtuses of unequal size. The larger is about seven inches long, and appears to have been naturally developed. The smaller measures about two inches, and is much distorted, as if by pressure. There is a separate placenta with each. The cord has been twisted round the neck of the larger. It is probable that the small fœtus died at an early period of its existence, while the growth of the other progressed. *Presented by* T. A. STONE, Esq.

2. A fœtus with a large bag hanging from its mouth. The fœtus is of about the sixth month. The mouth is widely opened, and to its roof is attached a large bag, which is nearly as large as the entire fœtus. The sac consists of a fibro-serous membrane, with fibrous tissue in its thickness, and a polished interior. It arises by a constricted neck, which is attached to the whole roof of the mouth. Near the origin are several rounded masses projecting externally; in one of them there are pieces of bone and cartilage. Projecting from the attached end of the cyst is an irregular mass, which contains much hair; this was surrounded by a small transparent cyst of its own, lying inside the larger cyst. *Presented by* T. A. STONE, Esq.
3. A human fœtus with two heads. The trunk looks natural in front, but behind is a depression, as if the vertebræ were incompletely ossified. The two heads are placed side by side upon the shoulders, at the occiput of each is a membranous tumour. The two heads are incompletely adherent nearly up to the ears. *Presented by* T. A. STONE, Esq.
4. A monstrosity consisting of the union of two fœtuses, one pair of legs being common to both. The heads and necks are quite separate. The trunks are adherent laterally. Above, the shoulders and arms of each are naturally formed; below, the fusion into one is nearly complete; there is but one abdomen and one umbilical cord. Looked at posteriorly the legs appear to be more directly attached to one fœtus than the other. *Presented by* T. A. STONE, Esq.
5. Cast of a Chinese monstrosity, which had reached adult life. The following description and details were sent with the figure:—

Account of a Chinese Lusus Naturæ. By JOHN LIVINGSTONE, *Surgeon to the British Factory, China. Communicated by the Author.*

In Europe monsters never fail to excite much public attention; they readily obtain a place in museums and the cabinets of the curious; and even slight deviations from nature, such as a finger or toe more or less, have been the subject of elaborate memoirs, perhaps in many respects disproportionate to their real importance. In China the case is quite otherwise. We know of no such collections. I understand from Dr. Morrison that their books are silent on this subject; and the very extraordinary and interesting monster which I am about to describe was born only two days' journey from Canton, about sixteen years ago; has been exhibited at Canton and all around ever since; yet, as far as my inquiries have extended, no account of this lusus naturæ has hitherto been drawn up by, or has come to the knowledge of, any European.

When I was first informed that a monster was to be seen in

a temporary enclosure near St. Agostinho's Church, Macao, I lost no time in attempting to gratify my curiosity; but I learned that the monster was then unwell, and had retired to rest. I then formed the resolution of having him brought to my house, for the double purpose of more deliberate observation, and having at the same time a correct model made under my own eye; but aware that the only good artist then in Macao was employed, I deferred giving my orders for a few days. In the meantime the monster unexpectedly left Macao.

However, the modeller had made such careful observations of the subject that he informed me he could make an exact representation of what he saw. He has succeeded so well that I am assured by many friends who had carefully examined the original that the model is wonderfully exact. A few unimportant exceptions shall be pointed out in the order of my description. I have spared no pains in collecting information from every quarter. I have had the advantage of receiving accounts from a great many intelligent friends, among whom I have the pleasure to mention three medical gentlemen of this place. All their accounts agree surprisingly well. The model has been shown to many of them, and my account read; with both of which they are entirely satisfied; so I am persuaded that my own observations could not have added much either to the value or variety of those which I have been so fortunate as to receive from others.

A-ke was born sixteen years ago, in the district of Yun-lang-zuen, with another male child of nearly the same size united to the pit of his stomach by the neck, as if his brother had plunged its head into his breast. The skin of the principal here joins that of the upper part of the neck of the parasite, quite regularly and smoothly, excepting the superficial blood vessels, which appear somewhat turgid. The sufferings of the mother were so great that she survived the birth of this monster only two days.

Since that time the parasite has not much increased in size,* and at present is not much larger than new-born infants usually are; but the bones are completely formed. The shoulder-bones are remarkably prominent. Here the model is faulty, since it represents the roundness of infancy; but all this plumpness has disappeared from the original, where bones seem only to be covered with skin. The hips of the model

* I have the authority of Lieut.-General Wood for stating that a careful admeasurement of the parasite was made at his request. The trunk and neck measured about eleven inches, and the longest limb thirteen inches, making the extreme length two feet. This accords sufficiently well with the size I have mentioned; but as the modellers in China do not work by any scale, it would be useless to deduce any *exact* measurement of the whole figure by knowing a part.

are too prominent. The manner in which the thighs appear is quite happy; but the feet, particularly the left, are not sufficiently clubbed. In the original, generally the feet and toes are less perfect than in the model. The toes adhere, and one or two are wanting.

The attachment of the neck of the parasite to the chest of the principal admits of a semirotatory motion. The natural position of the bellies is towards each other; but A-ke can turn his brother so far round that he can bring either side towards his own belly. He also shows that his brother's arms can be moved freely. The thighs and legs remain stiffly bent, as represented in the model, the thigh being anchylosed with the ossa innominata above, and the tibia below. In sciagraphiâ, genitalia nimis perfecta apparent: quoniam in archetypo, testium vestigium nullum, scrotique exiguum tantum, videndum est. At penis proportionaliter crassus est; et præputium glandem semivelat. Tentigo interdum observatur, quo tempore fluidum viscidum ex urethrâ stillat, quopropter Sinenses semen copiose secerni credunt. Renes officia ritè perficiunt; anus deest.

A-ke is now about four feet ten inches high, of a feeble frame and sickly appearance; but excepting the incumbrance above described, he is in all respects perfectly formed. He appears to be sufficiently conversible and intelligent, and says that he has the same feeling of pain if any part of his brother be hurt, as if it was the same part of his own body: even the slightest touch which would be perceptible, if applied to his own person, is equally perceptible if applied to his brother. This statement was most satisfactorily confirmed by an ingenious medical gentleman, who, observing A-ke's attention to be fully employed, and his head turned away in a contrary direction, pinched quickly the hip of the parasite. A-ke instantly struck the same part of his own person, just as if that had been the pinched place.

Formerly he had reason to imagine, from certain obscure motions which he perceived within his brother when he was himself in pain, that all their feelings were reciprocal; but for some time past he has not been sensible of this, nisi micturus sit. Frater ejus numquam eodem tempore, seu urgente Naturâ, seu curiositati adstantium satisfaciendi causâ, urinam reddere deficit.

A-ke's respiration is never perfectly free: on the contrary, it is commonly laborious, and on the slightest exertion, such as walking to a little distance, ascending a flight of steps or the like, he breathes quickly and with difficulty. To relieve this he supports the parasite with his hands: but to obtain any considerable degree of ease, a recumbent posture is necessary. His pulse is commonly quick and small. Mr.

Gomez felt distinctly the pulsation of the carotids in the neck of the parasite; it was feeble. He also examined carefully the pulse at the wrists—it was very slow (valde lente).

The usual temperature of both is natural. A-ke wears an unusual quantity of clothes, yet he never appears to perspire, even in the warmest weather. His usual gait is unsteady and feeble. When he walks up or down stairs, he supports himself with one hand and his brother with the other, and brings both his feet upon the same step before he attempts to advance another foot.

When in his best state of health, he informed Mr. Gomez his appetite was so good that he could take as much food as any three of his age, at present his health in general is much impaired. He complains of weakness of stomach, loss of appetite, defective and painful digestion. So it is commonly thought he cannot live long. His countenance is sallow and more emaciated than it appears in the model.

A-ke's father is one of the poorest class of husbandmen. He has been content to hire his son for five Spanish dollars a-month to the man, who has for his trouble all the profits of the exhibition. Ten cash (less than a penny sterling) is the price of admittance into the inclosure, which they make in public places. He walks to private houses; the parasite appearing, while going through the streets, like a tumour under his clothes. On these occasions, the exhibitor is content to receive whatever is given. He commonly gets half a dollar or a dollar. The concern does not appear to be profitable.

Having stated all the circumstances of this wonderful and most interesting case, as fully as they have come to my knowledge, I might be excused from making any observations—the field is ample, and no doubt a variety of ingenious opinions will be formed. I think, however, you will be desirous of having my reflections on some points; I shall therefore mention a few.

It will probably be admitted that, as the quantity of nourishment which the parasite derives from the principal system, is only sufficient to preserve life, without adding to the bulk of its parts; it receives blood only from small arteries, perhaps from the branches of the mammary arteries, where they freely enosculate with the large branches of the epigastrics, forming arteries which may either immediately anastomose with those of the parasite, and supply its veins and heart with blood sufficient to support a species of circulation, similar to that of the fœtus in utero, the principal supplying the place of the placenta; or the blood may be returned to the principal by a set of veins peculiar to the parasitic state of

existence. It is highly probable that the entire pulmonary system is wanting, or in a state of complete torpor; and, from the flaccid appearance of the abdomen, we can scarcely doubt that the chylopoietic viscera are in a similar state.

Considering the Chinese account of the seminal secretion as founded in error, the parasite can only be regarded as having the kidneys in an efficient state, besides the circulation of the blood and absorbents. This state seems to admit of no other functions.

This view of our subject accords sufficiently well with that theory of monstrous productions, which supposes that two distinct embryos had coalesced by some accidental circumstance, which may have caused the amnions of each to adhere; and controverts an opinion, which at one time had many advocates, respecting the use of the liquor amnii. It may be conjectured on the same view, that the great sympathetic nerve of A-ke supplies the urinary and genital systems, and that the nerves of his skin are diffused over that of his brother also. All this will require that our notions of the nervous system shall be considerably modified before we can be enabled to account for the few but decisive facts which belong to this part of our subject. To account for these, on commonly-received principles, it will be necessary to suppose that the monster had the same conformation as the primordial germ. This conjecture removes some of our difficulties. It explains how the brain of A-ke is in all respects a sensorium commune to both. That the parasite is therefore only a duplicate of the principal, is not more difficult to be imagined than a supplementary finger or toe. Here, however, our field expands into a wilderness, into which it would be unsafe to enter without a guide. I shall, therefore, resign the task into the hands of more adventurous discoverers.

Macao, 8th December, 1820.

Presented by T. A. STONE, Esq.

6. A withered and distorted fœtus, which had been retained in the uterus after its death. It was believed to have died about the fifth month, but was not expelled until after the birth of a full-grown child, when it came away together with the placenta. *Presented by* T. A. STONE, Esq.

7. A remarkable monstrosity, which appears to have been born at the full time, in which the lower extremities are absent The head, upper extremities, and the trunk as far as the umbilicus, which is that of a new-born child, are natural. From this point downwards, the trunk gradually tapers to a point, which is about as far from the umbilicus as the head is. The trunk thus ends somewhat after the manner of a saddle of mutton; there is no trace of lower extremities, nor of any genital

organs. The point, which is slender and partially flexible, as if it contained small bones, terminates in a single minute nail, such as would belong to one of the toes of a new-born child. There is a small opening behind, which may be the anus, but it is not possible to speak with certainty, as the viscera have been removed and the trunk filled with plaster of Paris. *Presented by* T. A. STONE, Esq.

8. An acephalous and acardiac monstrosity. This is much smaller than a natural fœtus, and very irregular in shape. There is a soft round mass upon the shoulders, which, however, bears no resemblance to a head. Below this is a small opening in which the tip of the tongue is seen. There are but three limbs, the left arm, and the legs, all very imperfect. The trunk has been laid open, displaying a large dorsal vessel in connection with the cord, which remains attached to the umbilicus, and two large kidneys. The lungs, heart, and liver are absent. This monster is probably a twin, it has many points in common with the next preparation.

9. An acephalous monster. It was born under the following circumstances:—The mother, an unmarried woman, pregnant for the first time, was delivered in Queen Charlotte's Hospital. A healthy female infant was first born, the breech presenting. The monster about to be described was then expelled, the shoulders first. The two umbilical cords were attached, an inch and a half apart, to a single elongated placenta, which unfortunately was not preserved. The female child was apparently in good health, and without peculiarity of any kind. It so remained for the three weeks during which it was under observation in the hospital.

The monstrosity was destitute of any vestige of head or neck. The shoulders were united along the central plane into a rounded fleshy surface; without prominence or inequality to indicate the position due to the neck. The upper end of the fœtus thus terminated much after the manner of an anchor. The upper extremities were present, but were both curtailed, each apparently by one segment. The hands were imperfect. The left was shortened, and the fingers four only in number. On the right hand were five digits, but they were rather irregularly placed. The trunk was small in proportion to the limbs. On its front surface, in the median line, at a short distance from the upper end, was a small prominence of a reddish colour, which, from the fact of its being clothed with papillæ, was believed to represent the tongue. The umbilical cord was surrounded at its origin by a small membranous bag, which contained a coil of intestine and some serous fluid. The genital organs, which were those of a male, the anus, and all other particulars concerning the

outside of the trunk, were natural. The lower extremities were only slightly different from their usual state. The right leg seemed somewhat twisted on its axis. On each foot were four toes only.

The body was generally swollen and œdematous, constricted at the joints, bloated elsewhere.

The skeleton of the trunk, where only were the bones examined in detail, was nearly natural. The spinal column was as usual from the beginning of the dorsal region downwards. Of the cervical vertebræ only the two lowest existed. The upper of these was rounded above, and roofed over by membrane. No trace of any of the cranial bones existed. All the ribs were natural excepting the first pair, which were abnormally shortened. The scapulæ and sternum were complete. The clavicles were wanting.

Upon laying open the trunk, great thickness of integument had to be cut through, owing to a general serous infiltration of the areolar tissue. There was no diaphragm. The heart, lungs, thymus, liver, spleen, pancreas, and suprarenal bodies were altogether wanting. The upper part of the alimentary canal was represented by a hemispherical depression upon the chest, of about half an inch in depth, to the deepest part of which a body resembling the tip of the tongue was attached. The œsophagus, stomach, and the upper part of the bowels were absent. In the abdomen lay the lower two feet, or rather more, of the intestine, commencing by a rounded cæcal extremity. The bowel contained meconium, and appeared in all respects natural as far as it went. It ended in a natural pervious anus. The most conspicuous bodies in the abdomen were a pair of kidneys of very large size, which reached up so as to occupy the lower part of the chest. These were connected each with its own ureter, almost as thick as in the adult, which terminated in a normal bladder. An urachus connected the bladder with the termination of the umbilical cord. Beneath the kidney, on each side, was an undescended testicle. The space between the walls and the organs mentioned was filled with spongy cellular tissue, containing serous fluid.

The umbilical cord contained a large vein and artery, besides a second artery, so minute that it was impossible to follow it.

The great artery of the cord divided, on entering the belly, into two large branches, one of which passed into the right thigh, giving an offshoot in its passage, to its own side of the pelvis. The other division served for all the rest of the body. It swept upwards to the position of the aorta, on the left side of the spine, and gave off from adjacent points a large vessel

for the left thigh, and another for the left side of the pelvis.

Thence the artery passed upwards, giving large branches for the kidneys, as well as lateral and posterior filaments, corresponding to the lumbar and intercostal vessels. It terminated between the shoulders, by dividing abruptly into two large branches, one of which went to each upper extremity.

Tracing the venous system in the same way from the umbilicus, the great vein passed, with a curve undivided, to the position of the vena cava on the right side. It gave first a branch, which passed with the artery to the right thigh and side of the pelvis; then, about half an inch higher up, another vessel, in similar company, for the left lower extremity. The main vein then passed up along the right side of the vertebral column, giving lateral branches to the kidneys, many smaller vessels corresponding to those of the artery, and ended in the same way by giving off, at right angles to itself, a large vein for each arm.

The entire encephalon, as well as the upper part of the spinal cord, were wanting. The cord began opposite the last cervical vertebræ by a rounded, somewhat bulbous extremity, which is well represented in the drawing. The nerve roots passed from this much in the usual manner. The upper pair, on each side, proceeded in an upward direction, so as to escape above the sixth vertebra. The ganglia on the posterior roots were as usual. Except that the contributions from the fifth cervical nerve was absent, the brachial plexus was formed much in the usual way. No peculiarity was discovered in the distribution of the dorsal and lumbar nerves. Those of the sacrum were not exposed by the dissection.

The sympathetic ganglia were large but not numerous. A chain of ganglia, eight in number, occupied the usual position along each side of the spine, scattered over the space from the second cervical to the last lumbar vertebra. Each of the ganglia sent two or more filaments backwards, which united in an irregular manner with the anterior branches of the spinal nerves. These filaments generally diverged, passing one to an upper, one to a lower nerve. At the upper termination of the chain were several large branches of communication with the brachial plexus, near its origin. Below were similar branches connected with the lumbar plexus, with which the sympathetic appeared to end. The ganglia were nearly or quite as large as in the adult. (See drawing by Dr. WESTMACOTT, also description in *Med. Chir. Trans.*, Vol. XLVI., by Dr. DICKINSON. *Presented by* Dr. BLAKELY BROWN.

10. A fœtus apparently born near the full time, in which the arms

are defective. The right arm begins to taper off near the wrist, and terminates in a fine point, on which is a nail. Close to this is a shorter projection similarly covered, which may represent the thumb, while the other point serves for a finger. *Presented by* T. A. STONE, Esq.

11. A fœtus near the full time, with an arrest of development of the left upper extremity. Close to the shoulder the limb begins to taper, and within an inch from the joint the slender limb forms an acute angle, and terminates in four fingers, and a thumb almost microscopic in size. *Presented by* T. A. STONE, Esq.

12. Fœtus of the fourth month of pregnancy, without arms. On the left side, the skin passes evenly down the side of the chest; on the right a slight elevation marks the place of the upper extremity. *Presented by* T. A. STONE, Esq.

13. Fœtus of about the full time, in which the left leg terminates abruptly half way between the knee and ankle. The skin ends by a circular edge, through which some of the deeper parts of the limb protrude. There is no trace of anything which could be supposed to represent the rest of the limb. The case is probably one of intra-uterine amputation. *Presented by* T. A. STONE, Esq.

14. A double fœtus. There is a single head for the two, which is expanded in breadth. The two bodies are tolerably distinct, but are united laterally. The limbs are distinct. The upper extremities of each fœtus embrace the body of the other. *Presented by* T. A. STONE, Esq.

15. A full-grown fœtus, in which the body terminates about the position of the umbilicus, and gives attachment at its truncated end to the placenta and membranes. The arms and head are natural, but the legs are attached in unnatural positions, and are turned upwards, one in front of the remains of the trunk, the other behind. *Presented by* T. A. STONE, Esq.

16. An anencephalic fœtus near the full time. The head does not ascend higher than the eyebrows, and it is terminated by a surface which reaches from the eyebrows backwards to the top of the spine. The face remains, but the eyes are prominent. The right is uncovered by the lid. *Presented by* T. A. STONE, Esq.

17. A fœtal head, in which the brain appears to be defective. There is a large depression at the anterior and superior part, where a pedunculated tumour is attached. *Presented by* T. A. STONE, Esq.

18. A fœtal head, with a membranous tumour attached to the occiput, which communicates with the arachnoïd cavity. *Presented by* T. A. STONE, Esq.

19. A fœtus, probably of about the sixth month, consisting entirely of lower extremities and abdomen. The trunk ends a little

above the umbilicus by a rounded surface covered with skin. The cord remains attached to the umbilicus. *Presented by* T. A. STONE, Esq.

20. The wrist of a child having but three fingers, of which two are attached together. The fingers are of small size, like those of a new-born child. The hand is bent upon the fore arm at an acute angle. *Presented by* T. A. STONE, Esq.

21. The thigh bones, ilium, and portions of the tibia and fibula, to which is attached a piece of bowel, all of which were enclosed in a mass of flesh, and were expelled after a full-grown child. *Presented by* T. A. STONE, Esq.

22. A fœtus of about the full time, in which there is a deficiency in the front wall of the abdomen, close to the umbilicus, through which a quantity of small intestine protrudes. The umbilical cord remains attached to the edge of the opening, which is about as large as a shilling. *Presented by* T. A. STONE, Esq.

23. A fœtus born at the full time, in which there is a large opening in the front wall of the abdomen, through which the liver, the stomach, and the greater part of the bowels protrude. These were all contained in a membranous bag, which appeared to be formed of peritoneum. The umbilical cord is attached to part of this bag. For further particulars see *Path. Soc. Trans.*, Vol. XV., p. 233. *Presented by* DR. BRODIE.

24. A young pig, in which a single head is attached to a double trunk. The head appears natural, but below the neck the trunk takes the appearance of two bodies united by their bellies. Each trunk has four limbs, making eight in all, of which four are towards the occiput, and four towards the chin. One umbilical cord is common to both, and still remains in attachment. The genital organs and lower parts are distinct. *Presented by* T. A. STONE.

A monstrosity, consisting of a union of two fœtal pigs. The union extends from the chin to about the umbilicus. The abdominal cavities have been laid open. *Presented by* T. A. STONE, Esq.

26. Acephalous kitten. The body and limbs look nearly natural, but there is no trace of head or neck. The front of the abdomen has been laid open, so as to show some coils of intestine in the cavity. *Presented by* T. A. STONE, Esq.

27. Bird with four legs. The trunk and upper extremities appear natural. *Presented by* T. A. STONE, Esq.

28. An unfledged bird, apparently a duck, with four legs. *Presented by* T. A. STONE, Esq.

29. An unfledged chicken with two heads. The trunk and limbs are natural. The necks diverge from the shoulders. *Presented by* THE MARQUIS OF DOWNSHIRE.

30. A fœtal kitten, in which two heads, united laterally, are attached to a single body. *Presented by* T. A. STONE, Esq.

31. A bird with four legs. *Presented by* T. A. STONE, Esq.
32. A chicken with one head attached to a double body. There are four legs, and the same number of wings. *Presented by* THE MARQUIS OF DOWNSHIRE.
33. An acephalous monstrosity, apparently that of a small fœtal quadruped. *Presented by* T. A. STONE, Esq.
34. A double puppy. This consists of the union of two animals along their bellies and faces. The union is complete from the ears to the anus. *Presented by* T. A. STONE, Esq.
35. A monstrosity, consisting of the union of the bodies of two kittens to a single head. There are four upper extremities. Below the extremities the trunks are quite distinct. *Presented by* T. A. STONE, Esq.
36. A fœtus which had died in utero at about the fourth month, but was not expelled until after the birth of a full-grown child. The fœtus is much flattened and distorted, and the cord is twisted about it. The placenta remains in connection with it. (See Preparation 1, Series xviii.) *Presented by* T. A. STONE, Esq.
37. Fœtus of about five months, which was retained in the uterus, and has been altered by pressure. *Presented by* T. A. STONE, Esq.
38. Early ovum said to have been retained in the uterus until the ninth month. *Presented by* T. A. STONE, Esq.
39. Diseased ovum, described as hydatidose. The ovum is of considerable size; there is a large cavity, into which numerous rounded masses project from the wall; a very small fœtus, scarcely larger than a pea, is attached to a membranous projection from the wall. *Presented by* T. A. STONE, Esq.
40. Ovum of earlier date, affected in the same manner as the preceding (No. 39). The fœtus is very minute; it hangs in the middle of a large cavity with nodulated walls. *Presented by* T. A. STONE, Esq.
41. An early ovum which was retained until the completion of the term of pregnancy, the symptoms of miscarriage having occurred about the third month. The cavity of the ovum is empty. *Presented by* T. A. STONE, Esq.
42. Imperfect fœtus aborted at third month. The membranes have been cut open, and are all very perfectly seen. A very diminutive and imperfect fœtus is suspended near the upper part. *Presented by* T. A. STONE, Esq.
43. Early ovum, with the interstices of the membranes occupied by coagulum. *Presented by* T. A. STONE, Esq.
44. Early tuberculated ovum. *Presented by* T. A. STONE, Esq.
45. Early tuberculated ovum. *Presented by* T. A. STONE, Esq.
46. A cyst formed on the umbilical cord of a human fœtus. The vessels are to be seen in the wall. *Presented by* T. A. STONE, Esq.

47. Umbilical cord with a knot in it. *Presented by* T. A. STONE, Esq.

48. Another specimen of the same kind. *Presented by* T. A. STONE, Esq.

49. Umbilical cord infiltrated with serum. *Presented by* T. A. STONE, Esq.

50. Fallopian tube gestation. The description in Mr. STONE's catalogue is as follows :—"Extra-uterine fœtation, in which the pregnancy was continued to the full time, when labour pains occurred and expelled the decidua. The child immediately afterwards died, and becoming a foreign body, excited inflammation and abscess at the navel. The woman, worn out by discharge and hectic fever, died. One of the Fallopian tubes is seen to have formed the cavity of the abscess, in which are contained many of the bones of the fœtus, the remainder having been discharged through the opening at the navel, which are collected together in preparation 51."

The abscess containing many of the bones of a mature fœtus, is exposed to view from behind. It is surrounded by a coil of the small intestine, which has been stuffed so as to preserve its shape. In front of the preparation a portion of the abdominal wall has been preserved, which appears to correspond with the navel; the opening is here seen through which the bones have come. The uterus is seen below. Bristles have been placed in the orifices of the Fallopian tubes; that in the left is seen to pass through the cavity of the abscess. *Presented by* T. A. STONE, Esq.

51. The bones which were discharged during life through the addominal wall, in the case described in preparation 50. These include fourteen ribs, many of the bones of the extremities of the spine, and some of the smaller bones of the head. *Presented by* T. A. STONE, Esq.

52. Fallopian tube gestation. This preparation was put up by Dr. JOHN CLARKE, and described by him in the *Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge*, Vol. I., p. 216, 1793. It is there described as having a "membrana decidua" in the uterus, while the ovum remains in the Fallopian tube. The preparation was subsequently dissected by Mr. HOLMES, and described by him in the *Med. Chir. Trans.*, Vol. XLIII., p. 373. It is there shown that the substance in the uterus bears no resemblance to decidua, but is composed chiefly of epithelial cells, while the ovum is surrounded externally to the chorion by a firm fibrous membrane consisting of two layers.

The history of this case is briefly that the woman died in the second month of pregnancy from hæmorrhage into the peritoneum, said to have amounted to a gallon, which pro-

ceeded from a rent in the Fallopian tube. See papers already referred to. *Presented by* T. A. STONE, Esq.

53. This preparation is described in Mr. Stone's catalogue in these words: "Ovarian ovum in the ovarium, decidua in the uterus." The uterus is of small size, such as might belong to the second month of pregnancy. It has a cavity larger than in the unimpregnated state, and contains a quantity of shreddy flocculent matter. This, under the microscope, is seen to consist chiefly of nuclei, with some elongating fibre-cells and some small blood-vessels, the walls of which abound with nuclei. The appearances are somewhat indistinct, owing to long immersion in spirit, but are such as the decidua might present. In the left ovary is a cyst, about as large as a walnut, with thin and somewhat shreddy walls. Nothing resembling a fœtus is now to be found, and there is no proof that the cyst is that of an ovum, which in some respects it resembles. The inside is smooth, the outside rough and irregular. It is thicker in some parts than others, especially at one end, which lies close to a true corpus luteum, but is quite separate from it. It appears probable that pregnancy had taken place in the usual manner, the ovum being in the uterus, and that abortion had occurred, which, however, failed to remove the decidua. The cyst in the ovary is probably the result of disease, not of conception. *Presented by* T. A. STONE, Esq.

54. Tumours of placenta. These are two round tumours elevating the membrane which covers the placenta. They are of harder consistence than the placenta, and in the centre of the larger is some material which looks like coagulated blood. The cord is in attachment to the placenta, and from its size it may be concluded that the placenta has not yet attained the full period of pregnancy. *Presented by* T. A. STONE, Esq.

55. A portion of the placenta from which a short cord like the umbilical cord proceeds, and suspends a shapeless mass of matter covered with skin and fine short hair. This probably represents a fœtus. On section some hard masses like portions of bone were found in the interior. *Presented by* T. A. STONE, Esq.

56. An injected preparation of the placenta of twins. *Presented by* T. A. STONE, Esq.

57. A placenta with three cords proceeding from it, injected and dried. *Presented by* T. A. STONE, Esq.

58. A placenta with three cords belonging to it. The preparation is preserved in spirit; the cords are seen, each surrounded by a distinct set of membranes. *Presented by* T. A. STONE, Esq.

59. Congenital deficiency of palate with single cleft through alveolar ridge. The preparation consists of the anterior half of the

skull, dried, with the membranes and cartilages. The palate is absent in its greater extent, exposing the nasal cavities. There is also a deficiency of the front part of the alveolar process of the left upper jaw. The horizontal plates of the palate bones are entirely wanting. *Presented by* G. D. POLLOCK, Esq.

60. Head of a lamb, dried, shewing congenital deficiency of the palate. The whole of the roof of the mouth is absent, so that the nasal fossæ and the mouth form one cavity, only separated by a narrow plate of bone in connection with each alveolar process. *Presented by* G. D. POLLOCK, Esq.

61. Double hare lip and fissured palate. The whole of the face is preserved. The lower lip was cut away to shew the fissure in the palate; the opening occupies only the hinder part of the roof of the mouth. *Presented by* T. A. STONE, Esq.

62. Deficiency of palate and of upper lip. The roof of the mouth is represented by little more than the alveolar processes. The fissure extends through its whole length, but is wider in the bone than in the soft palate. The upper lip is defective, a fissure extending up to each nostril, one on each side of the septum.

63. Congenital malformation of jaw bones and lower part of face. The mouth is increased by a vertical fissure, which extends from the right nostril to the chin, dividing both maxillæ. A corresponding fissure in the roof of the mouth passes through its whole extent. The anterior part of the tongue is divided, and both halves are closely attached to the floor of the mouth and lower jaw, which bone is divided at the symphysis, the two halves being freely moveable on each other. *Presented by* C. L. RIDOUT, Esq.

64. Congenital fissure of palate. This extends along the whole roof of the mouth, narrower in the soft palate than in the bone; it exposes both nasal cavities, and opens on the upper lip with a fissure, which reaches on each side from the nostril to the mouth. There is a globular prominence attached to the septum of the nose. The tongue and lower jaw, both of which were natural, have been cut away to show the roof of the mouth. *Presented by* G. D. POLLOCK, Esq.

END OF SERIES XVIII.

SERIES XIX.

*CALCULI, SEDIMENTS, CONCRETIONS, AND FOREIGN BODIES FROM THE URINARY AND DIGESTIVE ORGANS; to which are added (in an Appendix), CONCRETIONS FROM OTHER PARTS OF THE BODY.

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No. 348 is an instance of black urinary concretion, the nature of which is uncertain.

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* Specimens of calculi in the kidneys (and ureters) are also to be found in Series XI.

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CALCULI OR CONCRETIONS FROM THE DIGESTIVE ORGANS.

Salivary Calculi, 302, 303, 304.
Biliary (pure and impure cholestearine), 382, 385 to 408 inclusive.
Intestinal, 55 (phosphate of lime, and ammonio-magnesian phosphate), 56, (phosphate of lime), 57 to 61 inclusive (ammonio-magnesian phosphate). Nos. 472 to 474 are pieces of money and other objects which have been passed by the bowels. Nos. 461—469 are specimens of hair-balls from the stomachs of cows. Nos. 470 and 471 are calcareous masses from the stomach of a horse and the intestines of a cow.

APPENDIX.

MISCELLANEOUS SPECIMENS.

Calcareous matter from the lung, 378. See also several specimens in Series VII. No. 476 is a fourpenny-piece which was coughed up from the wind-pipe; and No. 475 is a half-sovereign which was recovered from the wind-pipe by the glottis, after the operation of tracheotomy.
connected with the heart, arteries, and veins (phlebolithes). See specimens in Series VI.
connected with the intra-cranial contents. See preparations in Series VIII.
connected with the liver. See preparations in Series IX.
kidneys. ditto. Series XI.

Concretions connected with the peritoneum and peritoneal surfaces of organs, 459. See also Nos. 314 and 335 in Series IX.
connected with the pleural cavities. See No. 67 in Series VII.
uterus and ovaries. See Series XIV.

Instances of diabetic sugar mixed with colouring matter, 409, 410.
Instances of "casts" of urinary calculi, 361 to 372 inclusive, and 449.

* See also Series XII.

1. Large uric acid calculus taken from a bladder, which was very much diseased. *Presented by* Dr. PROUT.

2. }
3. } Uric acid calculi. *Presented by* Dr. PROUT.
4. }

5. Uric acid calculus, rather impure, and probably deposited under the use of alkaline remedies. *Presented by* Dr. PROUT.

6. Uric acid calculus, in different states of purity. The loose, friable part very impure, and probably deposited under the use of alkaline remedies. *Presented by* Dr. PROUT.

7. Calculus, chiefly uric acid throughout. *Presented by* Dr. PROUT.

8. }
9. } Uric acid calculi. *Presented by* Dr. PROUT.
10. }

11. }
12. }
13. }
14. } Uric acid calculi.
15. }
16. }
17. }
18. }

19. Uric acid calculi. (These and six other calculi were probably removed from at least two patients.)

20. Uric acid calculus. The dark part of this calculus was probably formed in the kidney, and the light part afterwards in the bladder.

21. }
22. } Uric acid calculi.
23. }

24. Uric acid calculus. The nucleus of this calculus looks as if it had been formed by pieces which remained in the bladder after the operation of lithotrity.

25. } Uric acid calculi.
26. }

27. Uric acid calculus, showing the tendency to divide into segments.

28. Uric acid calculi.

29. Uric acid calculus, part of a calculus probably formed in the pelvis of the kidney.

30. Uric acid calculi. These calculi look as if they had begun to divide into segments; this may have happened whilst they were in the bladder.

31. }
32. } Uric acid calculi.
33. }

34. Uric acid calculi, most probably from a single patient.

35. Uric acid calculus.

36. Uric acid calculus. The exterior granules contain oxalate of lime.
37. Uric acid calculus, having externally a little fusible deposit.
38. Uric acid calculus.
39. A large uric acid stone, removed by PRESCOTT HEWETT, Esq. from the bladder of a child 9 years of age. James F., admitted December 22nd, 1858, discharged cured January 19th, 1859. See *Mr. Hawkins's Case Book*, Vol. LXVIII., p. 5.
40. Uric acid calculus. *Presented by* CÆSAR HAWKINS, Esq.
41. Renal calculi composed of uric acid, passed by a female out-patient within a period of two years, in great numbers. The patient was relieved by calomel and alkalies, from much pain and illness. *Presented by* CÆSAR HAWKINS, Esq.
42. Uric acid calculus, taken from a Scotchman 45 years of age Examined chemically by Professor Thomson, of Glasgow. *Presented by* T. A. STONE, Esq.
43. Uric acid calculus (Professor Thomson) taken from a native of Paisley, aged 75. *Presented by* T. A. STONE, Esq.
44. Uric acid calculus, with traces of ammonia (Professor Thomson). From a child, a native of Scotland, aged 2 years 11 months. *Presented by* T. A. STONE, Esq.
45. Uric acid calculus (Professor Thomson), extracted by lithotomy weighing 4 ozs. 1 dr. *Presented by* T. A. STONE, Esq.
46. Uric acid stone (Professor Thomson), weighing 2 ozs. 12 grs., extracted from the bladder of a man 59 years of age. *Presented by* T. A. STONE, Esq.
47. Uric acid calculus (Professor Thomson), weighing ʒij. ℈ij., taken from the bladder of a boy 16 years of age. *Presented by* T. A. STONE, Esq.
48. Nine uric acid calculi (Professor Thomson), taken from the bladder of a Scotchman, 72 years of age. *Presented by* T. A. STONE, Esq.
49. Uric acid calculus (Professor Thomson), extracted by Dr. MONTEITH from the bladder of a child 7 years 3 months old, weighing ʒij. gr. x. *Presented by* T. A. STONE, Esq.
50. Large uric acid calculus, successfully extracted by Mr. TATUM.
51. Urate of ammonia calculus.
52. A large urate of ammonia calculus (Professor Thomson). There is a minute nucleus which has a different colour and texture from the mass of the calculus. From a boy 17 years of age. *Presented by* T. A. STONE, Esq.
53. Urate of ammonia calculus obtained from a boy aged 4 (Professor Thomson). *Presented by* T. A. STONE, Esq.
54. Urate of ammonia calculus obtained from a native of Glasgow, 7 years of age. (Professor Thomson.)
55. Phosphate of lime calculus, with animal matter. This appears

to be an intestinal concretion, probably from some animal, or it *may* have been formed in an abscess. This calculus contains also a small quantity of phosphate of ammonia and magnesia. *Presented by* Dr. PROUT.

56. Phosphate of lime calculus, most probably not of urinary origin.

57. Phosphate of ammonia and magnesia calculus. This and the four following calculi are probably not of urinary origin.

58. }
59. } Phosphate of ammonia and magnesia calculi, most likely of
60. } intestinal origin.
61. }

62. Triple phosphate of ammonia and magnesia calculus, hollowed in the centre, as if the calculus had originally been formed as a lining to the infundibulum of a kidney. The kidney contained another calculus, which is described as No. 318. *Presented by* CÆSAR HAWKINS, Esq.

63. Cystic oxide calculus. The central part consists of cystic oxide, having a crystalline and indistinctly-radiating structure, not concentric. More externally, there is lithate of ammonia and oxalate of lime, but no cystic oxide. At the outer surface the white part is crystallised oxalate of lime; the yellow, urate of ammonia and oxalate of lime.

Removed at the Asylum for Recovery of Health, from James R., aged 6¼ years, October 25th, 1828. The patient had suffered for 4 years, the friends having been accustomed to hold him with his head to the ground, to afford relief. He was constantly passing water, with much pinching of the penis; the bowels frequently could not retain the fæces, and he was affected with prolapsus. The operation of extraction lasted 4½ minutes, and was performed with a scalpel. He went on well until November 2nd, except having a cough owing to cold caught in coming up from Cornwall. Tension and tenderness of the abdomen came on, with constipation, quick pulse, hot skin, &c. The pain was relieved by leeches, &c., and under better diet and a little wine the pulse sank from 160 to 80. On the 11th of November the wound had nearly closed, but a small portion of fæcal matter and flatus was observed to pass, and this continued for some days. The wound was healed December 6th, and the health became quite restored. *Presented by* CÆSAR HAWKINS, Esq.

64. }
65. } Uric acid calculi, with urate of ammonia.
66. }

67. Lithic acid calculus containing a little lithate of ammonia, the exterior being of an unusually pale colour. *Presented by* Dr. PROUT.

68.
69. } Uric acid calculi, with urate of ammonia.
70.

71. Urate of ammonia calculus, with oxalate of lime.
72. Fusible calculus.
73. Phosphate of ammonia and magnesia calculus, with a little phosphate of lime. From a boy in the Hospital who had undergone lithotomy elsewhere some years before, a fistula in perinæô having remained afterwards. This stone lay in a cavity in the perinæum, communicating with the bladder, and seemed to slip backwards and forwards between the cavity and the bladder. *Presented by* Sir B. C. BRODIE, Bart.
74. Fusible calculus.
75. Calculus of phosphate and oxalate of lime, varying in their relative quantities in different parts. The striated part contains most oxalate.
76. Phosphate of ammonia and magnesia calculus, with a little phosphate of lime.
77. Carbonate of lime calculus, with phosphate of ammonia and magnesia, probably from the intestine of some animal.
78. Phosphate of lime calculus, with little phosphate of ammonia and magnesia.
79. Phosphate of lime calculus, with a little phosphate of ammonia and magnesia.
80. Fusible calculus, with excess of phosphate of lime.
81. Uric acid calculus, with an incrustation of urate of soda, from a boy $4\frac{1}{2}$ years of age, who lived near Fintry Bay, Scotland. (Professor Thomson.)
82. Uric acid calculus, with an incrustation probably of urate of soda, from a boy 19 years old. (Professor Thomson.) *Presented by* T. A. STONE, Esq.
83. Uric acid calculi, with an incrustation probably of urate of soda, from the bladder of a man 60 years of age, who had a diseased prostate. These are 38 in number, besides some fragments. The calculi are small, rounded in shape, but with flat surfaces, due to natural attrition. (Professor Thomson.) *Presented by* T. A. STONE, Esq.
84. Urate of ammonia calculus, with a nucleus of uric acid, from a boy aged 8, a native of Scotland. (Professor Thomson.) *Presented by* T. A. STONE, Esq.
85. Uric acid and urate of ammonia calculus, from a boy, an inhabitant of Glasgow. (Professor Thomson). There is a small calculus, and a fragment of a larger one. *Presented by* T. A. STONE, Esq.
86. Urate of ammonia calculus, mixed with uric acid, from a native of Glasgow, 4 years of age. (Professor Thomson). *Presented by* T. A. STONE, Esq.

87. Fusible calculus, with a trace of urate of ammonia.
88. Phosphate of ammonia and magnesia calculus, with phosphate of lime and a little urate of ammonia.
89. }
90. }
91. } Urate of ammonia and fusible calculi.
92. }
93. }
94. Fusible calculus, with urate of ammonia.
95. Calculus of urate of ammonia and fusible deposit, in varying proportions.
96. Calculus of urate of ammonia and fusible deposit, in varying proportions.
97. Calculus of urate of ammonia, phosphate of lime, and phosphate of ammonia and magnesia, in varying proportions.
98. Fusible calculus, with urate of ammonia.
99. Phosphate of lime calculus, with oxalate of lime and urate of ammonia.
100. Phosphate of lime calculus, with urate of ammonia and some oxalate of lime, probably from the kidney.
101. Calculus of carbonate, with phosphate, and a little oxalate of lime, probably from some urinary abscess.
102. Urate of ammonia calculus, fusible, and a little oxalate of lime.
103. Fusible calculus, with urate of ammonia and oxalate of lime.
104. Phosphate and oxalate of lime calculi, with a little phosphate of ammonia and magnesia.
105. Phosphate of lime calculus, with phosphate of ammonia and magnesia, and a little urate of ammonia.
106. Phosphate of lime calculus, with phosphate of ammonia and magnesia, and urate of ammonia.
107. Urate of ammonia calculus, with phosphate of ammonia and magnesia, and an excess of phosphate of lime.
108. Phosphate of ammonia and magnesia calculus, with phosphate of lime and urate of ammonia.
109. Uric acid calculus, with urate of ammonia and a little oxalate of lime.
110. Mass of urate of ammonia and fusible calculus, mixed with a quantity of mucus, removed from a cavity in the prostate gland. From the case of Henry C., aged 35. *Presented by* CÆSAR HAWKINS, Esq.
111. Two calculi, vesical and urethral, composed of fusible deposit, with a little urate of ammonia. Removed from John B., aged 55, who was admitted into the Hospital July 23rd, 1838, with effusion of urine of three days' duration, after stricture for 20 years. Incisions were made in the perinæum, scrotum, and penis; and the smaller of the two calculi was extracted from the incision in the

perinæum. The other was also to be felt with the finger, but in the midst of sloughs; it receded through the prostate, and was found in the bladder after the patient's death on the 26th. The bladder was found thickened and fasciculated, and a pouch communicated with the membranous part of the urethra. It seemed as if the smaller calculus had constantly rubbed over the side of the end of the larger one. The ureter and the kidneys were slightly enlarged and diseased. *Presented by* CÆSAR HAWKINS, Esq.

112. Uric acid calculus in several layers, with a covering of urate of ammonia.

113. Uric acid calculus, having an external layer of urate of ammonia. This and two other calculi were extracted from the urethra by Weiss's forceps.

114. Uric acid calculi, having a layer of urate of ammonia externally.

115. Uric acid calculus, having a layer of urate of ammonia externally.

116. Oxalate of lime calculus, with a centre of uric acid.

117. Uric acid calculus, with (externally) a little oxalate of lime.

118. Calculus, interior chiefly uric acid, and exterior urate of ammonia and soda, with uric acid.

119. Uric acid and urate of ammonia calculus, with a small centre of uric acid.

120. Uric acid and urate of ammonia calculus, with a small centre of uric acid.

121. Uric acid and oxalate of lime calculus, with a centre of uric acid.

122. Oxalate of lime and urate of ammonia, with centre of uric acid.

123. Two calculi, one of uric acid with a thin fusible covering; the other having a central mass of urate of ammonia, with spots of uric acid, three layers external to this of uric acid, and an outer covering of fusible deposit.

124. Uric acid calculus, with layer of urate of ammonia, and, externally, phosphate of ammonia and magnesia.

125. Calculus, consisting outwardly of fusible deposit and urate of ammonia, more internally urate of ammonia of a peculiar green colour, and having a uric acid centre. This calculus appears to have been attached to the bladder.

126. Calculus, consisting externally of phosphate of lime, with phosphate of ammonia and magnesia; more internally, of urate of ammonia and uric acid; and, in the centre, of uric acid. It weighs 4 ounces, and was taken from Robert W., aged 68, in the Hospital April 12th, 1832. See *Medical Gazette*, Vol. II. 1831-2, No. 6, p. 206. The patient was going on well 8th of June, 1832.

127. Urate of ammonia and uric acid calculus, with a little oxalate of lime, and an elongated middle of uric acid. This calculus seems to have been formed in a sinus leading to an abscess

into which the urine had access, and out of which it soon passed again. As the calculus increased the sinus became larger.

128. Calculus, consisting of fusible deposit and urate of ammonia externally, with layer of urate of ammonia and oxalate of lime more internally, and a centre of uric acid.

129. Calculus, consisting of uric acid externally, with laminæ of fusible and urate of ammonia more internally, and nodules of uric acid in the centre.

130. Calculus, its exterior composed of oxalate of lime and uric acid; two or three layers of uric acid, one of urate of ammonia, and centre of uric acid.

131. Calculus, having uric acid and oxalate of lime outwardly, then a layer of uric acid, one of urate of ammonia, and uric acid centre.

132. Calculus, consisting of a centre and two laminæ of uric acid, next one of uric acid and urate of ammonia mixed, and externally phosphate of lime.

133. Calculus of mixed phosphates and impure lithic acid. "This calculus seems to have adhered to the bladder, the cementing medium evidently being a thin film of the phosphates. After the adhesion took place (which probably occurred in an inflammatory attack, during which a large portion of earthy matter, as is sometimes the case, was suddenly thrown out by the mucous membrane) the principal deposition was of the phosphates, and on the side exposed. The primary nucleus seems to have been an aggregate of smaller lithic acid masses." *Presented by* Dr. PROUT.

134. Urate of ammonia and fusible calculus, with a layer of uric acid and urate of ammonia internally, and a nucleus of uric acid.

135. A large calculus, of impure phosphate of lime, having a centre of lithic acid; removed from the bladder of Arthur P., aged 8 years, February 3rd, 1859, who was discharged cured, March 30th. See Mr. Hawkins's *Case Book*, Vol. LXVIII., p. 62.

136. Two calculi, of which one is divided. The nucleus is of uric acid, then comes urate of ammonia, and externally phosphate of lime. The calculi were taken from the body of Mr. G. A., and were found embedded behind the prostate.

137. Calculus weighing ʒvij., extracted by Dr. MONTEITH from a patient 40 years of age. The inner part consists of uric acid, the outer dark part of oxalate of lime, tinged probably with blood. (Professor Thomson.) *Presented by* T. A. STONE, Esq.

138. Calculus of uric acid, deposited in laminæ, with centre of urate of ammonia. *Presented by* Dr. PROUT.

139. Calculus, with urate of ammonia nucleus, covered by uric acid.

140. Urate of ammonia calculus, with surrounding layer of oxalate of lime.

141. }
142. } Oxalate of lime calculi, with centre of urate of ammonia.
143. }

144. Urate of ammonia calculus, with a nodulated exterior of oxalate of lime.

145. }
146. } Urate of ammonia calculi, covered by oxalate of lime.
147. }
148. }

149. Urate of ammonia calculus, with exterior of phosphate of lime.

150. Urate of ammonia calculus, with fusible external layer.

151. Urate of ammonia calculus, surrounded by two layers of oxalate of lime and urate of ammonia.

152. Urate of ammonia calculus, enclosed in a covering of oxalate of lime and urate of ammonia.

153. Calculus, with small nucleus of urate of ammonia, embedded in urate of ammonia and oxalate of lime.

154. Calculus, having a centre of urate of ammonia, with externally urate of ammonia and oxalate of lime.

155. Urate of ammonia calculus, with three layers of fusible deposit mixed with urate of ammonia.

156. Calculus, of urate of ammonia, with surrounding portion of urate of ammonia mixed with fusible deposit.

157. Urate of ammonia calculus, with outer layer of fusible deposit and urate of ammonia.

158. Urate of ammonia calculus, with layers of fusible deposit and urate of ammonia.

159. Calculus, having a nucleus of urate of ammonia, enclosed by layers of urate of ammonia, phosphate of lime, and phosphate of ammonia and magnesia.

160. Calculus, having a nucleus of urate of ammonia, with externally urate of ammonia, phosphate of ammonia and magnesia, and oxalate of lime.

161. Urate of ammonia calculus, with layer of fusible and urate of ammonia, and outer portion fusible deposit.

162. Calculus, with urate of ammonia nucleus, enclosed in oxalate of lime, and having an external protuberance of fusible with oxalate of lime.

163. Calculus, comprising a nucleus of urate of ammonia, surrounded by a layer of oxalate of lime, and the whole enclosed with uric acid.

164. Urate of ammonia calculus, with several small layers of oxalate of lime and urate of ammonia, and large outer layer of uric acid.

165. Calculus, with urate of ammonia nucleus, having a nodulated portion of urate of ammonia and oxalate of lime around it, and surrounded by oxalate of lime.

166. Portion of a calculus, comprising a centre of urate of ammonia, more externally two layers of urate of ammonia and oxalate of lime, covered with oxalate of lime.

167. Calculus, with urate of ammonia centre, with oxalate of lime and phosphate of ammonia and magnesia in the outer part.

168. Calculus composed of urate of ammonia in the centre, next in order urate of ammonia and oxalate of lime, then oxalate of lime, with little phosphate. The external crystals consist of oxalate of lime.

169. Calculus, with urate of ammonia centre, surrounded by layers of urate of ammonia and oxalate of lime, and fusible external covering.

170. Calculus, having a centre of urate of ammonia, with surrounding layers containing fusible deposit and oxalate of lime in addition.

171. Calculus, having a large nucleus of urate of ammonia, next a layer of oxalate and phosphate of lime, with urate of ammonia, the outer ring of fusible, with excess of triple phosphates.

172. Calculus, with urate of ammonia centre surrounded by oxalate of lime, then a layer of urate of ammonia and uric acid, and externally uric acid.

173. Calculus, with urate of ammonia centre, then a thick layer of oxalate of lime, and fusible deposit exteriorly. The outer surface contains some oxalate of lime.

174. An elongated calculus, with urate of ammonia centre, next oxalate of lime, then urate of ammonia, fusible deposit, and a little oxalate of lime, with fusible exterior.

175. Urate of ammonia calculus, enclosed by oxalate of lime and urate of ammonia, a layer containing uric acid with much red colouring matter, and a small external portion of oxalate of lime.

176. Calculus, consisting of several laminæ of uric acid and oxalate of lime, with centre of urate of ammonia. Removed after death from Joseph W., who was admitted into the Hospital October 24th, 1838, and died January, 1839. *Presented by* Mr. BABINGTON.

177. Urate of ammonia and oxalate of lime calculus, with fusible outer layer, and a centre of urate of ammonia.

178. Calculus with urate of ammonia centre, then layers of oxalate of lime, urate of ammonia, and fusible in various proportions.

179. Calculus, with nucleus of urate of ammonia, embedded in a mass of oxalate of lime, then uric acid with urate of ammonia, a small layer of oxalate of lime, and large outer layer of uric acid and urate of ammonia. The external white substance is fusible deposit.

180. Calculus, consisting of nucleus and adjoining layer of urate of ammonia and oxalate of lime, then fusible, next oxalate of lime with fusible, and externally oxalate of lime and fusible.

181. Calculus, with urate of ammonia centre surrounded by uric acid; externally phosphate of lime.

182. Calculus, with urate of ammonia centre surrounded by urate of ammonia and oxalate of lime; the apex consists of phosphate of lime, and a little urate of ammonia, and phosphate of ammonia and magnesia.

183. Large dumb-bell shaped calculus, with a nucleus of urate of ammonia, found in a sacculus of the walls of the urinary bladder. It filled the sacculus, and was retained therein by a band of mucous membrane, which ran across the aperture. The specimen was removed from the body of a boy aged 17, who died of acute inflammation of the peritoneum. He had suffered from symptoms of stone in the bladder for 8 years before death, but no stone had been detected by the sound. After death, in addition to indications of recent peritonitis, the right kidney was found very much enlarged. The bladder was small and thickened. *Presented by* Dr. JOHN W. OGLE.

184. Calculus, consisting mainly of urate of ammonia, surrounded by phosphate of lime, and traces of phosphate of magnesia.

185. Calculus, with nucleus of urate of ammonia, then fusible deposit, and urate of ammonia. The calculus was removed from John F., aged 57, from whom fragments (see No. 414) had been removed by lithotrity, performed by Mr. COSTELLO on nine separate occasions within half a year, with temporary benefit. The symptoms having returned, he was admitted into the Hospital June 25th, 1833. The stone appearing small, attempts were made with Sir A. Cooper's forceps to extract it, but it could only be grasped with Sir B. Brodie's. The prostate, however, did not yield, and the stone could not be dislodged, owing to contraction of the bladder. An incision was made upon the forceps in the perinæum, a director passed by their side into the bladder, and a slight incision made in the prostate by a probe-pointed bistoury. The forceps were then easily withdrawn with the stone into the perinæum, the stone dislodged, and the forceps closed and withdrawn through the urethra. This was done July 4th, but was followed in a few days by symptoms of secondary abscesses, of which he died on the 16th. After death, pus was found in the areolar tissue of one finger, and around the humerus, distending the deltoïd muscle, and almost exposing the bone, the periosteum of which was soft and thickened. There was also pus in the shoulder-joint and right knee-joint. The wound in the prostate was contracted and nearly healed, and the tissues around the bladder and prostate quite healthy;

but the wound in the perinæum within the skin was sloughy, and the pus had burrowed for an inch under the 'accelerator urinæ' muscle. The bladder was slightly vascular, and a little thickened; kidneys somewhat vascular, and dark coloured. *Presented by* CÆSAR HAWKINS, Esq.

186. Calculus, composed of urate of ammonia centre, then urate of ammonia with oxalate of lime, then oxalate of lime, phosphates, and urate of ammonia; externally, oxalate of lime. Removed from George S., aged 15, who had been sounded when 10 years old, no stone being detected. He was admitted into the Hospital February 13th, 1833, and Mr. HAWKINS operated on the 21st. There was much laceration, owing to the size and roughness of the stone; and he died on the 23rd. After death, the wound was found sloughy, and the areolar tissue infiltrated with purulent serum, without urine having been effused. Inflammation had extended under the pubis, around the bladder, to the abdominal muscles, but there was no peritonitis. *Presented by* CÆSAR HAWKINS, Esq.

187. Calculus with nucleus of urate of ammonia, externally oxalate of lime. Removed from George S., aged 6 years, June 19th, 1834, who had had symptoms for 5 years. All the urine came by the urethra; and he was pronounced cured July 4th. *Presented by* CÆSAR HAWKINS, Esq.

188. Calculus, comprising a nucleus of urate of ammonia, then uric acid, then phosphates, and urate of ammonia. Removed from James E., aged 6 years, by the lateral operation, July 10th, 1834. The patient had been in the Hospital in May, 1833, with great pain in the bladder and penis, and constant straining, the water often stopping suddenly. At that time no stone could be detected, nor was it found by several who examined him subsequently. Immediately after the operation the symptoms ceased. The urine all came by the urethra on the 22nd. The patient was discharged cured. *Presented by* CÆSAR HAWKINS, Esq.

189. Calculus, with nucleus of urate of ammonia, then urate of ammonia and uric acid, then uric acid, then fusible deposit, and urate of ammonia. Removed from Robert B., aged 14 years, who was supposed to have laboured under the symptoms of stone for 4 years, during which time his father had often refused to allow the operation to be performed. He was admitted into the Hospital July 30th, 1834, and died August 6th, not being in a state for any operation. The calculus almost entirely filled the bladder, the broadest end occupying the loose apex of the bladder, and the narrowest end lying in contact with an ulcer at the cervix.

190. Calculus, with nucleus of urate of ammonia, then the same with oxalate of lime, then urate of ammonia, oxalate of lime, and phosphates, then fusible deposit. Removed from George L.,

aged 7, who was admitted into the Hospital January 27th, 1843, with symptoms of 10 years' duration, the urine being alkaline, and containing much blood. The stone was removed by the lateral operation, February 2nd, and on the third day the urine became acid. The wound was finally healed on March 2nd; but two years later the operation had to be repeated, and another calculus (see No. 360) was removed successfully. *Presented by* CÆSAR HAWKINS, Esq.

191. Calculus, with urate of ammonia nucleus, then a little oxalate of lime, then phosphate of ammonia and magnesia. Removed from William P., aged 5 years, October 7th, 1847.

192. Uric acid calculus, with an unusual quantity of earthy matter, and small nucleus chiefly composed of oxalate of lime. *Presented by* Dr. PROUT.

193. Oxalate of lime calculus, with surrounding portion of oxalate of lime and uric acid; external nodulations also coated with uric acid.

194. Uric acid calculus, with centre of oxalate of lime.

195. Uric acid calculus, with a centre of oxalate of lime.

196. Oxalate of lime calculus, with uric acid externally.

197. Calculus with oxalate of lime nucleus, and urate of ammonia and uric acid externally.

198. An elongated urethral calculus, with fusible deposit, oxalate of lime, and urate of ammonia in the upper part, and nucleus in the base composed of oxalate of lime.

199. Calculus, having a nucleus of oxalate of lime, next a layer of uric acid and urate of ammonia, and covered by uric acid, urate of ammonia, and oxalate of lime.

200. Calculus, with oxalate of lime nucleus, surrounded by uric acid and oxalate of lime, with external cover of urate of ammonia and fusible deposit.

201. Calculus, with oxalate of lime centre, enclosed by a layer of uric acid, then urate of ammonia, covered by fusible with excess of phosphate of lime.

202. Calculus, with oxalate of lime centre, having a layer of uric acid, covered by urate of ammonia and phosphate of lime; externally a little fusible deposit.

203. An irregularly shaped calculus, chiefly urate of ammonia, with uric acid and oxalate of lime, and oxalate of lime nucleus, and at one end fusible deposit. Removed from a boy aged 16, in the Hospital, November, 1816. It was enclosed in a cyst behind the pubes, and was extracted with a portion of the cyst adhering to it. The patient recovered. *Presented by* SIR BENJAMIN BRODIE, Bart.

204. An irregularly shaped triple calculus, the lower part consisting of a nucleus of oxalate of lime, surrounded by several layers of urate of ammonia, oxalate of lime, and phosphate of ammonia and

magnesia; the part above consists of urate of ammonia mixed with fusible.

205. Calculus, with oxalate of lime centre, surrounded by two inner layers of uric acid, and an outer coat of uric acid, with a little oxalate of lime.

206. Oxalate of lime calculus, with oxalate of lime, and phosphate of ammonia and magnesia externally.

207. Calculus, with oxalate of lime nucleus, surrounded by uric acid. Extracted by a pair of dressing forceps, from the urethra of Mr. S., aged about 44 years, October 1st, 1840. The patient was attacked with retention of urine, and the calculus was found lodged in the perinæum, no urine having been passed for twenty-four hours. By straining in a stooping posture, the stone was gradually forced onwards until it was near the orifice, which was dilated with some little force so as to permit the extraction of the stone. No inflammation followed the operation. *Presented by* CÆSAR HAWKINS, Esq.

208. Calculus, with oxalate of lime centre, surrounded by a yellow coat of uric acid, with some phosphate of lime. The outer three coats consisted of phosphate of lime with some uric acid. In the outermost coat however no uric acid could be found. (Professor Thomson.) Extracted by lithotomy from an inhabitant of Glasgow, 40 years of age. *Presented by* T. A. STONE, Esq.

209. Calculus taken from the bladder after death. It is of considerable size, and a flattened oval shape. The nucleus consists of oxalate of lime, the bulk of the calculus being uric acid, and the superficial incrustation urate of soda (Professor Thomson). *Presented by* T. A. STONE, Esq.

210. Calculus, with oxalate of lime nucleus, and a crust of uric acid. (Professor Thomson.) Extracted from a boy 5½ years of age. *Presented by* T. A. STONE, Esq.

211. Calculus, chiefly consisting of oxalate of lime, but with a superficial crust of uric acid. (Professor Thomson.) Extracted during the life of the patient, aged 13 years, by Dr. MONTEITH. *Presented by* T. A. STONE, Esq.

212. Calculus, chiefly consisting of phosphate of lime, having a minute nucleus of oxalate of lime. (Professor Thomson.) Extracted during life from a boy 10 years of age, by Dr. MONTEITH. The stone weighs 2 drachms and 48 grains. *Presented by* T. A. STONE, Esq.

213. Calculus weighing 2 drachms, extracted by Dr. MONTEITH from a boy 6 years 9 months old. It consists of uric acid, with a small nucleus of oxalate of lime.

214. Uric acid calculus, with a centre of urate of ammonia and uric acid.

215. Uric acid calculus, with a little urate of ammonia; externally, a little oxalate of lime.

216. Calculus, with urate of ammonia and uric acid centre, with spicated exterior of oxalate of lime.

217. Calculus, with uric acid and urate of ammonia centre, surrounded by fusible deposit with urate of ammonia.

218. Calculus, with nucleus and surrounding part of urate of ammonia and uric acid; the wider part composed of urate of ammonia and fusible.

219. Urate of ammonia and uric acid calculus, with oxalate of lime, and externally phosphate of lime.

220. Urate of ammonia and uric acid calculus, with surrounding layer of urate of ammonia, uric acid, and oxalate of lime; externally, urate of ammonia and fusible.

221. Calculus, with nucleus of urate of ammonia and a little oxalate of lime, surrounded by impure uric acid, probably deposited under the use of alkaline remedies. *Presented by* Dr. PROUT.

222. Uric acid calculus, with oxalate of lime and urate of ammonia in the centre. This calculus presents a remarkable instance of the fact sometimes met with, that calculi after their formation become partly dissolved. The structure evidently shows that the calculus, at some period before its extraction, presented a more regular form, and that subsequently a part of the laminæ on each side had broken off. *Presented by* Dr. PROUT.

223. Urate of ammonia and oxalate of lime calculus, with covering of oxalate of lime.

224. Calculus, the centre consisting of oxalate of lime with urate of ammonia, enclosed in layers of oxalate of lime.

225. Calculus, with a nucleus of urate of ammonia and oxalate of lime, with spicated exterior of oxalate of lime.

226. Calculus, with a nucleus of urate of ammonia and oxalate of lime, surrounded by a layer of phosphate of lime.

227. An irregularly shaped calculus, having a nucleus of urate of ammonia and oxalate of lime, surrounded by oxalate of lime and urate of ammonia.

228. Calculus, with nucleus of urate of ammonia and oxalate of lime, and external layer of oxalate and phosphate of lime. 'Cut by Mr. NOURSE, at St. Bartholomew's Hospital. The small stones came away through the wound.' This memorandum is in Mr. Hunter's handwriting, and it refers to some small calculi in his Museum, and to the other half of this calculus. See A.i. 1 in the *Catalogue of the Museum of the College of Surgeons*. This calculus is marked A.i 1. An analysis differing from the above is given. Dr. BENCE JONES re-examined this half, and found the nucleus to contain more urate of ammonia, and less oxalate of lime, than the next layer does.

229. Calculus, containing urate of ammonia and oxalate of lime in various proportions, forming the nucleus, the outer layer consisting of mixed phosphates principally, with urate of ammonia. *Presented by* Dr. PROUT.

230. Oxalate of lime and urate of ammonia calculus, with oxalate of lime and fusible deposit covering.

231. Calculus, with urate of ammonia and oxalate of lime centre, with thick covering of uric acid, urate of ammonia, and oxalate of lime.

232. Calculus, with nucleus formed of urate of ammonia and oxalate of lime, enclosed in a mixture of urate of ammonia, with oxalate and phosphate of lime.

233. Calculus, composed of urate of ammonia and oxalate of lime, encircled by a layer of fusible, urate of ammonia, and oxalate of lime. This calculus is mentioned in 'Brodie's Lectures on the Urinary Organs,' ed. 1835, p. 218.

234. Large calculus, having a nucleus of oxalate of lime and urate of ammonia, covered by layers of phosphate and carbonate of lime, with a little fusible and oxalate of lime.

235. Urate of ammonia and oxalate of lime calculus, having urate of ammonia and uric acid externally.

236. Calculus, consisting of a nucleus of urate of ammonia and oxalate of lime, next a layer of urate of ammonia, and nodulated exterior of oxalate of lime.

237. Pyramid shaped calculus, containing a nucleus of oxalate of lime and urate of ammonia, then a layer of oxalate of lime, and outwardly oxalate of lime and urate of ammonia.

238. Oxalate of lime and urate of ammonia calculus, with surrounding uneven layer of oxalate of lime, and an external covering of urate of ammonia and oxalate of lime.

239. Calculus, having a nucleus of urate of ammonia and oxalate of lime, next oxalate of lime; the external coat contains a little fusible.

240. Calculus, with urate of ammonia and oxalate of lime centre, then a thick layer of oxalate of lime; the exterior covering being fusible deposit.

241. Oxalate of lime calculus, the nucleus composed of oxalate of lime and urate of ammonia, with small section fusible.

242. Calculus, having a centre composed of urate of ammonia and oxalate of lime, with an irregular shaped covering of oxalate and phosphate of lime.

243. Very large calculus, comprising a nucleus of urate of ammonia with oxalate of lime probably formed before puberty; this is surrounded by a mixture of oxalate of lime in different degrees of purity, and gradually passing to uric acid; the whole enclosed by an extensive exterior of uric acid, with some oxalate of lime, and perhaps a little urate of ammonia.

This is rather an unusual variety of calculus; the external portion in particular has a composition which is very rarely met with in such quantity. *Presented by* Dr. PROUT.

244. Urate of ammonia and oxalate of lime calculus, with surrounding portion of oxalate of lime, and an outer covering of fusible deposit with urate of ammonia.

245. Calculus, with a centre composed of oxalate of lime and urate of ammonia, then a layer of oxalate of lime, and an outer section of fusible, urate of ammonia, and oxalate of lime.

246. Urate of ammonia and oxalate of lime calculus, the centre enclosed by a layer of urate of ammonia and uric acid, and a small section of fusible externally.

247. Calculus, having a centre of urate of ammonia and oxalate of lime, but the mass consisting of uric acid and a little oxalate of lime.

248. Calculus, consisting of several layers, the centre and adjoining one of urate of ammonia with a little oxalate of lime, the next two of fusible deposit with urate of ammonia, the external covering being phosphate and oxalate of lime.

249. Calculus, with urate of ammonia and oxalate of lime centre, then a coat of oxalate of lime and urate of ammonia, with a small prominence of fusible deposit externally.

250. Calculus, partly nodulated, the centre consisting of oxalate of lime with urate of ammonia, enclosed by a layer of oxalate of lime, then oxalate of lime with urate of ammonia, the whole surrounded by a mass of oxalate of lime, having at its lower part a collection of fusible, with urate of ammonia and oxalate of lime.

251. An irregularly shaped calculus, the nucleus composed of oxalate and phosphate of lime, invested by urate and phosphate of ammonia and magnesia, with fusible deposit, and externally a little fusible.

252. A broken calculus, of a spherical shape, the central portion composed of fusible deposit, and the exterior composed of phosphate of lime with a little phosphate of ammonia and magnesia. This calculus appears to have had the nucleus suddenly broken, after which a deposit of phosphate of lime extending to the outside appears to have taken place. The interval between the points described as broken, was probably never filled up, and judging from the polish on the external surface some substance (possibly another calculus) has probably been in contact with it.

253. Laminated calculus, having a nucleus of oxalate and phosphate of lime, the outer layers of phosphate of ammonia and magnesia, with a little phosphate of lime and urate of ammonia. This calculus seems to have been in the bladder until the time when the deposit on the side of the centre took place; then

the greater part of the calculus must have been protected from the action of the urine, probably from its becoming encysted. When the deposit at the lower part took place, more of the calculus was exposed.

254. Calculus, having oxalate of lime and phosphate of ammonia and magnesia in the centre, with a small portion of fusible deposit, and an external coat formed of phosphate of ammonia and magnesia, and phosphate of lime.

255. Small urate of ammonia and fusible calculus, with a covering of fusible deposit. This and twelve others were probably removed from the same patient.

256. Six calculi, having a nucleus of urate of ammonia, phosphate of ammonia and magnesia, and phosphate of lime, and an outer coat of urate of ammonia, phosphate of ammonia and magnesia. These calculi have the same composition; many of them were removed from the same patient.

257. Laminated calculus, having a nucleus of urate of ammonia and a little fusible deposit, next urate of ammonia, then fusible with urate of ammonia. This calculus, when very small, appears to have been adherent to the mucous membrane.

258. Calculus, with a centre of phosphate of lime, and a little phosphate of ammonia and magnesia, and urate of ammonia, with an outer layer of phosphate of lime, and phosphate of ammonia and magnesia.

259. Calculus, nearly spherical in shape, the nucleus containing a congeries of a mixed character, consisting of oxalate, carbonate, and phosphates; surrounded by a similar mass, but in a more compact state, and in different proportions; then a layer more like the nucleus, and phosphates predominating; and outwardly a layer of mixed phosphates. The character of this calculus is rather unusual, and probably was produced by the injudicious use of alkaline remedies. It probably also has suffered some change from keeping. *Presented by* Dr. PROUT.

260. Calculi, slightly pyramidal in form, the nucleus composed of urate of ammonia with fusible deposit, then a layer of fusible with urate of ammonia, next a very small portion of urate of ammonia, enclosed by a covering of fusible with urate of ammonia. These calculi were probably removed from the same bladder.

261. Nodulated calculus, with centre of oxalate and phosphate of lime, and urate of ammonia; the external surface phosphate of lime.

262. Small elongated calculus, the centre composed of fusible with excess of phosphate of ammonia and magnesia, with a covering of fusible.

263. Calculus, with the nucleus of urate of ammonia, and a little oxalate of lime, and phosphate of ammonia and magnesia, covered by phosphate of ammonia and magnesia.

264. Laminated calculus, having a centre of phosphate of ammonia and magnesia, with a little carbonate and oxalate of lime, two adjoining layers of fusible deposit with urate of ammonia, and an external layer of fusible.

265. Calculus, with a centre of fusible and carbonate of lime, covered by phosphate and carbonate of lime.

266. Laminated calculus, the nucleus composed of fusible with carbonate of lime, surrounded by two layers of fusible with a little oxalate of lime and urate of ammonia; and having a large mass attached at one side composed of oxalate of lime, fusible, and urate of ammonia.

267. Calculus, having a nucleus of urate of ammonia, with oxalate of lime and films of phosphates, invested by a thick covering of uric acid, with mixed phosphates externally. *Presented by* Dr. PROUT.

268. Spherical calculus, the central portion consisting of a loose congeries, chiefly of uric acid, impure, and variously combined and mixed with a little of the phosphates, probably the result of the abuse of alkaline remedies. The outer coat contains uric acid of an unusually red colour. *Presented by* Dr. PROUT.

269. Calculus, similar in all respects to the preceding. *Presented by* Dr. PROUT.

270. Calculus, comprising a nucleus and adjoining layer of urate of ammonia with uric acid, then urate of ammonia, phosphate of lime, and a little phosphate of ammonia and magnesia, the outer wall being phosphate of lime.

271. Calculus, consisting of a nucleus and several layers of oxalate of lime and urate of ammonia, with surrounding layers of oxalate of lime, unusually pale coloured.

272. Calculus, having a nucleus of oxalate of lime and urate of ammonia, surrounded by phosphate of lime. Removed by lithotomy, July 1st, 1852, from William B., of Teffant, aged 7 years. Symptoms had existed for one year. The patient quite recovered. *Presented by* T. TATUM, Esq.

273. Calculus having a nucleus of urate of ammonia, oxalate of lime, and a little phosphate of lime; then traces of urate of ammonia, phosphate of lime, and phosphate of magnesia, and ammonia; externally, slight urate of ammonia, very little oxalate of lime, and phosphate of lime, and phosphate of magnesia, and ammonia. Sent from India, towards the close of 1854, by Dr. DUKA.

274. Large calculus, with nodulated central part of oxalate of lime and slight phosphate of lime; surrounded by phosphate of lime, magnesia, and ammonia.

275. Laminated calculus, the nucleus consisting of phosphate of lime, and phosphate of magnesia, and ammonia; the remainder

the same in varying proportions. *Presented by* CÆSAR HAWKINS, Esq.

276. Calculus, with a nucleus consisting of urate of ammonia with a little oxalate of lime, surrounded by oxalate of lime; externally, urate of ammonia, oxalate and phosphate of lime. Removed by lithotomy from Raymond W., aged 14, October 26th, 1848. The patient recovered. *Presented by* CÆSAR HAWKINS, Esq.

277. Calculus, having a nucleus of urate of ammonia and oxalate of lime, then the same with fusible, then fusible and urate of ammonia. *Presented by* CÆSAR HAWKINS, Esq.

278. Calculus, with a nucleus of fusible and urate of ammonia; the body of the calculus consists of the same substances in varying proportions. *Presented by* CÆSAR HAWKINS, Esq.

279. Calculus, comprising a nucleus of urate of ammonia and a little oxalate of lime, then much oxalate of lime and a little urate of ammonia; externally the same. Removed by lithotomy from George F., May 15th, 1845, who quite recovered. *Presented by* CÆSAR HAWKINS, Esq.

280. Oval calculus, having a nucleus of phosphate of magnesia and ammonia, with phosphate of lime; surrounded by the same material with traces of oxalate of lime. It weighed when dry, 2ozs. 3dr. 10gr. Removed from George C. *Presented by* CÆSAR HAWKINS, Esq.

281. Calculus, having a nucleus of urate of ammonia, uric acid, and a little oxalate of lime; surrounded by urate of ammonia and fusible; and this again by fusible. Removed by the lateral operation from John P., aged 19. He had had a kick from a horse on the penis, with hæmorrhage, and three months afterwards experienced difficulty in passing water, and he appeared to have repeatedly suffered from inflammation of the bladder, with discharge of mucus. About two years before admission he twice had abscess in the perinæum, when he was sounded, but no stone was found in the bladder. When admitted into the Hospital, February 3rd, 1837, there was no impediment to the catheter, but the urethral passage was narrow. He passed water ten or twelve times in the day, and had occasional pain in the back. The urine was albuminous, and highly alkaline, containing a little vesical mucus. The tongue was loaded, and the boy looked generally much out of health. The operation was performed March 1st. Some hæmorrhage occurred an hour afterwards from the side of the perinæum, and a vessel was tied. On the next day inflammation of the left testis and spermatic cord came on, followed by suppuration and abscess about the inguinal canal; this was opened on the 26th by excision through the external oblique muscle, the purulent matter not appearing to come from within the pelvis. He continued very low and weak, but the wound nearly healed. He was suddenly seized with prostration of strength without

stupor on the 30th, and died in a few hours, thirty days after the operation.

On *Post Mortem Examination* the wound was found contracted to a mere sinus. The pus was found to run along the whole passage from the testis to the inside of the psoas muscle and pelvis, about half an inch below the iliac vein, the remainder of the vas deferens being healthy. Where the pus lay in the inguinal canal, the omentum adhered to the peritoneum and fascia, so as to block up one or two small openings, found when it was torn away, but no other peritonitis existed. Both kidneys were very diseased; the right was very small, with an enlarged pelvis and infundibulum, and was the seat of several abscesses containing foul purulent fluid. The left was less diseased, but was soft and brittle, and vascular, with yellow deposits, raising the surface of the organ in many parts. The infundibula also contained pus. *Presented by* CÆSAR HAWKINS, Esq.

282. Calculus, containing a nucleus of urate of ammonia and a little oxalate of lime; then uric acid, surrounded by urate of ammonia, and traces of oxalate of lime. Removed by the lateral operation August 7th, 1834, from Matthew W., aged 4 years; symptoms had existed since November, 1833. The urine all passed by the catheter on the 31st of the month. The patient quite recovered. *Presented by* CÆSAR HAWKINS, Esq.

283. Calculus, with a central part of urate of ammonia and traces of phosphates, externally urate of ammonia, and traces of phosphate of lime and magnesia. *Presented by* CÆSAR HAWKINS, Esq.

284. Calculus, consisting of a mixture of about one part of carbonate of lime, and two parts of phosphate, an extremely rare variety. Removed from an inhabitant of Argyleshire. (Professor THOMSON.) *Presented by* T. A. STONE, Esq.

285. Calculus, weighing ℈ iv. gr. xix., taken from the bladder of a man 32 years of age, an inhabitant of Strathaven, by Dr. MONTEITH. The nucleus consists of phosphate of lime, with crystals of triple phosphate of lime and magnesia visible in a strong light; the outer layers of uric acid. (Professor THOMSON.) *Presented by* T. A. STONE, Esq.

286. Calculus taken from the bladder of an inhabitant of Cambuslang, 21 years of age. It weighs ʒiij. gr. xiij. The nucleus is phosphate of lime, the crust uric acid. (Professor THOMSON.) *Presented by* T. A. STONE, Esq.

287. Calculus, having a nucleus which consists of a portion of wax candle introduced into the bladder two years previous to the removal of the stone; the outer coat consists of about equal parts of phosphate and carbonate of lime. Removed by SIR BENJAMIN BRODIE. *Presented by* Dr. PROUT.

288. Small calculus, having a nucleus of fibrin, urate of ammonia, and a little oxalate of lime; then a layer of uric acid; externally, uric acid and oxalate of lime.

289. Two small laminated calculi, the centre composed of urate of ammonia and colouring matter of the blood; next a layer of uric acid and oxalate of lime; surrounded by oxalate, carbonate, and phosphate of lime. These two, and a third undivided, were perhaps removed from the same bladder.

290. Elongated calculus, having a nucleus composed of a nut-shell, surrounded by fusible deposit with excess of phosphate of lime; and an external coat of fusible deposit with excess of phosphate of ammonia and magnesia. For an account of this calculus, see 'Wilson on the Urinary Organs,' ed. 1821, p. 182; also 'Brodie on the Urinary Organs,' ed. 1835, p. 209.

291. Portions of phosphatic deposit, surrounding a number of hairs which had found their way into the bladder, from an ovarian cyst which had burst therein. The specimens were passed at three different times, viz., in January, in April, and in May, 1848.

292. Calculus, composed of uric acid and urate of ammonia internally, and outwardly of uric acid; the nucleus is wanting.

293. Uric acid calculus, not having any nucleus.

294. Calculus of a squarish shape, having urate of ammonia and oxalate of lime in the interior, and externally oxalate of lime with traces of phosphates. The nucleus is wanting.

295. Three renal calculi. The external surface consists of phosphate of lime and urate of ammonia.

296. Five renal calculi. Their external surface is composed of phosphate of lime, urate of ammonia, and oxalate of lime. The nucleus in one was of urate of ammonia.

297. Six renal calculi. The external surface consists of phosphate of lime, with urate of ammonia, and a little phosphate of ammonia and magnesia. The nucleus of one which was divided, consisted of oxalate of lime.

298. Oxalate of lime calculus, spiculated on its surface.

299. Calculus of phosphate of lime, with some triple phosphate; removed from the diseased bladder of General S., a patient of Sir B. Brodie. *Presented by* Dr. Prout.

300. Calculi, with external surface of urate of ammonia, phosphate of lime, and phosphate of ammonia and magnesia; the nucleus probably urate of ammonia. From their form, many more must have been in the bladder.

301. Calculus from the urethra, consisting of uric acid.

302. Calculus of phosphate of lime, with a little phosphate of ammonia and magnesia. This calculus had formed in the sublingual duct, but was not noticed by the patient until the day

preceding the operation by which it was removed. One extremity of the calculus was exposed, which led the patient to suppose that 'a tooth had bolted up from the bottom of his mouth.' It was removed without trouble, and the patient was well in two days.

303. Salivary calculi, consisting of phosphate of lime, with a little phosphate of ammonia and magnesia.

304. Two salivary calculi.

305. A calculus removed from the bladder of a lady, after dilatation of the urethra. It was removed, without much trouble, after the dilator had been kept in the urethra for about three hours. The lady ultimately suffered no inconvenience about the urethra. *Presented by* Mr. GODSON.

306. A small calculus which was lodged in the urethra of a boy 8 years of age, near the back part of the scrotum. An incision was made on it in this situation, but it slipped back into the bladder, so that lithotomy became necessary. The patient, George L., was under the care of Mr. PRESCOTT HEWETT; the operation was performed on February 8th, 1855; and he did well. See *Surgical Case Book*, 1855, p. 179.

307. Two round uric acid calculi, removed from William W, aged 8 years. Three stones were found at the operation, but the third is wanting The facets formed by their contact are very plainly seen. The patient made a good recovery. *Presented by* PRESCOTT HEWETT, Esq.

308. A calculus of very large size, weighing 3 ounces, 4 drams, 2 scruples, extracted from the bladder by lithotomy. The patient, an elderly gentleman, had spent a great part of his life in India. He had not suffered from symptoms of stone (at least, of sufficient severity to make him apply for advice) more than six weeks. The calculus, as will be seen, has several projecting portions, which were broken off at the time of the operation, and have been gummed on. It was conjectured that they had been received, or impacted between the fibres of the bladder; for, after the first sounding, the stone appeared to become dislodged, and very acute pain was produced, probably from the irritation of these prominences. The operation was necessarily very difficult and protracted, as the stone could hardly be got between the rami of the pubes, consequently the parts were much injured. The patient died. *Presented by* T. TATUM, Esq.

309. A calculus of large size, extracted from the female bladder. The woman was under the care of Mr. POLLOCK, and had vesico-vaginal fistula, but the calculus was of too great a size to pass through the opening; it was extracted by dilating the urethra only, without incision. The dilatation occupied about a quarter of an hour.

310. Small undivided calculus from the kidney, consisting of oxalate of lime, phosphate of lime, and traces of phosphate of magnesia.

311. Calculus, of phosphate of magnesia and ammonia, very little phosphate of lime, and urate of ammonia.

312. Small urethral calculus of urates and a small quantity of phosphates.

313. Calculus from the kidney, composed of phosphate of lime, and traces of phosphate of magnesia and oxalate of lime.

314. A peculiarly shaped calculus, consisting of phosphate of lime and phosphate of magnesia.

315. Calculus, of which the innermost part consists of urate of ammonia, more outwardly of the same with traces of phosphates, and superficially of urate of ammonia, with phosphates and traces of urate of soda.

316. Nearly spherical calculus, consisting of urate of ammonia and phosphate of lime, with traces of oxalate of lime and phosphate of magnesia.

317. Small calculus, externally composed of oxalate of lime. Removed July 31st, 1834, by the lateral operation, from Thomas C., aged 5. He had had symptoms of stone for two years, and was in the Hospital in December 1832, when the calculus was distinctly felt and heard by Mr. HAWKINS in the bladder, though not by others who examined the boy, and he was removed to his friends. After the operation of lithotomy the water was much retained, so that he could not do without the catheter in the wound until August 12th. All the urine passed by the urethra on the 14th, and the patient was perfectly cured. *Presented by* CÆSAR HAWKINS, Esq.

318. Large renal calculus, composed externally of triple phosphates, with slight traces of phosphate of lime. It filled the pelvis, and several infundibula of one kidney. In addition, was a smaller calculus (see Specimen 62), in an infundibulum by itself. *Presented by* CÆSAR HAWKINS, Esq.

319. Three renal calculi, removed after death from the body of Robert H., of whose history the details are given in connection with the description of the calculus (see 490) which was removed from the bladder by operation during life. Of these renal calculi, two were of about two inches long, branching into the infundibula; one projected into the ureter, and was smoother than the rest. These two consist externally of phosphate of ammonia and magnesia, with a little phosphate of lime; and the left kidney, from the pelvis of which these two calculi were removed, was greatly inflamed and distended. One of the cavities within it extended to the surface of the organ, and by an ulcerated opening of its capsule communicated with an abscess containing above a pint of pus, situated chiefly in the

left hypochondrium, but extending across the spine so as to touch the other kidney. The third renal calculus, having a central nucleus an inch broad, with small infundibular projections, was found in the right kidney, which was softened and inflamed, and to this was attached a long portion of calculus, without any nucleus, extending into the ureter. This additional portion of calculus was found to be composed of triple phosphates, with some phosphate of lime. The bladder was thickened and inflamed, and in the left side of the prostate was an oblong depression about half an inch deep, formed either by the wound of lithotomy, or by the remains of the cavity believed after the operation to exist in the gland. The patient, after the last account of his history given in connection with the calculus removed by lithotomy, had passed a lithic acid calculus, and had had much pain in the back (chiefly left side), and vomiting, and was re-admitted (for the third time) November 20th, 1834, having three days previously been attacked with bilious vomiting, much pain in the left side of the back, and great depression. The sickness was constantly produced if he turned on to the left side, and there was much abdominal tenderness. The urine was pale and alkaline, containing pus and renal mucus, and was passed with much pain. Death came on without any stupor. *Presented by* CÆSAR HAWKINS, Esq.

320. Calculus from the urethra, consisting externally of phosphate of ammonia and magnesia, with urate of ammonia and oxalate of lime. Removed from Pollard T., aged 33, who, having had a stricture for six years, was affected suddenly whilst in bed with retention of urine. He was admitted into the Hospital June 27th, 1834, with 'effusion of urine.' The sloughs went on separating well, but he was seized with erysipelas of a mild kind. This was followed by sickness, diarrhœa, tenderness of the abdomen, and weakness, and he died July 8th. On *Post Mortem Examination* the urethra was found entirely destroyed for several inches. The bladder was much thickened and reticulated, and full of dark, thick, bloody urine. The ureters were much thickened, inflamed, and partly obstructed, and both kidneys were distended by dark, coffee-ground like, semi-fluid material. The infundibula of the right kidney were coated by thick yellow lymph. The calculus was removed from the sloughs in the scrotum four days before death. *Presented by* CÆSAR HAWKINS, Esq.

321. Two calculi from the urethra, of about the size of peas, consisting externally of urate of ammonia. They were removed from William M., aged $3\frac{1}{2}$ years, who was brought into the Hospital October 16th, 1839, with the calculi impacted in the tube, no symptoms having been observed until three weeks previously.

All attempts at extraction failing, Mr. HAWKINS cut down upon them October 25th, and removed them through the wound. A catheter was left in the bladder, but was pulled out by the child a few days afterwards; in consequence, some chronic abscesses formed, but these eventually got quite well.

322. Calculus consisting of oxalate of lime externally. *Presented by* CÆSAR HAWKINS, Esq.

323. Calculus removed by lithotomy from Edward A., aged 7 years. May 31st, 1849. The patient recovered. *Presented by* CÆSAR HAWKINS, Esq.

324. Calculus removed by lithotomy from J. F., aged 11 years, January 12th, 1860. The patient recovered. *Presented by* CÆSAR HAWKINS, Esq.

325. Renal calculi, composed externally of phosphate of ammonia and magnesia, with traces of phosphate of lime. Removed by lithotomy from William G., aged 17 months, August 14th, 1851. *Presented by* CÆSAR HAWKINS, Esq.

326. Two calculi, passed by the urethra November 7th, 1847, with slight dilatation, by Samson Y., aged 2 years; the symptoms had existed for 1½ years. *Presented by* CÆSAR HAWKINS, Esq.

327. Oxalate of lime calculus, removed by lithotomy, September, 1862, from a gentleman 67 years of age. The calculus was lodged at the upper part of the bladder, and was not detected without difficulty. Much mucus was discharged from the bladder. The great irritability of the bladder, and the pains occasioned by passing a catheter, prevented the operation of lithotrity. The patient recovered.

328. Four small fibrinous calculi. 'The concretion is of a very rare kind; it is composed of nearly pure fibrin, and is the fibrinous calculus of Dr. MARCET. Of this no instance has ever come to my knowledge, except that specimen described by Dr. MARCET, which I saw, and this clearly resembles it, except that it is of a deeper colour. By drying it has become brittle, and has separated into several parts. I presume this sort of concretion, if it deserve the name, is produced from blood effused somewhere into the urinary system, but probably under some peculiar circumstances, otherwise it would occur more frequently.' *Presented*, with the above description, *by* Dr. PROUT.

329. Eight calculi, consisting of the mixed phosphates.

330. Calculi composed of triple phosphate, having hairs for their nuclei.

331. Many small round calculi, chiefly composed of uric acid.

332. Uric acid calculi, which have divided into fragments.

333. Many small oval calculi; the specimen examined consisted of uric acid.

334. Twenty calculi extracted from the bladder by lithotomy. *Presented by* SIR B. C. BRODIE, Bart.

335. Two small calculi consisting of the mixed phosphates.

336. Seven oblong calculi consisting of uric acid and urate of ammonia.

337. Three small calculi, two of them from the urethra; externally, composed of uric acid and urate of ammonia.

338. Small uric acid and oxalate of lime calculus voided from the kidney with great pain, owing to a fall two years before.

339. Calculus from the urethra composed of urate of ammonia and oxalate of lime. This calculus was extracted by incision from that part of the urethra near the root of the glans, in a boy 4 months old. It had totally obstructed the passage of the urine. The child's bladder was very greatly distended, and his life was in much danger. He was instantly relieved by the operation, and the wound soon healed. The prepuce and whole cellular membrane of the penis, to above the pubes, were distended with water, so as to render it impossible to come at the orifice of the glans penis. The whole together had the appearance of an oblong bag of water, but this went off three or four days after the operation. He soon got well.

340. Calculus, chiefly composed of carbonate of lime, from the prostate of the bladder.

341. Prostatic calculi probably composed of phosphate of lime with a little oxalate of lime.

342. Prostatic calculi, composed of phosphate and a little oxalate of lime. *Presented by* Sir B. C. Brodie, Bart.

343. Small brown highly polished calculus, consisting of phosphate and oxalate of lime.

344. Numberless small hemp-seed calculi, consisting of uric acid, urate of ammonia, and oxalate of lime.

345. Hemp-seed calculi; the specimen examined was composed chiefly of uric acid, with a little alkaline urate, and oxalate of lime externally; probably all the calculi were similar in composition.

346. Many irregular small urate of ammonia, uric acid, and oxalate of lime calculi. *Presented by* Sir B. C. Brodie, Bart.

347. Fourteen clay coloured calculi, composed of uric acid and oxalate of lime.

348. Small bodies of black matter, examined by Dr. Prout, who wrote the following letter about them to Sir Benjamin Brodie: 'I know not what name to give to the substance of which the black calculi you sent me consist; it is allied to the colouring matter of the blood, also to the pigmentum nigrum of the eye, to the black matter of melanosis, to the black matter of cuttle fish and various other principles found in animals of a similar nature. It consists principally of carbon, probably combined with azote. I have often seen it in the urine in small quantities, but never have seen concretions formed of

it before as far as I recollect. There is some doubt whether the concretions be not formed in a cyst in which the black matter has been deposited. Some of these concretions, when divided, shew a distinct nucleus with concentric laminæ deposited round them. I thought this might consist in part of the oxalate of lime, but I have not been able, on account of the minute quantity obtained, to satisfy myself on this point, or indeed whether they contain any substance usually constituting urinary calculi. When burnt, they leave a small quantity of white ash, which principally consists of the phosphate and carbonate of lime. A remarkable property they possess, in common with some of the forms of the principles above alluded to, viz., that in the act of drying they spontaneously split into fragments having a shiny jetty lustre, and which mineralogists call a "fracture."' Nov. 23rd, 1840. *Presented by* SIR B. C. BRODIE, Bart.

349. Urinary sediment, chiefly uric acid and urate of ammonia.

350. Urinary sediment, chiefly triple phosphate, and some alkaline urate.

351. The same.

352. Urinary sediment, principally triple phosphate.

353. Urinary sediment of phosphates, the triple predominating.

354. The same, with urate of ammonia.

355. Sand containing uric acid and urate of ammonia.

356. Fragments of calculi composed of uric acid, with some phosphate of lime.

357. Shell of a large calculus, consisting of phosphate of lime, and a little phosphate of ammonia and magnesia.

358. Fragments of a large calculus, consisting of fusible and urate of ammonia.

359. Fragments consisting of phosphate of ammonia and magnesia.

360. Fragments of a calculus removed by lithotomy, Feb. 12th, 1845, from the same patient (George L.) as the calculus No. 190. The nucleus of this calculus consisted of crystals of phosphate of ammonia and magnesia, so very loosely united as to crumble with the least touch into the fragments forming the specimen. Around these crystals a hard firm shell of urate of ammonia, with some triple phosphates, had been deposited; this shell held together the nucleus, and consisted of different layers easily separable. The operation followed two years after the first operation described in connection with the specimen No. 190, and was entirely successful. *Presented by* CÆSAR HAWKINS, Esq.

361. Casts of a large fusible calculus. The stone was removed by Mr. KERSWALL, of St. Germain's, Cornwall, in 1835, from a patient 27 years of age, who perfectly recovered, except that when the bladder contained above a pint

of urine, it escaped through a small sinus through the rectum. It weighs 12 ozs. *Presented by* R. KEATE, Esq.

362. Apparently a cast of a large uric acid calculus.
363. A cast of a calculus.
364. The same.
365. The same.
366. A cast of a fusible calculus.
367. The same.
368. Cast probably of uric acid calculus.
369. Cast of an oxalate of lime calculus.
370. A similar cast.
371. Cast of a calculus.
372. Cast of a renal calculus.
373. Portion of sealing-wax which broke in the bladder, and was removed by an operation by Mr. KEATE.
374. A piece of brick introduced into the urethra of a boy who pretended to pass calculi.
375. Pieces of quartz, probably substitutes for urinary calculi.
376. A piece of bougie, around which a collection of calculous matter has formed, together with some pieces of stone which appear to have formed after the lodgment of the bougie in the bladder. The piece of bougie was entire when extracted, but has since accidentally got broken in two. Removed from Joseph E., aged 52, who had been accustomed to pass an instrument for himself for 15 years; he was unaware of having at any time broken it into the bladder. The operation of lithotomy was performed on August 2nd, 1855, and he recovered rapidly. See Mr. CÆSAR HAWKINS' *Surgical Case Book*, 1855, p. 817.
377. A hair-pin, encrusted with phosphatic deposit, extracted from the bladder of a young woman, aged 17, by Mr. CÆSAR HAWKINS. It had been in the bladder 4 months. The operation consisted in making a small incision into the upper wall of the urethra, and dilating it by means of the urethra dilators and the finger. The pin, which was firmly adherent to the bladder, came out in two pieces. The operation was performed on January 20th, 1853, and she was discharged on February 22nd, being then able to retain her water for 3 hours.
378. A calculous concretion from the lung of a phthisical patient. *Presented by* H. LEE, Esq.
379. Portion of a gum bougie, broken into the bladder, and extracted by the operation of lithotomy. The patient, a man aged 36, was admitted into the Hospital April 10th, 1858, with a sharp attack of inflammation of the bladder. It was not till after the partial subsidence of this attack that its cause was clearly discovered. The patient recovered well.
380. The neck of a phial, and its cork, both encrusted with calcareous

matter, together with fragments of a large friable calculus of similar formation. These fragments were removed, partly from the vagina, partly from the bladder, of a woman aged 29, in July, 1854. It appeared that the bottle had been passed up the vagina 11 years previously; ulceration of the vagina into the bladder had been the result, and a permanent vesico-vaginal fistula of large size was left.

381. A glass tube encrusted with phosphates, which had been passed down the urethra 3 years before its removal, and was extracted from the bladder by the usual operation of lithotomy. The patient, a lad of about 20 years, made a rapid recovery. (Two glass tubes, similar to the one which was passed into the bladder, are placed with the preparation; they were used for holding pencil leads.)

382. Tray containing several biliary calculi.

383 Catheter, encrusted with phosphates, owing to having been left for about four days in the bladder containing highly alkaline urine. *Presented by* CÆSAR HAWKINS, Esq.

384. Portions of hair found in the urine of a man day after day.

385. Cholestearine biliary calculi, coloured in parts by the brown colouring matter of the bile.

386. Impure cholestearine biliary calculus.

387. Impure cholestearine biliary calculus, external surface very pure.

388.
389. } Impure cholestearine biliary calculi.
390.

391. Four impure cholestearine calculi, probably from one patient.

392. Many impure cholestearine calculi, from one patient.

393. A very large number of impure cholestearine calculi, taken, after death, from one patient.

394. A reddish-brown biliary calculus, which had stopped up the opening of the common bile duct. It consists chiefly of altered biliary matter, combined with soda and a little cholestearine. In the gall bladder also there were two small green calculi consisting of biliary matter.

395. Small dark green biliary calculi, consisting of altered biliary matter. These and the red calculus marked II have the same chemical reactions.

396. Biliary calculi of cholestearine, obstructing and dilating the extremity of the common bile duct.

397. A mass of biliary calculi aggregated together. For the history of the case and post mortem appearances, see *Red Book*, 1852, p. 151.

398. Five specimens of biliary calculi.

399. Large specimen of very pure cholestearine biliary calculus.

400. Large oval specimen of biliary calculus.

401. Tray containing a large number of small biliary calculi of various sizes and colours.

402. Specimen consisting of a portion of the liver, with the gall-bladder exceedingly large, and almost filled with light colored gall-stones of variable size and shape. They nearly all possess numerous 'facettes,' evidently the result of mutual pressure, and in places, their surfaces, instead of being almost white, are of a brown colour, and have the appearance as if the outer white surface had been worn away, allowing the interior to become visible. This appearance was, however, in reality, owing to the irregular staining of the biliary calculi by the colouring matter of the bile. The gall duct and the biliary duct of the liver are dissected out, and are scarcely if at all enlarged in calibre. *Presented by* CÆSAR HAWKINS, Esq.

403. Specimen consisting of a small gall-bladder, quite full of gall-stones of very large dimensions and with very sharp angles, and forming a mass almost equal in size to a walnut. When recent, no bile was found within the gall-bladder, and the common bile-duct of the liver was quite pervious. The patient died of disease totally unconnected with the liver. *Presented by* CÆSAR HAWKINS, Esq.

404. Six specimens of biliary calculi removed from the gall-bladder. Most of them are somewhat nodulated on their surfaces, which present traces of mutual compression, and one of them has been fractured, showing the dark colour of its interior, the surfaces being almost white. *Presented by* CÆSAR HAWKINS, Esq.

405. Specimen showing biliary calculi within the gall-bladder, the cystic duct, and the common bile-duct of the liver. The several calculi which existed within the gall-bladder are seen at the bottom of the bottle; but one impacted in the commencement of the cystic duct is well seen in sitû. The walls of the gall-bladder are much thickened, and the calibre of the various bile-ducts increased, their coats being thickened. The liver was enlarged and congested, as was also the uterus. The kidneys were healthy.

The specimen was removed from the body of a lady, who for four years had been subject to attacks of jaundice, and had had severe pain in the epigastrium, and vomiting, etc. On two occasions she had passed gall-stones. Excessive pain, with great depression of the circulation, preceded death. *Presented by* W. POTTER, Esq.

406. Specimen of a gall-bladder, full of large brown-coloured biliary calculi, of very large size, and polygonal in shape. The coats of the gall-bladder, as also of the various ducts, etc., were in a natural condition. No history connected with the biliary

concretions existed, the patient having died of some affection totally apart from the presence of such bodies.

407. Specimen showing a very large number of polyhedral light coloured biliary calculi, obstructing and greatly dilating the 'ductus communis choledochus.' The dilated duct, with the contained calculi, form a body having much the shape of the gall-bladder.

408. Specimen consisting of an aggregated mass of small biliary calculi, adherent by means of dried mucus. This collection of gall-stones of an oval shape was found in the midst of an ulcerated cavity within the substance of the liver, and has very much the appearance of having been formed within the gall-bladder, the walls of which had been destroyed by ulceration affecting them from without. For a fuller description, and details, etc., see description of the liver, No. 292, Series IX.

409. Specimen of diabetic sugar, with some colouring matter.

410. Specimen of diabetic sugar. *Presented by* Dr. MACLEOD.

411. Three whole calculi, principally composed of uric acid, and the fragments of a fourth, removed from the bladder of Richard H., who died a week after the operation of lithotrity, of pyæmia, as it was supposed. The operation of lithotomy was recommended, but the patient would not submit to it. For details of this case, see *Red Book*, 1857, p. 31.

412. Three fragments of calculi, from the bladder of an elderly gentleman who had been operated upon for lithotrity, with considerable relief at first to the symptoms; as, however, these returned, he was again sounded, and the stone felt, but it was found impossible to catch it. After repeated attempts, he was advised to submit to lithotomy, but declined, and finally died exhausted by his sufferings. At the *Post-Mortem Examination*, four fragments of stone (of which these are three) were found impacted behind a very projecting third lobe of the prostate. The organs were otherwise healthy.

413. Calculus, and several smaller fragments. Of the larger one, the innermost part consisted of urate of ammonia, and traces of phosphates; the outermost of urate of ammonia, and a large quantity of the phosphates.

414. Fragments of a calculus broken down by the operation of lithotrity, which was performed nine times in the course of half a year, by Mr. COSTELLO. The case is related in full in connection with the calculus No. 185. *Presented by* CÆSAR HAWKINS, Esq.

415. Fragments of a calculus, most probably the result of lithotrity. *Presented by* CÆSAR HAWKINS, Esq.

416. Large calculus, with several fragments broken from it by lithotrity. The patient, William D., aged 57, died of suppuration in the kidney 15 days after the operation, which was but once performed. For further particulars, see *Post Mortem and Case Book*, 1862, p. 305.

417. Large calculus, removed from the female bladder, by dilatation of the urethra. The patient had vesico-vaginal fistula, but the stone was too large to pass by the opening. *Presented by* G. D. POLLOCK, Esq.

418. A number of small prostatic calculi, found to consist of phosphate of lime, with slight traces of oxalate of lime. From the prostate of a man who laboured for some years from enlarged prostate gland and suppression of urine. *Presented by* Sir B. C. BRODIE, Bart.

419. Fragments of a very large calculus, removed by lithotomy from a sacculated bladder. One portion of the calculus occupied the situation of the prostate gland; the urethra here was enormously dilated, and the substance of the prostate gland had in a great measure disappeared. The calculus could not be grasped entire by the forceps, and was broken up and removed piecemeal. The fragments collected were repeatedly washed; those that remained weighed ʒxxxj. grs. xvj. and being of a light material displaced ʒxvij. grs. xxxiij. of water. See *Path. Soc. Trans.*, Vol. XIII, p. 134. *Presented by* H. LEE, Esq.

420. Calculus removed by lithotomy from a woman; the nucleus is a piece of cork. *Presented by* H. LEE, Esq.

421. Calculus removed by lithotomy from a boy aged 10. *Presented by* H. LEE, Esq.

422. Calculus of urate of ammonia, with a thin paler crust of lithic acid; removed from a boy in the Hospital, 1861.

423. Oxalate of lime calculus, removed from a boy in the Hospital, 1861.

424. Oxalate of lime calculus, removed by lithotrity from a patient 74 years of age. *Presented by* H. LEE, Esq.

425. Portion of a small calculus, removed by a lithotrite from the urethra. The portion preserved has an impression of the openings of the ejaculatory ducts. Before the operation, the patient had always great pain upon sexual intercourse; after the operation he said he "was a man again." *Presented by* H. LEE, Esq.

426. Portion of a calculus removed from the urethra by a scoop, after the operation of lithrotrity. *Presented by* H. LEE, Esq.

427. An oxalate of lime calculus, which was successfully removed by lithotomy.

428. Two calculi removed from a man in the Hospital, October 1st, 1863.

429. An oxalate of lime calculus, removed from the urethra of a boy in the Hospital, October, 1863.

430. Calculus removed from the bladder of a boy between 2 and 3 years old, June, 1864. *Presented by* H. LEE, Esq.

431. Calculus removed from the urethra of a gentleman, June 20th, 1864. Judging from the symptoms, the calculus had apparently remained there 18 months; it had lodged in the urethra at a point corresponding to the anterior part of the scrotum. *Presented by* H. LEE, Esq.

432. A vesical calculus, which weighed 5 ozs. 120 grs., with two smaller ones. The larger stone has been cut in two; it shews a centre of uric acid, with a large quantity of phosphatic deposit around it in layers, more or less diversified with uric acid. At one part of the section the lines indicate that there has been a depression, which has become permanently filled up by two smaller calculi that have been embedded in the larger one. One of the smaller ones has been cut open, and resembles the larger one in structure. They were removed after death from the bladder of a boy who died in the Hospital at the age of 17. Symptoms of stone had lasted as long as he could remember. The immediate cause of death was peritonitis, which had been produced by perforation of the bladder owing to the pressure of the stone. See *Post Mortem and Case Book*, 1864, p. 70; also Lecture by Dr. BENCE JONES, reported in the *Medical Times* for April 1st, 1865.

433. A calculus consisting of alternate deposits of uric acid and phosphates. It weighed, when entire, more than $2\frac{3}{4}$ ozs. This was taken after death from the bladder of a gentleman who had for 7 years suffered from paraplegia, which was apparently of "reflex" origin. The spinal cord proved to be softened. There was an abscess in the left kidney, and the left ureter, which was greatly dilated, showed three distinct cicatrices, indicating that the calculus had been lodged therein. See *Path. Soc. Trans.*, Vol. XV., p. 10. *Presented by* Dr. JOHN W. OGLE.

434. Three smooth spheroïdal stones, taken after death from the bladder of a man who died in the Hospital at the age of 64 years. He was, at the time of his death, undergoing dilatation of a stricture from which he suffered, preparatory to lithotrity. On *Post Mortem Examination*, inflammation of the bladder, and scattered points of suppuration in one kidney, were found. The heart was fatty. The stones have not been cut, but they apparently consist of uric acid, with a superficial coating of phosphates. See *Post Mortem and Case Book*, 1863, p. 242.

435. A calculus successfully extracted by lithotomy, from a boy 12 years of age. It was examined chemically by the late Dr. HARVEY, and found to contain a nucleus consisting of oxalate of lime mixed with uric acid; the

outer part consisting of phosphate of lime mixed with uric acid. *Presented by* Cæsar Hawkins, Esq.

436. Three elongated calculi, one of which weighs 6 grains. Passed by the urethra shortly after attacks which were regarded as depending upon the passage of a calculus down the ureter. *Presented by* Dr. J. A. Wilson.

437. A small calculus removed from the urethra by an incision in the median line of the perinæum. The patient, a boy, had been cut for stone some years previously. The calculus was very moveable in the urethra, and had been cut down upon a fortnight before without success, as it slipped backwards into the bladder.

438. A large ovoïd calculus, from a case in which lithotrity was attempted. The patient was a man 59 years of age, who had suffered from symptoms of stone in the bladder for 2½ years. An attempt was made to crush the calculus, which, from the sound produced, was believed to have succeeded. The cause of death was peritonitis. The calculus gives no evidence of having been broken or chipped. See *Post Mortem and Case Book*, 1865, p. 17.

439. A small round calculus, rather larger than a pea, which was passed with much pain from the bladder of a female child 18 months old. There had been a discharge and much irritation of the vulva previously.

440. Two irregularly shaped calculi which were removed from the urethra of a boy aged 4 years. The smaller was half an inch from the orifice, the larger one about two inches. *Presented by* H. C. Johnson, Esq.

441. Three small calculi removed from the urethra of a child. The largest had stuck behind the meatus, the others came away of themselves. *Presented by* G. D. Pollock, Esq.

442. Three rather large rounded calculi, which came from the urethra of a male child aged 3 years. One lodged just behind the meatus, and produced retention; it was removed. Another passed of itself a few days afterwards. The third lodged in the prostatic part of the urethra, was pushed back into the bladder, and thence was passed naturally. *Presented by* G. D. Pollock, Esq.

443. Two calculi of flat oval figures, removed from the body after death, consisting of alternating layers of urate of ammonia and phosphate of lime.

444. A large egg-shaped calculus, tuberculated on its surface, consisting principally of alternate layers of uric acid and phosphate of lime. No ammonia could be detected.

445. An oxalate of lime calculus, containing a considerable quantity of uric acid, but consisting principally of lime, in combination with oxalic, and probably phosphoric acids.

446. A small kidney-shaped calculus, having an indentation on one extremity, as if it had been partially contained in the urethra. Its outer surface is brownish in colour, and covered with sparkling crystals. The nucleus of this calculus is nearly pure urate of ammonia, and the outer part consists of the earthy phosphates.

447. Several calculi removed from the bladder after death, consisting principally of uric acid in combination with ammonia, and also some laminæ of phosphate of lime.

448. Two calculi composed of earthy phosphates, one from the urethra, the other from the bladder. It appears from the section of the calculus taken from the urethra, that the nucleus having escaped from the bladder, accumulated only, or at least, principally, on the extremity nearest the bladder. This calculus split into several pieces directly the saw touched it, owing, apparently, to the irregularity of its laminæ.

449. An oval calculus, with a cast. The calculus contains a considerable quantity of urate of ammonia, but consists principally of the phosphate of lime and triple phosphate of magnesia. It fuses readily before the blow-pipe. In the black paper accompanying the specimen is a fused portion of the calculus, and a crystal produced by precipitating the phosphoric acid in combination with lead, and fusing the precipitate, which gives the polyhedrous garnet crystal:—1, the fused portion; 2, the garnet.

450. A small round flat calculus, granulated on its surface. The nucleus is harder and more compact than the rest of the stone, and appears to consist of nearly pure uric acid and ammonia; its outer and looser texture, which is not laminated, consists principally of the earthy phosphates, but contains traces of uric acid. Before the blow-pipe it leaves a white powder, which is alkaline (lime).

451. A small oval calculus, removed without forceps, consisting of alternate layers of uric acid and the phosphate of lime.

452. A round calculus, of a reddish-brown colour, its external surface being tuberculated and covered with fine sparkling crystals. Its outer layer is crystalline, and is composed of the triple phosphates. The laminæ between this crystalline layer and the clay-coloured nucleus consist of nearly pure phosphate of lime, while the nucleus is composed of urate of ammonia.

453. A small round flat calculus, consisting principally of urate of ammonia, alternating with the phosphate of lime.

454. A small round, flat, and smooth calculus, resembling the last, but containing a greater proportion of the urate of ammonia.

455. A large flat, rather rough, oval calculus, covered with small sparkling crystals. The nucleus consists principally of urate of ammonia, but contains some traces of lime. The remaining

part is formed by alternate layers of uric acid and phosphate of lime; the outer white layer contains uric acid, but consists principally of the mixed phosphate, and fuses readily before the blow-pipe.

456. A small oval calculus, rather rough on its external surface; weighing 28 grs. Removed by lateral operation with the bistourie caché. This calculus consists of uric acid, ammonia, and oxalate of lime. Before the blow-pipe it decrepitates, and a considerable portion is volatilized, while the residuum undergoes imperfect fusion when the heat is strongly urged.

457. Fusible calculi, taken from the bladder after death.

458. Two calculi from the same patient, removed by lateral operation (the smaller one was wedged in the urethra), consisting of uric acid nucleus, with alternating layers, in which uric acid, urate of ammonia, and oxalate of lime are detected.

459. Round and hard pea-like body of fibrinous material, found lying loosely in the peritoneal cavity of a patient. *Presented by* Dr. JOHN W. OGLE.

460. Large branched calculus, removed after death from the pelvis of the kidney.

461. Large hair ball, flattened, and measuring about eight inches in circumference; most likely from the stomach of a cow.

462—469 (inclusive), specimens of the same nature, but of different sizes and shapes.

470. Half of a solid and laminated calcareous rounded mass, of the size of a billiard ball, having as a nucleus a piece of iron; supposed to have been found in the stomach of a horse.

471. A considerable portion of a large angular mass of calcareous matter; from the intestines of a cow.

472. Tray containing several pieces of money, which, having been swallowed, passed by the rectum.

473. Specimen of a child's plaything, which was swallowed, and passed by the rectum. *Presented by* H. LEE, Esq.

474. A half-crown piece, which was stated to have been passed by the bowels, after having been retained seven months. *Presented by* Dr. NAIRNE.

475. A half-sovereign which the late Mr. Brunel, the Engineer, whilst playing with his children, dropped into his wind-pipe, and which was recovered by tilting the body with the feet upwards, a process by which the coin was allowed to roll out through the glottis, an artificial opening having been previously made into the trachea by SIR BENJAMIN BRODIE. The accident occurred April 3rd, 1843. Mr. Brunel himself, on his own responsibility, attempted to obtain the removal of the coin by the expedient of lying on his face, and inclining his head and neck downwards. This caused the sensation as of a loose body existing in the trachea, followed by a violent cough; and on his resuming

the erect posture, he again had the sensation as of a loose body moving in the trachea towards the chest. Subsequently the experiment was tried in a more complete manner, the patient being fixed on a moveable platform, and the upper part of the body tilted downwards. As no good result followed, the experiment was repeated, but on this occasion with the effect of inducing much cough and alarming symptoms of choking. On the 27th, the opening before mentioned was made in the trachea, partly with the view of extracting the coin from within the trachea by forceps, and partly in order that by the opening, spasm of the glottis and impending suffocation might be prevented, in case the experiment of inverting the body should be again resorted to. Fruitless attempts were then made to find the coin by means of the forceps, and repeated on the 2nd of May, with similar want of success, much distress being produced. On the 13th of May the patient was again inverted on the platform, and brought into the same position as formerly; the back being struck by the hand, 'two or three efforts to cough followed, and presently he felt the coin quit the bronchus, striking almost immediately afterwards against the incisor teeth of the upper jaw, and then dropping out of the mouth; a small quantity of blood drawn into the trachea from the granulations of the external wound, being ejected at the same time. No spasm took place in the muscles of the glottis, nor was there any of that inconvenience or distress which had caused no small degree of alarm on the former occasion.' On the 20th of May the patient had sufficiently recovered to be able to go for a change of air into the country, and in two weeks more the wound was quite healed. Mr. C. HAWKINS had an opportunity of examining the body after death, and found that the wound in the trachea had perfectly united, and that no disease of the lungs existed. For further details of the case, see Mr. CHARLES HAWKINS' Edition of Sir BENJAMIN BRODIE'S Works, Vol. III., p. 124. *Presented by* Sir B. BRODIE, Bart.

476. A fourpenny-piece, which was taken into the wind-pipe, and after giving rise to serious symptoms, was spontaneously coughed out. *Presented by* PRESCOTT HEWETT, Esq.

477. Half of a large oval calculus, removed from the bladder, the nucleus being a small well-defined oxalate of lime calculus, round which the phosphates have accumulated, making up the rest of the specimen. The patient died after the operation of lithotomy. *Presented by* CHARLES HAWKINS, Esq.

478. Calculus removed after death from the *pelvis of the kidney*, encrusted by phosphatic deposit, as if it had been lodged in the bladder. The pelvis of the other kidney also contained a calculus. None existed in the urinary bladder. A number of gall-stones were found in the gall-bladder. Removed from

the body of a lady between 70 and 80 years of age, who only suffered occasionally from pain over the kidneys, and passed blood in the urine. *Presented by* CHARLES HAWKINS, Esq.

479. Two large foliaceous masses of phosphatic concretion, removed after death from the inner surface of the bladder, whose coats were free from any irritation. For further details as to this case, see the *London Medical Gazette*, Vol. XXVI. (New Series, Vol. II.) for the year 1840, p. 283. *Presented by* CHARLES HAWKINS, Esq.

480. Fragments of a calculus, the result of lithotrity (weighing half an ounce and 10 grains). *Presented by* T. TATUM, Esq.

481. Long oval calculus (externally consisting of phosphates), extracted from the bladder of a boy in the Hospital, about 14 years of age. *Presented by* T. TATUM, Esq.

482. Small oval calculus, with sides somewhat flattened, extracted from the bladder of a boy $3\frac{1}{2}$ years old, in the year 1842. *Presented by* T. TATUM, Esq.

483. Oval calculus, of about the size of half a pea, taken from inside the prepuce of a child affected by phymosis. *Presented by* T. TATUM, Esq.

484. Dark-coloured oval calculus, with roughened surface, extracted from the bladder of J. H., a patient in the Hospital in the year 1849. *Presented by* T. TATUM, Esq.

485. Dark-coloured calculus of the size of a horse-bean, extracted from the bladder of H. H., aged 10, a patient in the Hospital in the year 1847. *Presented by* T. TATUM, Esq.

486. Small dark coloured smooth calculus, removed from the bladder of a boy aged $2\frac{1}{2}$ years, in 1846. *Presented by* T. TATUM, Esq.

487. Elongated irregularly-shaped calculus, removed from the urethra of a child. *Presented by* T. TATUM, Esq.

488. Small dark-coloured roughened calculus, removed from the bladder. *Presented by* T. TATUM, Esq.

489. Oxalate of lime calculus, weighing 11 scruples. Removed by the operation of lithotomy from Robert H., aged 24, who had suffered from symptoms of stone since he was 2 years of age, but more for the last month before admission into the Hospital in July, 1829. At that time he was voiding purulent urine, and a catheter when passed was obstructed in a cavity in the prostate gland, from which blood and pus were evacuated, but which contained no calculus; from this cavity the catheter passed into the bladder. The patient was very weak, and out of health, having occasional rigors and sleepless nights. Under treatment he much improved, and pus ceased to come away in the urine. The operation was performed at the end of August, and for some days he went on well, until rigors set in, and much sabulous matter and pus again passed by the

urine, and swelling of the testicle came on. Abdominal distension supervened, and the wound, which was nearly healed, was re-opened by the efforts of straining resulting from constipation and sickness. He obtained relief from the use of opium, wine, ammonia, etc., and in January, 1830, his health was quite restored, but he had passed one or two small uric acid calculi. He left the Hospital, but again returned in October, 1831, having had symptoms of calculus in the ureter. He subsequently died, and calculi were found in the kidney, as described previously (see Preparation 319 in this Series). *Presented by* CÆSAR HAWKINS, Esq.

END OF SERIES XIX.

SERIES XX.

ENTOZOA FROM VARIOUS PARTS OF THE BODY.

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Tænia solium, 1, 2, 16, 17, 18.*
Tænia mediocanellata, 19.
Bothriocephalus latus, 3, 4.†
Oxyuris vermicularis (common thread worm), 10.
Ascaris lumbricoïdes, 4, 5, 6, 7, 8, 9.‡
Dracunculus Medinensis, or Guinea-worm 12, 13, 14.
Acephalocyst Hydatids, 15.

1. Specimen of tænia solium from the human intestines. *Presented by* CÆSAR HAWKINS, Esq.
2. Ditto ditto ditto
3. Specimen of the bothriocephalus latus.
4. Specimen of the ascaris lumbricoïdes. *Presented by* CÆSAR HAWKINS, Esq.
5. Ditto ditto *Presented by* J. A. STONE, Esq.
6. Ditto ditto *Presented by the same.*
7. Ditto ditto *Presented by the same.*
8. Ditto ditto *Presented by* Dr. JOHN W. OGLE.
9. Ditto ditto *Presented by the same.*
10. Specimens of the common thread-worm, or oxyuris vermicularis.
11. Specimens of various kinds of insects said to have been passed from the human intestines. *Presented by* J. A. STONE, Esq.
12. Specimen of the dracunculus Medinensis, or guinea-worm. *Presented by* CÆSAR HAWKINS, Esq.
13. Portions of a guinea-worm, removed from the leg of a woman in the Hospital in 1824. She had been in India 15 years before, and attributed the presence of the worms, which appeared in various parts of the body, to the water drunk from a tank whilst in India. Great relief was obtained by gradually winding out that part of the animal which protruded daily; but happening to break it, violent pain and swelling of the

* See also Series IX, Nos. 183, 184. † See also Series IX, Nos. 189, 190
‡ See also Series IX, Nos. 185 to 188 inclusive.

leg came on, until an abscess formed, by which the animal was again protruded.

14. Specimen of a guinea-worm, removed from the fore-arm of a Sepoy soldier in the year 1855, by P. O'Brien, Esq.

15. Specimens of acephalocyst hydatids, removed from the substance of the heart. They were found in the areolar tissue surrounding the base of the organ, about the under-surface of the arch of the aorta, etc. None communicated with the interior of the aorta. The cavity of the pericardium was entirely destroyed by adhesions. The heart's cavities were much dilated, their walls thin and flaccid: the valves natural. The lungs were healthy, but old pleural adhesions existed.

The specimen was removed from the body of a man aged 39, who, rather more than five years before death suffered from pain in the left side of the chest, and two years later had some kind of a 'fit,' followed by vomiting. He subsequently had several other such attacks. The sounds of the heart were always found natural. In the early part of the year 1862 he suffered from palpitation of the heart; and later on, from a numbness and cold sensation, with pain, in the left arm. He was attacked by a fit, followed by loss of power in the right side, and he died shortly afterwards. After death, there were found softening of the left corpus striatum, and plugging up by fibrinous coagulum of the left anterior cerebral artery. For further details, see the *Medical Times and Gazette*, November 26th, 1864, p. 565. *Presented by* Dr. John W. Ogle.

16. Specimen of a large portion of a tænia solium, with the head. Found in the intestine after death. *Presented by* Dr. Dickinson.

17. Specimen showing the head of the tænia solium. *Presented by* Dr. John W. Ogle.

18. Specimen showing the head of the tænia solium. *Presented by* Dr. John W. Ogle.

19. Specimen showing the head of the tænia mediocancellata. *Presented by* Dr. John W. Ogle.

The three previous specimens were removed, from different patients, under the influence of the liquid extract of male fern.

Other specimens of Entozoa from the Intestines are described in the Series devoted to Diseases of those Organs; see Series IX Nos. 180 to 191 inclusive.

For descriptions of Entozoa in the Bones, Lungs, Liver, Peritoneum, Kidneys, Bladder, Spleen, Uterine Organs, Breast, see the various Series devoted to Diseases of those several Organs.

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SERIES XXI.

DRAWINGS.

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SIR BENJAMIN BRODIE'S COLLECTION.

THE following Drawings were the property of the late Sir BENJAMIN BRODIE. They were presented to the Museum by his son, Sir B. BRODIE.

Some of them had a short description written on the back by Sir B. BRODIE. In these cases the description has been transcribed, and is placed between inverted commas. Others had a reference to the 'Treatise on Diseases of Joints,' or to Sir Benjamin's 'Clinical Note Book,' or a name written on the drawing has served as a clue to

some published history. Wherever possible an abstract of the case has been obtained from these sources. Many of the drawings to which no description or reference was attached, have been identified by comparison with preparations in the Museum. When the case has been given in some other part of the catalogue it has been judged sufficient to refer to the account. The references to Sir B. BRODIE's 'Diseases of the Joints,' are to the 5th edition, which will be found in the Museum.

1. "Disease, apparently chronic inflammation, commencing in the bone." This represents a section of the os calcis. There is a dark patch in the cancellous tissue surrounded by vascularity.
2. A section of the upper end of the tibia showing increased vascularity of the bone, with many dark patches apparently representing suppuration.
3. "Dead bone of the lower extremity of the tibia in a state of exfoliation. The articular surface is deprived of cartilage." This is taken from Preparation 72, Series III. The case is given in the 'Diseases of the Joints,' p. 221, case 49.

   Geo. C., aged 22, was admitted with a hard swelling of the lower end of the tibia, with redness of the foot and ankle. He experienced great pain in the part, and was frequently aroused from sleep by startings of the limb. The ankle could be moved freely and without pain. The symptoms had come on suddenly eight months before. While in the Hospital an abscess broke just above the ankle, and pus was afterwards found in the joint. The limb was amputated. On dissection a large conical sequestrum was found in the lower end of the tibia, involving part of the articular surface. The separation was complete everywhere, except at the lower end. The joint contained pus.
4. A vertical section of the humerus. The bone is carious; the cartilage ulcerated; and the lower part of the canal occupied by lymph. The details of the case have been obtained from Sir B. BRODIE's 'Clinical Book,' Vol. V. p. 232.

   James S., aged 19, was admitted, having the shoulder-joint nearly immoveable, and surrounded by sinuses; the arm was wasted. The symptoms had come on gradually after a blow on the shoulders. Suppuration took place in the joint apparently in consequence of violence used by a bone-setter. The limb was amputated through the shoulder-joint by Sir B. BRODIE. The exposed parts of the scapula proved to be carious, as well as the humerus, but it was not thought advisable to remove them. The patient became well enough to leave the Hospital. When he was last seen, there were some sinuses connected with the joint.
5. A section of the head of the femur, infiltrated with tubercular

matter, and with the cartilage partially destroyed. This is believed to represent the right hip, while the next drawing,

6. Represents the left hip of a patient whose case is recorded by Sir B. BRODIE.

It will be seen that there were no symptoms referred during life to the left hip-joint (No. 6).

Captain D. while mounting his horse had acute pains in the right hip, which occasionally recurred. Two years afterwards the pain became constant, and was at times most severe, and accompanied with a spasmodic action in the muscles of the thigh. A year later a fluctuating tumour appeared in the front of the thigh, and in a few months more he died of phthisis. At the post mortem it was found that the bones of the right hip were carious, and the cartilages destroyed. The bone was soft and contained yellow tubercle. There was a collection of pus in the neighbouring muscles, and some of the glands were enlarged; some were so situated as to stretch some of the lumbar nerves.

The left hip was also examined, though no symptoms had been referred to it during life. The bone was vascular, and a yellow cheesy substance had been deposited in the cancelli. The cartilages and membranes were natural. See 'Diseases of Joints,' p. 120, case 31.

7. Drawing of the head of a femur affected by chronic rheumatic arthritis.

8. A section of a foot, of which the bones are affected by strumous disease. The drawing is evidently taken from Preparation 77, Series III., where the history of the case may be seen.

9. Three views of the astragalus apparently affected with caries. Some of the cartilaginous surfaces have become ulcerated.

10. "Diseased and softened condition of the bones. Cartilage beginning to ulcerate on the surface towards the bones. Cartilage completely destroyed in part so as to form a small aperture leading to the bones."

The knee-joint has been laid open, so as to display the surface of the femur; a small hole can be seen through the cartilage, covering the outer condyle. The synovial membrane is unduly vascular in places.

11. "Ulceration of cartilages." The drawing represents the knee-joint laid open, with much injection of the synovial membrane, and with ulceration of the cartilage, covering the femur and patella.

12. "Ulceration of cartilage from inflammation of synovial membrane." The drawing represents a knee-joint laid open. There are deep furrows upon the cartilage covering the femur and patella. The drawing has been found to correspond with Preparation 29, Series III.

13. "Ulcerated cartilages of the knee cicatrized." The knee-joint laid open, displaying many furrows and irregularities on the cartilages covering the femur and patella. This has evidently been taken from Preparation 58, Series III., where the history of the case is reported.
14. "Ulceration of cartilages" of knee-joint.
15. "Ulceration of the cartilage of the hip." The drawing is in pencil, and is not very characteristic. It appears to have been taken from the hip-joint of a girl whose case is recorded in the 'Diseases of the Joints,' p. 176. This patient died in the Hospital at the age of 7 years, while apparently recovering from disease of the left hip. At the *Post Mortem Examination* the joint of the opposite side to which no symptoms had been referred during life, was found to contain half a drachm of pus, while the cartilage was partially absorbed, and the bone slightly carious. It is believed that it is to this joint that the drawing refers.
16. A knee-joint laid open, displaying large patches of ulceration of the cartilages. The case from which this drawing was taken is recorded in the 'Diseases of the Joints,' p. 186.

    The particulars are as follow:—Sarah H., aged 22, was admitted into the Hospital with a diffused swelling, extending from the upper part of the right thigh to a little below the knee. It was elastic and tense, but not red. There was much pain aggravated by pressure or movement. There was much constitutional disturbance. These symptoms had come on without any precursory rigor on the day before her admission, after rheumatic pains which had lasted for a month. After having been under treatment for nearly three months, with fluctuating results, she sank and died. At the *Post Mortem Examination* it was found that the cartilages of all the bones which go to form the joint had become ulcerated. The bones were vascular and the periosteum loosened.
17. "Scrofulous disease of bone. Miss H. Amputated August, 1832." The drawing displays a knee-joint laid open. The cartilage has disappeared from the femur in many places, showing the bone underneath rough and vascular.
18. A section of the same joint which has been represented in the preceding drawing. The bones are highly vasculated internally.
19. "Ulceration of cartilages" of elbow-joint. The joint has been laid open, so as to expose the surfaces of the three bones the cartilages covering each of which is extensively ulcerated.
20. "Ankylosis of the hip joint after scrofulous disease, from a patient who died in the Hospital." The drawing represents a section through the femur and acetabulum; the cancellou

tissue of both bones is clearly seen with a line of union at their junction. The drawing has been taken from Preparation 96, Series III., where the history of the case is given.

21. Represents the head of the left femur in a carious and highly vascular state, with two depressions in the osseous surface of the cartilage covering it. The latter has been partially dissected off, so as to show the condition of its inner surface, and of the bone beneath. The drawing was taken from a patient named Ellen M'M, who had died in the Hospital. The case is given in the 'Diseases of Joints,' p. 103. She died at the age of 8 years. There had been symptoms of disease of the right hip-joint for between two and three months. The foot had been everted and there had been pain in the joint extending down the thigh, increased by motion or by pressure of the bones together. There were no symptoms referred to the left. The patient died of tubercular disease of the brain while under treatment for the joint. The bones of both hips contained yellow substance in the cancellous tissue. The cartilages and other structures belonging to the right hip had been extensively destroyed; in the left hip, from which the drawing has been taken, the bones were soft and vascular, the cartilage easily detached from the femur, and in two spots the cartilage has become ulcerated on the attached surface, while the surface towards the joint is entire.

22. Caries of the hip-joint. The femur hangs loose from the acetabulum, showing the roughened state of both surfaces.

23. "Scrofulous disease of the hip, with ulceration of the cartilages, dislocation of the head of the femur, and partial obliteration of the acetabulum." From Mary M'Q., aged 5, who died in the Hospital under the care of Sir B. Brodie, March 1839. The Preparation from which this drawing and the next was taken, is catalogued 86, Series III., where the history is fully given. The case is also reported in the 'Diseases of the Joints,' p. 106, case 30.

The drawing represents the left femur and innominate bones, and shows their relative positions. The head of the femur has been dislocated, and rests on the anterior edge of the ilium, and the upper margin of the acetabulum. The cavity of the acetabulum is partially occupied by fibrous tissue.

24. Taken from the same case as the preceding; it represents the same joint, with a section made into the head of the femur showing the bone unduly vascular.

25. Hip-joint in which the cartilage has been partially destroyed by ulceration. The bone has been exposed for a small space around the ligamentum teres, and the exposed part more or less covered by cicatrisation.

The drawing was evidently taken from the hip-joint of Mary P., aged 16. The parts are preserved as Preparation 59, Series III., where the history of the case is given. The case is also recorded in the 'Diseases of Joints,' p. 308, case 68.

26. Section of the lower end of the femur and knee-joint, from a case of myeloïd disease of the femur. The preparation from which the drawing was taken, is catalogued as Preparation 163, Series II., where a full history of the case will be found. The case is recorded as No. 61, p. 274 of 'Diseases of Joints.' The structure of the tumour is described: "not as being that of fungus hæmatodes, but as bearing a nearer resemblance to it than to any other morbid growth." The non-malignant nature of the formation is clearly recognised in the description.

27. A large myeloïd tumour of the lower end of the femur. This drawing was taken from Preparation 162, Series II., where the history of the case is given. The case is also detailed by Sir B. Brodie in the 'Diseases of Joints,' p. 276. The tumour was evidently regarded by Sir B. Brodie as of the same nature as the preceding.

28. A large encephaloïd tumour of the femur for which the thigh was amputated. The parts are shown in section. The drawing was taken from Preparation 221, Series II., where the history of the case is given.

29. "Fungous hæmatodes of the knee-joint, amputated by Mr. Bransby Cooper in Guy's Hospital, July, 1840." The parts are represented in section. Each of the bones comprising the joint have been partially destroyed by the growth which lies before, behind, and between them.

30. "Chalky deposit in the joint—gouty." The drawing represents one of the metacarpo-phalangeal joints with a large mass of white deposit around it, apparently external to the synovial membrane.

31. "Synovial membrane covered with excrescences, the result of long-continued chronic inflammation." This drawing was evidently taken from Preparation 9, Series III., where a description of the morbid state will be found. The drawing represents a knee-joint opened so as to display the synovial membrane between the femur and patella, covered with small excrescences like the appendices epiploicæ. This Preparation is referred to by Sir B. Brodie, 'Diseases of Joints,' p. 79.

32. "Showing the effects of long-continued chronic inflammation of the synovial membrane." The drawing represents the left knee-joint laid open. The nature of the morbid appearances is the same as in the preceding drawing, but is not so well

marked. This has been identified with Preparation 12, Series III. The case is given in the 'Diseases of Joints,' p. 233, case 52.

33. This represents the right knee-joint from the same patient as No. 32. The morbid state is the same. This has been taken from Preparation 11., Series III.

34. "Wm. A.," effects of long-continued inflammation of synovial membrane. The drawing represents the knee-joint laid open, so as to display the synovial membrane, which is thickened and encrusted with lymph. The case is detailed in the 'Diseases of Joints,' p. 18, case 7.

The patient, aged 48, came into the hospital, having had frequent attacks of rheumatism, affecting the knee, during the last ten years. He had been confined to his bed for six months. The limb was amputated. The joint contained pus, and there were adhesions between the bones. The bones were carious; the cartilages ulcerated; the synovial membrane encrusted with lymph, thickened and pulpy.

35. This drawing represents the state of the knee-joint when affected with acute synovitis, the result of rheumatism. The details of the case are given in the 'Diseases of Joints,' p. 21, case 8.

Henry P., aged 39, very subject to rheumatism, came into the Hospital, having been seized with rheumatic affection of nearly all the joints twelve weeks before. The other joints soon got better, but the knee remained painful, and became distended with fluid. Under treatment the pain and swelling of the knee subsided. When, however, he had been three weeks in the Hospital he was attacked with acute inflammation of the lungs and pericardium, which quickly proved fatal.

The synovial membrane of the right knee contained a dark-coloured fluid, like thick synovia, tinged with blood. The synovial membrane and cartilages were everywhere of a red colour, as if stained by this secretion. There were small extravasations of blood in the cellular membrane external to the joint.

36. "Chronic inflammation of the synovial membrane following a rheumatic fever six years ago." The case to which the drawing refers is given in the 'Diseases of Joints,' p. 16, case 6.

Robert A., aged 29, who had had several attacks of rheumatism during the last six years, especially affecting the right knee, was admitted under Mr. HAWKINS, in the year 1836. The joint was enlarged by an elastic irregular swelling. A sinus opened at the upper part discharging pus. The joint was nearly stiff. There was pain, which was not increased by attempts to bend the limb, or by pressure of the cartilages

against each other. The limb was amputated. The synovial membrane was found to have completely lost its natural structure. It was vascular and thickened. The cartilages were unaltered, and the bones free from disease. The joint contained sero-purulent fluid. There were several abscesses in the neighbourhood which did not, however, communicate with the joint.

37. "Inflamed synovial membrane," consequent upon disease of the bone. This drawing exactly corresponds with Preparation 48, Series III., where the history of the case is given. The drawing represents the knee-joint laid open, so as to display an altered and vascular condition of the synovial membrane.

38. "Scrofulous inflammation of knee-joint." This represents a piece of the synovial membrane spread out so as to show a layer of lymph upon it.

39. A section of the spinal column showing a carious state of the lower dorsal vertebræ.

The drawing was taken from the spine of Francis M., aged 13, whose case is recorded in the 'Diseases of the Joints,' p. 309. Two years and a half before his death he had an attack of rheumatic fever, with severe pain in the back, which lasted for a month or six weeks. A year ago a projection was noticed in the position of the seventh, eighth, and ninth dorsal vertebræ. Subsequently an abscess appeared in the nates and discharged much pus. He had at the same time pain in the neck, succeeded by an abscess in the posterior part of the pharynx. The patient eventually sank under an attack of diarrhœa. On dissection there was found to be disease of the cartilaginous surfaces of the atlas, and destruction of the transverse ligament. The pharyngeal abscess communicated with this. The bodies of the eighth and ninth dorsal vertebræ were destroyed by ulceration. An abscess communicating with the carious surfaces of the seventh and tenth dorsal vertebræ extended downwards to the nates.

40. The drawing shows a section of the dorsal part of spine. The seventh and ninth vertebræ in this region have been partially destroyed, while the body of the eighth is represented only by an angular fragment between them, which has been thrust backwards, so as to compress the cord. The case is given in Sir. B. BRODIE'S 'Clinical Book,' Vol. V., p. 246.

Ellen L., aged 18, came into the Hospital with angular curvature. The legs were cold and painful, but there was no loss of sensation or of motor power. There had been pain in the back for twelve months, curvature for eight months. The disease could not be traced to accident. While under treatment she caught scarlet fever and died. On dissection the body of the eighth dorsal vertebra was found to be completely

destroyed, and those of the seventh and ninth diminished to about half their natural bulk. About a teaspoonful of pus was found in contact with the diseased bones. There was no appearance of tubercle in the bones or elsewhere.

41. Caries of two lumbar vertebræ, chiefly affecting their anterior surfaces.

42. Caries of the lower dorsal vertebræ producing angular curvature.

43. Partial destruction by caries of the body of one vertebra, producing a perforation in the bone at the bottom of which the theca is visible.

GENERAL COLLECTION

INCLUDING THAT PRESENTED BY DR. SEYMOUR.

Many of the drawings presented by Dr. SEYMOUR have been published in his *Illustrations of the Ovaria*. To these reference has been made, so that the detailed description can be readily referred to. A copy of the work will be found in the Museum.

BONES AND JOINTS (corresponding to Series I., II., and III.)

44. Bony tumour of the skull. There is a spongy-looking growth projecting from the anterior and lateral parts of the frontal and upper maxillary bones. The orbit is partially filled up. The drawing represents a specimen in the Museum of St. Thomas's Hospital (see Catalogue Vol. II., Section C., Prep. 195). The growth is described as affecting both sides of the skull in a similar manner, occupying each antrum as well as the frontal and ethmoïdal sinuses. A microscopic examination showed the tumour to consist of two kinds of bone: one compact like the shaft of the femur, the other spongy like the ethmoid bone.

The Preparation was taken from the body of a Billingsgate fishwoman, remarkable for her hideous appearance. Two large swellings had been formed under the orbits in the fore part of the cheeks, between which the nose appeared wedged, closing the nostrils. The immediate cause of death was a fit of an apoplectic character. *Presented by* PRESCOTT HEWETT, Esq.

45. A horizontal section of the same side of the skull, showing the great thickness of the growth. *Presented by* PRESCOTT HEWETT, Esq.

46 and 47. Two pencil drawings representing the same foot with an angular wound over the inner malleolus.

48. Guinea-pig's leg after eight days fracture of the tibia and fibula.

49. Guinea-pig's leg after twelve days fracture of the tibia and fibula.

50. Guinea-pig's leg after thirty days fracture of the tibia and fibula.
51. Rabbit's femur after ten days fracture.
52. Rabbit's femur after twelve days fracture.
53. Large exostosis from the parietal bone, from a man aged 40, Vide *Path. Soc. Trans.* for 1850-51. Preparation 149. *Presented by* Dr. OGLE.
54. Necrosis of the frontal bone.
55. Syphilitic disease of cranium. See Preparation 57, Series II., where history is given.

HEART AND BLOOD-VESSELS (corresponding to Series VI.)

56. Calcareous deposition in the aortic semilunar valves. View from the distal side.
57. Drawing from the same Preparation. The view taken from the ventricular surface. The Preparation corresponding to these drawings is entered Series VI., Preparation 58.
58. The heart, femoral artery, and spleen from a case of embolism. Masses of fibrine are seen in the left cavities of the heart; there is a large plug stopping up the femoral artery at its commencement; and fibrinous blocks are seen in the spleen. The splenic artery contains fibrine. For the history, see Preparation 199, Series VI.; also *Post Mortem and Case Book* for 1862, p. 23.
59. Deposit of fibrine on the inner surface of the left auricle, and on the mitral valve, from a case of embolism. From the same patient as drawing 101. See *Post Mortem and Case Book* for 1855, p. 164.
60. The heart; portions of the spleen and kidney; vessels from the base of the brain, in connection with an apoplectic clot; and an aneurism of the ulnar artery; illustrating a case of embolism. Some fibrinous concretions are seen in the left auricle. There are fibrinous blocks in the spleen and kidney. There are some little masses of fibrine in the cerebral vessels; one lies at the commencement of the middle cerebral, while the middle cerebral of the other side has been ruptured apparently by the pressure of the blood behind an obstruction. The ulnar artery has become the seat of a large aneurism, which it is presumed has been produced in consequence of the vessel becoming plugged by a mass of fibrine from the heart, and dilated behind the obstruction. For history of the case, see Series VI., Preparation 226; Series VIII., Preparation 194; and *Post Mortem and Case Book* for 1864, p. 33.
60A. A portion of the left ventricle of a heart with fibrinous deposits lodged among the columnæ carneæ. This drawing is believed to have been taken from the heart which is described as Preparation 48, Series VI. The drawing does not exactly correspond with the Preparation, but was probably taken from

the part which has not been preserved. For history, see Preparation 48, Series VI. *Presented by* Dr. SEYMOUR.

61. Rupture of the inner and middle coats of the popliteal artery.

62. Aneurism of the subclavian artery. Front view.

63. Aneurism of the subclavian artery. Back view. For corresponding Preparation vide Series VI., No. 137, where a complete account of the history, treatment, and post mortem appearances will be found. See *Path. Soc. Trans.*, Vol. X., p. 103.

64. Cirsoid aneurism of the scalp.

The patient, a woman aged 25, was in the Hospital when the drawing was taken, but nothing was attempted by way of treatment. The disease began when the patient was eleven years old, with a slight swelling in the forehead. Mr. CROWFOOT, who saw the patient at the age of 23 (see *Association Medical Journal* for 1866, p. 65), described the right temporal artery as being thin and tortuous, and at the frontal protuberance, the original seat of the disease, being dilated to the thickness of the little finger. The vessel continued in the same dilated and tortuous state to the extent of seven inches over the vertex, and precisely resembled in appearance a varicose vein of the leg. This description will serve for a description of the drawing. The dilated vessels were extremely tender. The further progress of the case will be seen from the following account given by Mr. CROWFOOT, of Beccles, January, 1866.

"She has very much improved in health since she was in London. About four years since she had a miscarriage, accompanied with most severe floodings, and a great aggravation both in the size, action, and noise of the arteries affected with the cirsoid aneurism; but from that time the arteries have gradually decreased in size; the noise in the ear and head is almost gone, and the artery, which was as large as the middle finger, is now not larger than an ordinary temporal artery, and has but a feeble pulsation; the cavity caused by the absorption of the bone is of course still present, but the artery, instead of rising above the edges of the bone, now lies at the bottom of a deep groove, of which you feel the sharpened edges; all her more troublesome symptoms have disappeared, and she is sufficiently recovered to discharge the duties of a country postwoman.

"I conclude that after her severe hæmorrhage, the blood became more coagulable, and that some coagulum plugged up the diseased vessel, and so led to the improvement in her condition." *Presented by* Mr. PRESCOTT HEWETT.

65. Atheroma of the aorta, which has produced considerable narrowing of all the arterial openings. Those of the coronary

arteries are nearly or quite occluded. The drawing was taken from the aorta of a patient who died in the Hospital after great difficulty of breathing. He had paroxysms of acute pain in the chest, with orthopnœa, which came on at the same time every evening, and lasted about two hours. *Presented by* Dr. SEYMOUR.

66. A heart with an adherent pericardium, the result of rheumatic pericarditis.

The case was that of a boy, aged 12, who had several attacks of rheumatic pericarditis, and died at last of dropsy. *Presented by* Dr. SEYMOUR.

67. A drawing of a hypertrophied heart, with dilatation of the pulmonary artery. *Presented by* Dr. SEYMOUR.

LUNGS AND AIR-PASSAGES (corresponding to Series VII.)

68. Pneumonia, with abscess of the lung.

69. Gangrene of the lung, without surrounding organisation. See *Hope's Morbid Anatomy* fig. 4, where the case is described as one of pneumonia and uncircumscribed gangrene.

70. Sloughing in a case of acute laryngitis. Death took place on the morning of the fourth day from the commencement of the attack.

71. Laryngeal phthisis. The larynx has been laid open from the front. One of the arytenoid cartilages is seen denuded by an abscess in contact with it. From a patient with tubercles in the lungs and vomicæ.

72. A secondary abscess of the lung after erysipelas. *Presented by* Dr. SEYMOUR.

73. Another portion of the same lung showing an abscess in a different stage. *Presented by* Dr. SEYMOUR.

74. Cancer of the lung, chiefly affecting the root. The case to which this drawing refers is reported by Dr. SEYMOUR in the *Medical Gazette* Vol. I., p. 207.

The patient, aged 51, was attacked with cough, and difficulty of breathing, seven months before his death; he spat up at the same time a small quantity of blood. The dyspnœa increased, the fits of cough became very violent, and inspiration was found to be very incomplete, and attended by wheezing sounds on the right side. The expectoration became considerable in amount—it consisted of frothy mucus. The voice became hoarse. Death happened rather suddenly, and at the post mortem examination a large malignant tumour was found at the root of the right lung, more or less compressing the blood vessels and bronchial tubes. *Presented by* Dr. SEYMOUR.

75. Cancer of the lung. Two round nodules are seen in section. *Presented by* Dr. SEYMOUR.

76. A section of the lung, with the trachea and larynx. The larynx, both above and below the vocal cords, is roughened by tubercular disease. The lung contains large vomicæ and numbers of crude tubercles. *Presented by* Dr. SEYMOUR.

77. Two portions of lung from the same case, one of which is plentifully dotted with crude tubercles, while the other appears to be converted into a nearly uniform mass, probably of the same nature. If the other parts had not been represented it would have been concluded that the larger portion was the seat of encephaloid cancer, so compact and solid is the tubercular deposit. It appears to occupy, or to replace, the entire structure of the organ, leaving only the large cavities. In a recent state the lung presented the appearance of a mass of Castile soap. The drawing was taken from a patient who died in the hospital. *Presented by* Dr. SEYMOUR.

NERVOUS SYSTEM (corresponding to Series VIII.)

78. Red softening of the central portions of the brain produced by syphilitic disease of the bones of the cranium. For history, vide *Path. Soc. Trans*, Vol. X., p. 8.

79. Two drawings which appear to represent an effusion of blood in the arachnoid cavity, consequent upon an injury of the head. In the smaller of the two suppuration is shown in the arachnoid beside the effusion of blood.

80. Three sketches illustrating the pathology of encephalocele. *Presented by* PRESCOTT HEWETT, Esq.

81. Cysts in the choroid plexuses of the brain. *Presented by* Dr. J. W. OGLE.

82. A drawing taken during life from the head of a child who died at the age of seven months from hydrocephalus. The head is preserved in the museum, and attached to it is a history of this case. See *Post Mortem and Case Book* for 1865, p. 2; also Prep. 208, Series VIII.

83. Aneurism of basilar artery. The drawing shows an aneurism as large as a small bean, projecting from the side of the basilar artery. It burst by an opening almost as large as could be made in so small a sac. A great amount of blood had been poured out at the base of the brain in the arachnoid and subarachnoid cavities. The pons and medulla were deeply imbedded in coagulum; the fourth ventricle filled; the spinal cord imbedded from one end to the other. There was no atheroma of the cranial vessels.

The subject of the affection was a man, aged 39, formerly a soldier. It was said that he had been subject to fits of excitement ever since receiving a blow on the head in the Crimea. Five days before his death, while in the enjoyment of good health, he was attacked with diarrhœa and vomiting,

followed by epileptiform seizures. He then remained partly well for two days. On the day before his death the convulsions returned, and were followed by a state of unconsciousness in which he expired. The right arm had some power of movement; the left was rigidly flexed. See Preparation 190, Series 8; also *Post Mortem and Case Book* for 1865, p. 59; and *Path. Soc. Trans.* for 1865, p. 83.

84. Section of the right hemisphere of the brain, showing a malignant growth in its centre. The growth lay just in front of the centre of the hemisphere, above the roof of the ventricle. Its horizontal surface might have been covered by half-a-crown. It was not circumscribed, mixing gradually with the white matter.

The drawing was made from the body of Richard S——, aged 29, who was admitted December 29th, 1864, in a state of unconsciousness. Two years before he had an epileptic seizure, which occurred again three days before he came in. The seizures were repeated every half-hour, the patient remaining unconscious between. There was partial hemiplegia of the left side. He died on January 1st, 1865. For case see *Post Mortem and Case Book* for 1865, p. 1.

85. A section of the left cerebral hemisphere, showing red softening, the consequence of embolism. In the white matter were many round patches of softening, mostly about the size of a fourpenny piece. These were yellow in their centres, red at the edges. A plug of fibrine was found obstructing the left middle cerebral artery at about two inches from its origin. There were ragged vegetations attached loosely to the aortic valves. There were blocks in the kidney and spleen.

The patient, a man, aged 36, was admitted after an attack of acute rheumatism. While under treatment he suddenly became stupid; he could say nothing but 'Yes.' He had slight hemiplegia of the right side. Finally, he became quite unconscious rather suddenly, while apparently mending, and died very shortly afterwards. For details see *Post Mortem and Case Book* for 1864, No. 254

85A. Hæmorrhage over the greater part of the convex surface of the cerebrum, in the subarachnoid cavity.

The drawing was taken from the brain of John C., aged 40, who died in the Hospital with extravasations of blood in many parts of the body, which were associated with purpura. He had spots of purpura on the surface of the body, besides which a considerable tumour occupied the inner part of the arm, which was afterwards found to consist of coagulum. Three days before his death he was suddenly seized with pain in the back of the neck, rigors and vomiting. He afterwards had intense pain, chiefly at the back of the head and neck, and

said that he felt he should "lose his wits." He was rather delirious, but answered questions coherently. He held by the bed, saying that he was afraid of rolling out of it. He had no paralysis. The pupils were natural; the pulse very feeble. He became more delirious, and incapable of speaking; the motions were passed into the bed; and in this condition he sunk. At the post-mortem examination a mass of old coagulum was found imbedded in the triceps muscle of the arm. A quantity of recently-effused blood was spread over the greater part of the surface of the hemispheres of the brain, in the subarachnoid cavity, besides which a smaller amount occupied the arachnoid cavity at the base. The blood vessels, large and small, were natural. The mitral and tricuspid valves were thickened and narrowed. The blood was imperfectly coagulated, and resembled the juice of cooked plums. The liver was in an advanced state of cirrhosis; the spleen was large, firm, and natural. See *Post Mortem and Case Book* for 1866, No. 39; also *Path. Soc. Trans.*, Vol. XVII.

ORGANS OF DIGESTION (corresponding to Series IX.)

86. Œsophagus and trachea of George S——, who died of hydrophobia. *Presented by* SIR BENJAMIN BRODIE, Bart.

87. Carcinoma of the pylorus and neighbouring portion of the stomach. See *Med. Chir. Trans.*, Vol. XIV, p. 230. *Presented by* Dr. SEYMOUR.

"A, the Œsophagus. The stomach slit open posteriorly. B. The duodenum. C.C.C. The coats of the stomach much thickened, from which an extensive fungus is seen to spring, occupying the whole pyloric portion. Fig. 2 is a small portion of the left lobe of the liver, in which is seen one of the white tubercles, probably the first or crude stage of the fungus encephaloides of Laennec."

88. Fungoid disease of the stomach. *Presented by* Dr. SEYMOUR. For the history of the case to which the drawing refers vide *Med. Chir. Soc. Trans.*, Vol. XIV., p. 240.

89. Fungoid carcinoma of the stomach.

90. Fungoid carcinoma of the stomach.

91. Ulceration of the duodenum; probably from a burn.

92. Intense congestion of the ileum. From a case of chronic diarrhœa. See *Hope's Morbid Anatomy*, p. 43, fig. 124, where the drawing is published and the case given.

93. The duodenum, from a case of cholera, showing enlargement of the mucous follicles. In other parts of the bowels the glands were in a state of incipient ulceration

The patient was a boy, 4 years old, who died at a school at Clapham, after an attack of 23 hours' duration. There was vomiting and purging, with serous evacuations. For particulars see *London Med. Gazette*, Vol. IV., p. 375.

94. Granulated liver, producing dropsy.

95 and 96. External view and section of a liver containing pyæmic abscesses.

The specimen was taken from a man who died in the Hospital

97. A portion of a liver in an early stage of cirrhosis. Thickening of the capsule has taken place in intersecting lines, so as to form a white network upon the surface of the organ. *Presented by* Dr. SEYMOUR.

98. A piece of a liver showing a peculiar spotted congestion or possibly small extravasations on the surface. *Presented by* Dr. SEYMOUR.

99. Enormous dilatation of the bile ducts, which proved fatal to an old soldier, one of Bonaparte's veterans, at the age of 76. Jaundice came on latterly, but there had been no symptoms which could lead to any idea as to the cause of the alteration.

The preparation is preserved in the Museum, see Series IX., Prep. 320, where a description of the morbid appearances is given. The details of the case may be found in *Post Mortem and Case Book* for 1860, p. 36, also in *Path. Soc. Trans.*, Vol. XI., p. 130.

100. The surface and section of a liver affected with an early stage of cirrhosis. The surface is quite smooth, but the tissue is subdivided into small yellowish spherules. *Presented by* Dr. SEYMOUR.

101. A section of liver showing a fibrous-looking mass near the surface, in which are many round white deposits. These are probably dried-up pus, while the fibrous matter around them is the induration which commonly accompanies chronic suppuration. *Presented by* Dr. SEYMOUR.

102. Liver containing many nodules of encephaloid cancer. The disease is circumscribed. The patient had also malignant disease of the stomach. The case is related by Dr. SEYMOUR, *Med. Chir. Soc. Trans.*, Vol. XIV., p. 240. *Presented by* Dr. SEYMOUR.

103. A portion of a liver containing rounded masses of malignant growth, some of which are of very small size, and appear to mix gradually with the structure of the organ. At the lower part of the drawing is represented one of the absorbent glands enlarged by a deposit of the same sort. *Presented by* Dr. SEYMOUR.

DUCTLESS GLANDS (corresponding to Series X.)

104. Photographic portrait of a cretin. From J. W., aged 13, born and bred at the village of Haslingfield, near Cambridge, where other cases have occurred. *Presented by* Dr. R. THOMPSON.

105 and 106. Chronic inflammation, with deposit, in the lymphatic glands of the neck.

Drawing taken from Thomas J., a page, aged 15, admitted February 6th, 1850. The enlargement commenced four years before his admission, at which time it extended from the anterior edge of the platysma in front to the anterior border of the trapezius behind, and from the lower jaw above to the clavicle below. It has at different periods from its first appearance almost entirely subsided. The skin was free from discoloration, and the greater number of the glands distinct and moveable. Liquor potassæ was administered in half-drachm doses from February 11th to March 4th without producing any material alteration in the swelling. April 19th Mr. HAWKINS remarks: "The upper part is uniformly smooth and firm, with very little glandular distinctness and free from discoloration. The lower part is softer, with much fluid in the cellular tissue, making the glands moveable; it extends quite to the spine of the scapula behind, and the colour is pink or dark red in different parts. The whole free from tenderness, and, although the larynx is pushed very far to the right side, and the pharynx is raised much more from the spine, there is no difficulty of swallowing or breathing. The countenance is paler with bright flush." On May 3rd small dose of the liq. hyd. bichlor. was ordered with bark, but he left the Hospital on the 15th, before it had produced any effect on the swelling. Vide Mr. HAWKINS' *Case Book*, No. 45, p. 5.

107. A drawing of two supra-renal bodies, from a case of Addison's disease. The history of the case is given in Series X., Prep. 52. Specimens of the skin are also preserved; Series XVI., Prep. 103. See *Path. Soc. Trans.*, Vol. XVI., p. 243.

108. A representation of the upper part of the face, and part of the thigh from the same case. The discoloration of the skin and the change in the character of the hair, is well shown. Series X., Prep. 52, *Path. Soc. Trans.*, Vol. XVI, p. 243.

109. Drawing of a child, 3 years of age, in whom there was a remarkable development of hair in connection with malignant disease of the supra-renal capsule.

The child, a female, was brought to the Hospital suffering from frequent vomiting, and died on the day after admission. She was unusually large and stout for her age, and was remarkably hairy, the genital organs being as thickly covered as could be expected at any period of life; the skin was darker than usual. At the post-mortem examination all the organs were found to be natural, excepting the liver, which contained a small nodule of encephaloid, and the left supra-renal capsule,

which was replaced by a mass of encephaloid cancer, weighing 2 lbs. 2 ozs. The tumour is preserved in the Museum. See *Post Mortem and Case Book* for 1864, p. 280, and *Path. Soc. Trans.*, Vol. XVI., p. 250.

KIDNEYS (corresponding to Series XI.)

110. Cystic disease of the kidney, taken from James D., aged 40, admitted into the Hospital March 7th, 1855.

For a complete history of the case and description of the post mortem examination, vide *Post Mortem and Case Book*, for 1855, p. 83; for preparation, see Series XI, Prep. 24. *Presented by* Dr. DICKINSON.

111. The only note appended to this drawing was, "From Herbert ——, St. George's Hospital; died August 21st, 1836."

The drawing apparently represents strumous disease of the kidney. The accompanying illustration of the bladder represents that organ as highly vascular.

112. Fibrinous deposit in the kidney, with obstruction of the branch leading to the affected part.

Taken from Elizabeth S., aged 45, who died in the Hospital on June 4th, 1855, from extensive endocarditis. For further particulars of the history of the case and the post-mortem examination, vide *Post Mortem and Case Book* for 1855, p. 164. For drawing of deposit on the endocardium, see No. 59.

113. Two kidneys with the ureters obstructed at their mouths by calculi. For account of case see *Post Mortem and Case Book* for 1862, p. 316; also *Path. Soc. Trans.*, Vol. XIV., p. 192.

114. A section of a kidney which has been converted into a cyst, packed full of calculi.

The preparation is in the Museum. The calculi were found, on chemical examination, to consist of mixed phosphates. The patient died of some independent disease; it is not known that he had any renal symptoms during life. The water had been tested while he was in the Hospital, and found free from albumen. See *Path. Soc. Trans.*, Vol. X., p. 197.

115. Secondary deposits scattered over the surface of the kidney, which was taken from the body of a boy who died of pyæmia in consequence of acute periostitis of the tibia. For particulars see *Post Mortem and Case Book* for 1860, p. 64.

BLADDER AND URETHRA (corresponding to Series XII.).

116. The only note appended to this drawing was, "Enlarged

prostate, with tubercles on the surface, from the Rev. —— H., May, 1851."

117. Drawings of a bladder, taken from a Hospital patient who had laboured under stricture for many years. The drawings represent the bladder and a portion of the urethra laid open in front; a back view of the same parts being shown in the other. The coats of the bladder are much thickened, to the extent even of half an inch. The mucous membrane was very much encrusted with lymph, and of a dark red colour. The urethra is very irregular and ragged, corresponding to its membranous portion. A small orifice is seen, through which the urine escaped into a large cyst in the perinœum. For corresponding preparation, vide Series XII., Prep. 66.

Male Genital Organs (corresponding to Series XIII.)

118. A small cyst attached to the tunica albuginea near the epididymis.

119. Warty excrescences of the glans penis, from a patient in the Lock Hospital, under the care of Mr. Babington. *Presented by* Sir Benjamin Brodie, Bart.

120. Cancer of the penis. For preparation vide Series XIII., Prep. 9.

121. Cystic disease of the testis. For preparation, see Series XIII., Prep. 58; and for more complete detail of history and examination, vide *Path. Soc. Trans.*, Vol. VII., p. 241.

122. Testicle affected with chronic inflammation. Large masses of yellowish lymph are deposited in the body of the testis. For preparation vide Series XIII., Prep. 44. *Presented by* Sir Benjamin Brodie, Bart.

123. Mass of a cheesy consistence and fibrous appearance, removed from a testicle affected with chronic inflammation. For preparation, vide Series XIII., Prep. 48.

124. Hernia testis.

125. Inflammation, with deposit of lymph in the body of the testis.

126. Venous tumour of the scrotum, which was congenital, in a boy 10 years of age. It was somewhat benefited by the insertion of ligatures. For particulars, see *Path. Soc. Trans.*, Vol. XV., p. 95.

126a. Another drawing of the same. *Presented by* G. W. Steward, Esq.

Female Organs of Generation and Ovum (corresponding to Series XIV. and XVIII.)

127. The upper drawings on this sheet represent the appearance of the ovary, and of the Graafian vesicles, in advanced age.

The drawing in the centre represents a section through the ovary of an unimpregnated female, showing a recent corpus luteum—what has been called a false corpus luteum.

The drawing below represents the corpus luteum six weeks after impregnation.

These drawings have been published in Dr. SEYMOUR's work on the ovaria; plate 7. *Presented by* Dr. SEYMOUR.

128. Dropsy of the fallopian tube, from a preparation belonging to the College of Physicians. See the work on the ovaria; plate 8. *Presented by* Dr. SEYMOUR.

129. A portion of a simple ovarian cyst, showing its connection with the generative organs. See the work on the ovaria; plate 9. *Presented by* Dr. SEYMOUR.

130. Another part of the same cyst, showing the interior, and the remains of the affected ovary. See the work on the ovaria; plate 10, fig. 1. *Presented by* Dr. SEYMOUR.

131. A posterior view of the uterus and ovaria, from a case of malignant disease of the left ovary. A spot is to be distinguished at which the tumour had adhered to the back of the uterus; the adhesion was broken down, and a cyst was ruptured during life, by an attempt to alter the position of the uterus by pressure per vaginam; this led to fatal peritonitis. See the work on the ovaria; plate 10, fig. 2. *Presented by* Dr. SEYMOUR.

132. A section of an ovarian tumour, which is described as scirrhus. The patient died of cancer of the stomach. From a preparation in the possession of the College of Physicians. See the work on the ovaria; plate 11, fig. 1. *Presented by* Dr. SEYMOUR.

133. A mass of hair and sebaceous matter found in a large ovarian cyst. See the work on the ovaria; plate 11, fig. 2. *Presented by* Dr. SEYMOUR.

134. The internal surface of a very large malignant ovarian tumour. See the work on the ovaria; plate 12. *Presented by* Dr. SEYMOUR.

135. Another portion of the internal surface of the same cyst. One of the tumours is very vascular, and is smeared with purulent matter. In parts the semi-transparency of the colloid growth was beautifully shown. See the work on the ovaria; plate 13. *Presented by* Dr. SEYMOUR.

136. The cyst of a malignant ovarian tumour, opened and emptied. The drawing is about one-sixth the size of the original preparation. See the work on the ovaria; plate 14. *Presented by* Dr. SEYMOUR.

137. Cystic tumour of the ovary. The upper drawing shows the ovary in its connection with the uterus, enlarged to the size of an orange, and attached by a slender adhesion to the pos

terior surface of the uterus. The lower drawing represents a section of the ovary. It contained gelatinous or honey-like matter, enclosed in several cysts.

The preparation was taken from the body of a married woman, 54 years of age, who died of disease of the heart, bronchitis, etc.

138. Extra-uterine fœtation. *Presented by* Mr. GUTHRIE.

139. Section of a fibrous tumour of the uterus. *Presented by* Dr. SEYMOUR.

140. Cauliflower excrescence growing from the posterior wall of the vagina. The mass is represented as highly vascular, lobulated like a cauliflower, and of about four inches in its largest diameter.

The preparation was taken from the body of a woman, 47 years of age, who died in the Hospital, January 5th, 1862. There was colloid cancer of the peritoneum. A soft encephaloid tumour was attached to the fundus uteri, and projected into the cavity, and the mass represented was connected with the vagina. See *Post Mortem and Case Book* for 1862, p. 9.

141. An acephalous fœtus, which is described in Series XVIII., Prep. 9; also in the *Med. Chir. Trans.*, Vol. XLVI., by Dr. DICKINSON.

BREAST (corresponding to Series XV.)

142. Tumour from the breast, not malignant. It is apparently of the kind called chronic mammary. *Presented by* Sir BENJAMIN BRODIE, Bart.

143. Section of a schirrus tumour of the breast, removed from a patient in the Hospital. *Presented by* Sir BENJAMIN BRODIE, Bart.

144. Tumour of the breast, not malignant. A portion of the breast is left surrounding the tumour. *Presented by* Sir BENJAMIN BRODIE, Bart.

145. Cystic disease of the breast; from Lucy H. For full particulars of the history of the case and post-mortem examination, vide Series XVII., Prep. 58; and *Post Mortem and Case Book*, 1857, p. 129.

146. Cancer of the mamma, extirpated at the Hospital, November, 1829. The small numbers on the drawing refer to the following description :

1. "Scirrhus structure of pinkish cream colour, slightly translucent, with indistinct fibrous reticulations, the interstices of which have at 3 become of opaque cream colour; they are there softened, and in the transition to ulceration, which is more advanced at 4, where the colour becomes livid, verging on the complete greenish ulceration. The same grades exist all round the abscess.

2. "In the same condition as at 1, but, being the exterior margin, it is more injected, of livid red colour, and seamed with ulcerated reticulations, most conspicuous at 5.

6. "Is the same as at 3, but the cream coloured interstices are more defined.

7. "A section of the everted margin. The structure is essentially the same as at 1, but less advanced. The fibrous interstices are accordingly so indistinct as only to be inferred from the lobulated or undulating surface displayed by reflected light.

8. "Is fibro cartilage, with a great predominance of the latter, and so dense as to offer great resistance to the scalpel; the colour is whitish livid, with a few pink spots of vascularity.

9. "Is another section of 8.

10. "Is adipose tissue in large lobules.

11. "Is the left nipple. No. 1 is in the axilla." This drawing is published and the history given in HOPE'S *Morbid Anatomy*, plate 185.

147. Section of a sero-cystic tumour of the breast. The preparation corresponding to this drawing is Prep. 7, Series XV., where a complete history of the case will be found.

SKIN AND ORGANS OF SPECIAL SENSE (corresponding to Series XVI.)

148. Elephantiasis of leg, in a middle-aged female, at present (Jan., 1866) under treatment in the Hospital.

148A. A photograph from a case of ichthyosis, at present (Jan., 1866) under treatment in the Hospital. The patient, a boy, a native of Sussex, had been in the same state from birth. Some of his brothers had been similarly affected.

148B. A drawing from the same patient after the partial removal of the scales by warm baths and glycerine.

149. Portrait of a man whose face is covered with the eruption of small pox.

150. Gangrene of the toes and leg in a child who eventually recovered. The cause of the affection was uncertain.

151. Sloughing of the skin on the dorsum of the foot.

152. Ulcer of leg.

152A. A case of urticaria, showing the eruption on the lower extremities. *Presented by* Dr. J. W. OGLE.

153. Supposed to represent a case of framboesia, or yaws, in a young woman a patient in the Hospital, a native of the Orkneys.

154. The eye of a boy who eventually died of fungus hæmatodes of the eye-ball. The pupil is rather dilated, and behind it can be seen a little metallic-looking discoloration, which is pro-

duced by the malignant growth in the retina. The eye is natural in other respects.

155. A drawing showing the same patient in a more advanced stage. The eye-ball is much enlarged, protruding, and covered with tortuous vessels. The globe is yet unbroken.

156. A third drawing from the same patient. The eye-ball is now replaced by a great mass of fungating cancer. The thyroid gland is seen to be enlarged, probably by a similar growth.

157. Melanotic tumour of the eye-ball, removed by operation.

158. Growth from the conjunctiva, with enlargement in the neighbourhood of the lachrymal sac.

TUMOURS (corresponding to Series XVII.)

159. Scirrhus of the scalp. There is a wax model in the collection, which appears to correspond to the drawing (No. 92).

160. Fungous tumour growing from the back of the wrist, removed by amputation. *Presented by* Sir BENJAMIN BRODIE, Bart.

161. Carcinoma of the radius. The preparation corresponding to this drawing is marked Prep. 241, Series II. It is believed that the arm was amputated.

162 and 163. Two aspects of a patient with a cystic tumour of the lower jaw, which was afterwards removed by operation. The preparation is described as No. 150, Series II., where the history of the case is given.

164. Secondary tumour from the thigh, attached to the fascia. *Presented by* Sir B. BRODIE.

165. Encephaloid disease of the femur. From William A., aged 19. For history of case and post-mortem examination, vide *Post Mortem and Case Book*, 1850, p. 98, and Mr. HAWKINS' *Case Book*, No. 44.

166, 167, 168. Three different views of a tumour growing from the parotid region.

169. Section of a corn on the toe, with the subjacent bursa. This drawing closely corresponds with Prep. 68, Series XVI. *Presented by* Sir BENJAMIN BRODIE.

170. Cancer of the face. Drawing taken from William R., labourer, aged 72, admitted into the Hospital January 7th, 1852. On the left side of the face is a sloughy-looking ulcer, bounded by the outer edge of the orbit in front, the pinna behind, and the jaw below. It involved the skin and subjacent structure, but is wholly unconnected with the bone. It feels hard and dense, with hard-everted edges, and is the frequent seat of a shooting lancinating pain. It first appeared about six years before his admission. There was a scaly eruption on the face, which he picked off, producing

several sores, which never completely healed, and continued in this state for three years, when he observed a swelling over the condyle of the lower jaw. A consultation was held at which it was determined that no operation should be performed, on account of the ulcer being adherent to the parts beneath; the patient was consequently discharged. Vide Mr. HAWKINS' *Case Book*, No. 50, p. 27.

171. Carcinoma of the face.

172. Aneurism by anastomosis of the lip. From Mr. ——, of Waterford. Treated by ligature by Mr. BRANSBY COOPER, *Presented by* Sir BENJAMIN BRODIE, Bart.

173. Drawing of a large erectile (?) tumour of the scalp, taken from Mary W., a nurse, unmarried, aged 35, admitted into the Hospital, October 8th, 1851. At about the end of the preceding May, she noticed a small soft tumour in the scalp, in the situation of the anterior fontanelle, in size about equal to a marble; not painful. In June it was described as soft and fluctuating, and being punctured (the supposition being that it was a sebaceous cyst), profuse hæmorrhage came on; on introduction of a probe, the pericranium was touched; the hæmorrhage was ultimately arrested by compress and bandage. The wound did not heal until six weeks after the puncture, and the swelling gradually increased up to the time of her admission.

Condition on Admission.—A soft elastic tumour, the size of half a very large orange, occupies the situation of the anterior fontanelle. Pressure on it produces no pain, and the softness and elasticity of the growth is the same in all its parts. Firm pressure on the tumour with the hand diminishes its size, and when the pressure is removed it rapidly fills again. There is evident pulsation on the surface of the tumour, particularly where the branches of the temporal artery of that side enter it. Pulsation is not felt when the hand is firmly applied over the whole tumour. There is a bluish discoloration of the skin, as in vascular tumours, and numerous veins come from it in the forehead and temple. Pressure (before admission) made on the tumour for seven weeks, and on the left temporal artery for a fortnight, produced no diminution of the swelling.

At a consultation held, it was the general opinion that the tumour was probably vascular in its structure. October 21, four separate threads introduced. On October 24th, 8 p.m., was suddenly seized with a numbness of the right hand and arm, and convulsive twitchings of the right side of the body, lasting 10 or 15 minutes. October 25th, threads removed. October 27th, tumour seems to be extending, measuring 6 in. across in the anterior posterior direction, and about ¼ in. more

in the transverse. October 31st, four setons introduced through the back part of the tumour; setons removed in 48 hours, there being redness and fulness of forehead and upper part of the head. November 5th, tumour slightly diminished since last measurement. November 8, two setons introduced; removed in 30 hours, from the irritation produced. Soon after this date several severe central symptoms appeared at intervals, such as numbness and loss of power on the right side, indistinct articulation, and followed later by intense pain at back part of the head. At a consultation it was determined that nothing further could be done. Left the Hospital January 7th, 1852; died a few months after. No post-mortem could be obtained.

Mortem and Case Book, p. 49, p. 16.

174. Drawing of the head of Elizabeth B., aged 6 weeks, who had on the top of the head a cyst containing fluid, which apparently communicated with the cavity of the arachnoid, the communication having been subsequently cut off by adhesions of the visceral and parietal membranes. The child died, and the calvaria is preserved. Vide Prep. 2, Series XVII.; see also *Post Mortem and Case Book* for 1844, p. 199.

175 and 176. Two drawings from a case of enchondroma of the hand. See Prep. 67, Series XVII., where the history of the case is given. *Presented by* Dr. R. THOMPSON.

177 and 178. Two views of a skull, involving a large enchrodomatous tumour. The preparation is preserved as No. 66, Series XVII., where the history of the case is fully given.

179. The trunk of a man who had a number of deposits of encephaloid cancer under the skin. The penis is also seen, having the glans covered with epithelial cancer. There is an ulcer in the groin. The growth upon the penis was the primary affection. For details see *Post Mortem and Case Book* for 1862, p. 32; also see account of the case in *Path. Soc. Trans.*, Vol. XIV., p. 240.

180 and 181. Two photographic views of a young woman from whom the entire scapula had been removed by operation, 31 days previously, in consequence of a malignant growth which was attached to it. She left the Hospital apparently well in health, and with very little deformity. The scapula is preserved in the Museum. *Presented by* T. P. PICK, Esq.

181A. A chancre upon the lip and cheek of a young woman who is the subject of a syphilitic eruption.

COMPARATIVE ANATOMY.

182. The ovaria and oviduct in birds. The letters refer to the description of the drawing in Dr. SEYMOUR'S work on the ovaria; plate 1, fig. 1. *Presented by* Dr. SEYMOUR.

183. The oviduct of the bird laid open, to show the villous structure of the lining membrane. See Dr. SEYMOUR'S work on the ovaria; plate 1, fig. 2. *Presented by* Dr. SEYMOUR.

184. Ovaria and oviducts of a very young crocodile. See the *Illustrations of the Ovaria*, plate 2. *Presented by* Dr. SEYMOUR.

185. The left-hand drawing represents the left ovarium and oviduct in the coluber boæformis, in the unimpregnated state. See *Illustrations of the Ovaria*, plate 3, fig. 1. The right-hand drawing represents the cloaca from the same animal. See *Illustrations of the Ovaria*, plate 3, fig. 2. *Presented by* Dr. SEYMOUR.

186. The left ovarium and oviduct of the coluber boæformis at the period of impregnation. See *Illustrations of the Ovaria*, plate 4, fig. 1. *Presented by* Dr. SEYMOUR.

187. The oviduct of the impregnated skate. See *Illustrations of the Ovaria*, plate 4, fig. 2. *Presented by* Dr. SEYMOUR.

188. The impregnated ovum of the squalus canicula, seen on its internal surface. It lies transversely across the spine. See *Illustrations of the Ovaria* plate 5, fig. 1. *Presented by* Dr. SEYMOUR.

189. The drawing at the right hand corner represents an ovum of the skate, a portion of the shell being removed to show the young fish; the yelk was still attached to it. *Illustrations of the Ovaria*, plate 6, fig. 1.

Near the centre is a drawing of the ova of the squalus catulus, attached by their convoluted cornua to a portion of sea-sponge. *Illustrations of the Ovaria* plate 6, fig. 2.

At the left-hand corner above is a representation of one of these ova laid open. *Illustrations of the Ovaria*, plate 6, fig. 3. *Presented by* Dr. SEYMOUR.

190. Œsophagus of the boa. *Presented by* Dr. SEYMOUR.

191. The muscular stomach of the boa, showing the upper part of the duodenum and entrance of the pancreatic and biliary duct. At the lower part of the stomach are seen several small ulcerations made by a double-headed worm. *Presented by* Dr. SEYMOUR.

192. The left-hand drawing represents the kidney of the boa; the right the cloaca and ureter of the same animal. *Presented by* Dr. SEYMOUR.

MICROSCOPIC.

193. Cystic disease of the testis. Microscopic appearances of the above specimen.

194. Microscopic structure of a small cartilaginous tumour, removed from the subcutaneous cellular membrane of the arm. For further history of the case, vide Series XVII., Prep. 65, and *Path. Soc. Trans.*, Vol. VI., p. 335.

195. Microscopic appearances in a case of fibro-plastic tumour of the tibia. See *Post Mortem and Case Book* for 1859, p. 90. *Presented by* Dr. THOMPSON.

196. Microscopic appearances in a malignant tumour of the humerus, for which the arm had been amputated through the shoulder-joint. *Presented by* Dr. THOMPSON.

197. Two drawings, one of which is of the external appearance, and one of the microscopic characters of mycetoma of the foot, or the fungus disease of India. These have been published in the *Path. Soc. Trans.*, Vol. XV., p. 252. *Presented by* Dr. H. V. CARTER.

END OF SERIES XXI.

SERIES XXII.

CASTS AND MODELS.

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1. Cast of a child's head, to which a large encephalocele is attached. The following history accompanied the specimen:—

"Mary Ann L., aged 39, living in Manor-gardens, was delivered on the 11th December, 1845, by a midwife, who called me in to remove the placenta, which was almost universally adherent to the fundus uteri. She did not lose much blood. She was the subject of phthisis. The midwife at the same visit called my attention to the child, which was very small, and exhibited a growth from the lower and posterior part of the head, resembling at that time a small bladder, nearly filled with dark-coloured blood. Examining it more accurately, I found it was indeed a bag formed by the natural skin of the head, much attenuated, and filled but not distended with a dark-coloured fluid. It was situated quite at the base of the head, springing also from the skin of the neck, and the hair of the scalp was continued some distance over it. The bones of the cranium were very moveable, and at the occipital region an edge of bone could be distinctly felt within the origin of the tumour, as though that portion of the occipital bone below the ridge was deficient. At the same time the

finger could not be passed within this apparent hole, as some firm substance, which extended into the neck of the sac, prevented.

"From these circumstances I had but little doubt that the tumour was of the character of spina bifida, and as the child lived, I had it guarded from the cold, and cautioned the attendant against rough usage, etc., and waited to avail myself of the opinion of such of my medical friends as I could procure. And during the time it lived, it was visited by many, and certainly very various were the opinions entertained respecting it. On the 6th of January, 1846, I first showed it to Mr. LANE, who was of opinion that it communicated with the interior of the cranium, and was, in fact, of the nature of spina bifida. I would mention, however, that from birth until this date no symptoms in the child indicated such communication. The tumour might be pressed and handled without causing pain; nothing like convulsions or coma was produced by any pressure we used; no fluctuation could be felt at the fontanelle resulting from percussion of the tumour, nor was the neck of the tumour bulged out by any attempt to press the contents into the cranium. It took the breast, and slept and cried as other infants do, but it did not thrive. It became jaundiced when about a week old, which passed off with two or three doses of castor oil. Mr. LANE drew off a small quantity of the fluid through a fine canicula, which was of a brown colour, not unlike a weak infusion of coffee, throwing down a large quantity of albumen upon the addition of nitric acid. The same result, however, was not obtained from boiling. The operation was productive of no inconvenience, nor did any symptoms follow it. The sac remained relaxed for two or three days, when it became as full as before, and growing in size. Subsequently I punctured it with a needle several times, at intervals of three or four days, with the same effect of temporary relaxation; but still the whole sac evidently got larger, until at length it measured thirteen inches in circumference.

"January 26, nearly half-a-pint of fluid was withdrawn and still without producing any visible effect upon the child, except that the parents thought it made more use of its limbs than before; but after a few days all things went on as before, and at the end of a week the tumour was as full as ever. The fluid had become much paler in colour, but exhibited the same phenomena with the nitric acid.

"On the 9th February the operation was repeated, drawing off about the same quantity of fluid of the same character. This time, however, it was followed by a very considerable sinking of the fontanelle; a slight cough came on in a day or

two, and the child gradually sunk, and died on the fifth day after the last tapping, and having lived nine weeks and two days.

"*Autopsy.*—In order that the mode of communication with the interior of the cranium might be clearly demonstrated, I resolved to detach the whole of the os occipitis with the sac attached, and as the bones had made no progress towards union with each other, a strong pair of scissors accomplished the separation, leaving only its basilar process behind. And that the whole might be complete, the posterior lobes of the cerebrum, together with the membranes, were removed. The brain appeared quite healthy. The first thing that attracted our attention, when proceeding to the further examination of the sac, was the entire absence of that portion of the os occipitis which is below the great ridge on that bone, thus dividing it into two wings. Its place, however, at the lowest part was supplied, in this instance, by a dense ligamentous membrane, stretching across from either wing of the bone, having a free margin below, forming the posterior boundary of the great foramen, and above forming the lower edge of the foramen of communication between the interior of the sac and the cranium. This foramen was completely blocked up by cerebral matter, which appeared to have carried its own proper membranes before it into the neck of the sac. There were several glandular bodies developed in or connected with the protruded portion of brain"

Presented by THOMAS KEEN, Esq.

2. A remarkably elongated calvaria.
3. Malignant tumour of the orbit.
4 and 5. Tumours of scalp.
6. Two hands, apparently the right and left, of a child, having a number of enchondromatous tumours connected with the fingers and tarsal bones.
7. A hand covered with large enchondromatous tumours. The limb was amputated after the cast was taken, and is preserved in the collection. For history, etc., see Series XVII., Prep. 67.
8. A part of the lower jaw. The anterior part is expanded into a large tumour, which apparently consists of an osseous shell, containing material of a different kind.
9. Head of a humerus, worn away posteriorly, in consequence of dislocation.
10. Impacted fracture of head of the humerus. The surgical neck of the bone is bent outwards, and the anatomical neck obliterated. The original is in the Museum of St. Mary's Hospital.
11. Talipes, in consequence of an injury.
12. Lateral curvature of spine following amputation of the left arm,

and three other specimens of lateral curvature. *Presented by* B. BRODHURST, Esq.

13. Two casts of talipes varus in grown men. The cast described as 13A represents a case of congenital talipes varus, which was cured by operation. The cast (13) represents talipes equino-varus, consequent upon paralysis.

14. Angular curvature of the spine.

14A. Congenital dislocation of the hip.

15. Foot from which the greater part of the astragalus had been removed, after fracture and dislocation. The portion of bone is preserved in the Museum, to which refer for the history of the case. Series I., No. 153. See *Path. Soc. Trans.*, Vol. XIV., p. 220.

16. Distortion of the hand after a burn.

17. Hand, displaying many gouty concretions upon it.

18. Hand covered with gouty concretions.

19. Elephantiasis of the scrotum and penis. The following is the history of the case :—

"George F., aged 40; disease of penis and scrotum. He is a native of Southampton, where he has always lived. He has been married twenty-two years, and had one child, which died. He is a healthy-looking, temperate man, always enjoying good health. He has had gonorrhœa and syphilis more than once, but was quite cured.

"Sixteen years ago, while engaged in laborious work, he ruptured himself on both sides. Both ruptures were returned, and he wore a truss for a month or two, when it broke, and he neglected to get another or have further advice. About three months after he ruptured himself, he noticed that his penis and scrotum began to enlarge. He consulted some medical men, who said nothing could be done, and nothing was done, and the penis and scrotum have continued to enlarge up to the present time (3rd July, 1862). For the last six years he has had neither erection or emission.

"When standing up, the scrotum reaches the knees; its largest circumference is 3 feet 11 inches. It is suspended by a comparatively small neck, 20 inches round. These measures were taken when he was lying down in bed. The weight of the tumour is computed to be about 60 lbs. The skin covering the penis and scrotum is much hypertrophied. The testicles cannot be felt. The rupture on the left side is very large; that on the right somewhat less. The penis is 12 inches in length and 11 in circumference. The skin covering it is rather soft, very thick, and covered with large, soft warty excrescences. The glans is also enlarged in proportion with the rest of the penis, but the orifice of the urethra is very far back, giving the effect of hypospadias. He passes much

urine, and frequently. The stream is broken and dispersed. The tumour gives him no pain, but a good deal of distress from its bulk and weight. He eats enormously, being, as he says, always hungry.

"There are patches of a leprous-looking disease on his abdomen, chest, and arms, which would appear to be connected in some way with the disease in the penis and scrotum.

"The man returned to Southampton, where Dr. WIBLIN removed the tumour, and the patient died in some seven or eight days. But the account of the operation, what was found, and the fatal result, will be found in the *Lancet*, between July and November, 1862."

20. Figure of a girl, with the trunk and lower extremities excessively distorted by rickets. *Presented by* S. HARE, Esq.
21. Malformation of upper extremity.
22. Angular curvature of spine, with extreme shortening. *Presented by* S. HARE, Esq.

23 and 24. Angular curvature of the spine before and after treatment. *Presented by* S. HARE, Esq.

25 and 26. Lateral curvature of spine before and after treatment. *Presented by* S. HARE, Esq.

27 to 36. Various examples of curvature of the spine. *Presented by* S. HARE, Esq.

37. Angular curvature, co-existent with disease of the hip. *Presented by* S. HARE, Esq.
38. Disease of the hip-joint, with shortening of the thigh.
39. Cast of an arm covered with the eruption of lepra.

40 and 41. United fractures of lower end of radius.

42 and 43. United fractures of the scapula.

44. Enlargement of the thyroid gland, goître.
45. Enlargement of the thyroid gland. Taken from the body of "Dutch Sam," a celebrated pugilist, who died in the Hospital. *Presented by* Mr. F. BUCKLAND.
46. The legs of a man, 19 years of age, with congenital talipes varus of both feet. He was successfully operated upon in the Hospital. *Presented by* B. BRODHURST, Esq.
47 Foot after excision of the os calcis.

48 and 49. Two hands with flexion of the fingers, consequent upon contraction of the palmar fascia.

50. Depression on wrist, consequent upon disease of the carpus.
51. Enlargement of wrist in consequence of disease of the carpus.
52. Fracture of radius.
53. Dislocation of knee-joint, consequent upon disease.
54. Head of a man enlarged by chronic hydrocephalus. For the history of the case see Dr. BRIGHT's *Medical Reports*, where the details are given. The patient, James Cardinal, died in

Guy's Hospital, at the age of 29. See BRIGHT'S *Medical Reports*, Vol. II., p. 431.

55. Large fatty tumour attached to the sacral region of a girl. It was removed in the Hospital; the patient recovered perfectly.
56 and 57. Two cases of Pott's fracture.
58, 59, 60 and 61. Four cases of talipes varus.
62. Dislocation of the humerus upon the dorsum of the scapula.
63. Chronic enlargement of the bursa patellæ.
64. Enormous fibro-cellular tumour attached to the side of the head of a young woman who was a nurse in the Hospital. There is an oil painting of the same subject. The tumour was successfully removed, and there is a portrait of the patient after her recovery. *Presented by* Sir EVERARD HOME.
65. Large tumour, probably malignant, occupying the upper part of thigh and gluteal region.
66. Large tumour connected with back of wrist.
67. A collection of models illustrating the pathology and surgery of the mouth and palate. *Presented by* GEO. D. POLLOCK, Esq.
68. Wasting of the deltoid muscle in a child.
69. Tumour in the neighbourhood of the shoulder.
70. Curvature of spine, "Laudosis." *Presented by* B. BRODHURST, Esq.
71. Eight preparations of lateral curvatures of the spine. *Presented by* B. BRODHURST, Esq.
72. Malformation of the sternum.

The following Preparations are of Wax:—

73. Enlargement of lymphatic glands of neck.
74. Epulis of the jaw. The tumour is about the size of a walnut; it was removed by operation, with a part of the jaw-bone. *Presented by* Mr. CÆSAR HAWKINS.
75, 76, and 77. Three models of cancer of the nose. *Presented by* Mr. CÆSAR HAWKINS.
78. Elephantiasis of the hand, from a man 70 years of age, who died in the Hospital. The hand eventually ulcerated, and the patient sank. He refused to submit to amputation.
79. Lepra of the arm.
80. Lepra.
81. Enlargement of the lymphatic glands of the neck. *Presented by* CÆSAR HAWKINS, Esq.
82. A collection of sixteen models illustrating syphilitic affections of the male and female generative organs. *Presented by* H. LEE, Esq.

83. A syphilitic sore of the tongue. *Presented by* H. LEE, Esq.
84 and 85. Models showing the upper and lower surface of a liver enormously enlarged by encephaloid disease. The patient died in the Hospital.
86. Gouty swelling connected with the first joint of the great toe. *Presented by* Mr. GASKOIN.
87. Hand displaying several gouty enlargements connected with the joints.
88. Nævus connected with breast of child.
89. Eczema of hand, described as "Eczema impetiginodes."
90. Sections of frontal bone, showing great enlargement of frontal sinus.
91. Malignant disease of the scalp. There is a drawing from the same patient (No. 159).
92. Warty growths from the anus.
93. Foot showing an absence of the two smaller toes, which were destroyed by senile gangrene. The sore has perfectly healed.
94. Fungus of the testicle: two models; one representing the state of the parts after recovery.
95. Part of the back, showing the protrusion of spina bifida.
96. Part of the foot, showing onychia affecting the great toe.
97. Spreading syphilitic eruption, described as serpentaria.
98. Stomach acted upon by a corrosive poison.
99. A warty growth, probably epithelial cancer, affecting the skin over the patella.
100. A large nævus growing over the hip.
101. An eruption described as lichen, probably syphilitic.
102 Ulcer of abdominal wall, probably connected with epithelial cancer.
103. Roseola annulata.
104. Psoriasis annulata of three years' standing.
105. Herpes zoster of four days' standing.
106. Pemphigius, in a woman, of two years' standing.
107. Scabies.
108. Psoriasis guttata.
109. Ecthyma upon the thigh of a child, of three weeks' standing.
110. Eczema rubrum, affecting the back of the hand.
111. Lichen of six months' standing.
112. Eczema impetiginodies, of two years' standing.
113, 114, and 115. Three cases of eczema, affecting the limbs.
116. Lichen, accompanied with itching, of three months' standing, in a girl of 28.
117. Large patches of purpura on the leg.
118. Strophulus in a boy nine years of age; two months' duration.
119. Herpes of seven days' standing, in a boy of 9.
120. Herpes.
121. Lupus of three years' standing, in a man of 21.

122. Herpes, three days' standing, in a boy.
123. Lupus, non-exedens.
124. Psoriasis capitis of three years' standing.
125. Favus of eight months' standing, in a boy of 10 years of age.
126. Favus of two years' standing, in a boy of 10.
127. A skull-cap, showing a remarkable depression at its upper part, where the bone has apparently been replaced by membrane.

END OF SERIES XXII.

APPENDIX.

CONTINUATION OF SERIES I.

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Fractures of Frontal bone, 251, 244.
——————Parietal (with laceration of middle meningeal artery), 252; depressed, 248.
——————through internal auditory foramen, 243.
——————Spine, 255.
——————Radius, 256.
——————Astragalus, 253, 247.
United fractures, 244, 249, 246.
Fractures of lower animals, 249.

243. Portion of the base of the skull, displaying a fracture through the internal auditory foramen. The fracture is not only seen in the petrous portion of the temporal bone, which it divides into two parts, but it also forms one of the boundaries of the preparation. There was a line of fracture transversely across the left middle fossa, reaching from the squamous part of the temporal to the body of the sphenoïd; and there was a smaller fracture, passing at right angles to this, through the petrous bone. The lower part of the brain was bruised, and there was evidence of meningitis.

The preparation was obtained from a man, aged 30, who had fallen down stairs, striking the right side of his head. When brought to the Hospital, half-an-hour later, he was imperfectly sensible. He bled from the ear and nose. The pupils were dilated; they acted sluggishly. Next day a copious watery discharge commenced from the left ear, which continued until he died, three days after the accident. His death was preceded by delirium and convulsions. For further particulars see *Post Mortem and Case Book*, 1862, p. 72.

244. A portion of the frontal bone, including the edge of the orbit, showing an united fracture. The fissure has passed in a vertical direction, and opened into the orbit close to the inner angle. There has been no displacement. Union has taken place by means of bone deposited in the fissure.

Nothing is known of the history of the preparation. It has apparently been derived from a dissecting-room subject.

245. Old fracture of both leg bones on one side, and of the tibia on the other. Both tibiæ have been broken near the junction of

the middle with the lower third. Both lower pieces have been attached to the outer aspect of the upper fragment. The ends have overlapped, so that each leg must have been shortened to the extent of about an inch and a half. The fibula is attached to the right tibia; it also displays a fracture which has taken place about two inches higher up than that in the tibia.

246. The tibia and fibula, showing a united fracture of both bones. The tibia has been broken at the junction of the middle with the lower third; the fibula about an inch higher up. The broken ends of the tibia pass beyond each other, and are attached laterally; the fibula has united in a similar manner. In the neighbourhood of the injury both bones are much roughened by periostitis.

The preparation was taken from the body of a life-guardsman, aged 38, whose leg was broken by the kick of a horse one year before his death, which took place from "Amyloid" disease of the kidneys probably, consequent upon the suppuration produced by the compound fracture. For particulars see *Post Mortem and Case Book*, 1862, p. 93 ; also Series XI., p. 15.

247. An ankle-joint with the neighbouring bones, which was removed by amputation. There is a fracture of the astragalus, which separates the superior third from the rest of the bone. The lower fragment is partially dislocated. All the ligaments which belong to the ankle-joint are torn, with the exception of the internal lateral, which still remains attached to the periosteum. This is the only bond of union between the bones of the leg and the foot.

The preparation was taken from a man, aged 35, an omnibus conductor. He fell from his vehicle while drunk, and his foot was crushed by an omnibus passing in a contrary direction. He was brought to the Hospital within half-an-hour of the accident, and the foot was at once amputated, The patient recovered. For full particulars see *British Medical Journal*, 1862, Part I., p. 328.

248. A great part of the right parietal bone, with the adjoining portions of the squamous plate and the occipital bone. There is a nearly circular fracture, about the size of a crown piece, which somewhat encroaches upon the squamo-parietal suture. Three angular pieces of bone protrude inwards from the circumference of the fracture, and must have displaced the brain to the depth of about half an inch. At the post mortem examination a large abscess was found excavating all the outer part of the middle lobe, reaching from the surface to the wall of the ventricle, and from the base to within half an inch of the roof of the hemisphere.

The preparation was taken from a boy, aged 16, who fell through a skylight, a distance of eleven feet. He was brought to the Hospital in a sufficiently sensible state to give an account of the accident. A wound was found at the back of the head, on the right side, through which brain matter protruded. He had no head symptoms for three days. He then had pains in the head, and the wound discharged considerably, the discharge containing brain matter. A fortnight after the accident he suddenly became unconscious, with stertor and dilated pupils. Next day he died. See *Post Mortem and Case Book*, 1862, p. 231.

249. Femur of a partridge, three weeks after fracture. The fragments are united laterally by intervening bone. *Presented by* Mr. Henry Lee.

251. Fracture of roof of orbit. There is a hole cleanly broken in the orbital plate, to which the fracture was confined. The injury was caused by a fragment of brick, which is preserved with the bone, which was blown into the cranial cavity by an explosion of gunpowder. The accident was followed by complete hemiplegia of the right (?) side of the face and body, with convulsive movements of the left side. The patient survived the accident 17 days. The piece of brick had been removed from the wound before death.

At the post-mortem examination, the right orbit was occupied by a large sloughy wound, which extended into the anterior lobe of the brain, and communicated with the lateral ventricle on that side. There was purulent lymph beneath the arachnoïd, covering the anterior part of the brain, most abundant on the left side. See *Post Mortem and Case Book*, 1864, No. 129.

252. Lateral part of the skull, showing a fracture which caused laceration of the middle meningeal artery. A single line of fracture passes across the squamous plate of the temporal bone, and part of the parietal. There is no displacement. The crack crosses the groove for the middle meningeal artery.

The preparation was taken from the body of Robert H., who was found in the park insensible, and at once brought to the Hospital. He was unconscious, pallid, and with stertorous breathing. The left pupil was contracted, the right dilated. The skin was cold on admission, but afterwards became hot. He died on the day after admission. At the post-mortem examination the brain was found to be compressed by more than a quarter of a pound of coagulum, which lay between the bone and dura mater, on the right side of the skull. This had proceeded from a minute laceration in the middle meningeal artery. The dura mater was uninjured. The brain and dura mater are preserved, series 8, prepara-

tions 196 and 197. See *Post Mortem and Case Book* for 1864, No. 320.

253. The whole of the astragalus, excepting the head, which was removed from the ankle joint of J. S., a man who was a patient in the Hospital.

The bone had been dislocated 2 days before his admission, and reduction effected. Subsequently an abscess formed, from which the part of the bone preserved was extracted. The man recovered with a useful foot. A cast of the foot, as it was when he left the Hospital, is kept. See cast, No. 15. See *Path. Soc. Trans.*, Vol. XIV., p. 220.

254. Hip joint, the round ligament of which was found for the greater part completely destroyed, a few shreds of it only remaining on the head of the femur. Remains of extravasated blood were found in the joint, and the cartilages were slightly blood tinged. The head of the bone was so everted, and thrown so far forward, that it led to the supposition that there was a dislocation on the pubis. Extravasated blood was also found in the cellular tissue and in the muscles around the joint.

From a patient, aged 35, who was admitted into the Hospital with a compound fracture of the leg, from which the above preparation was taken, but no injury was at any time observed about the hip joint, nor was any reference ever made to this part. The limb was removed four months after the accident, in consequence of the symptoms which had supervened, and he died two months after the operation of pleurisy, pericarditis and peritonitis. See *Post Mortem and Case Book*, case of GEORGE CONDERY.

255. Fracture of the spine in the dorsal region. There is partial destruction of the body of one vertebra, which has given rise to considerable angular curvature.

The preparation was taken from the body of a man who was a patient in the Hospital after the injury, but who died elsewhere. The history is as follows :—F. E., aged 42, was admitted into Oxford Ward July 13th, 1864. One month before admission he fell from a ladder (25 feet high) on to his back, was insensible for a short time, and, on recovering, found he had no power in his legs, and was unable to retain his fæces, nor could he pass his urine. On admission his pulse was weak, and he was very low spirited. He had no control over either his urine or fæces—he complained of no pain--his water was drawn off, and was highly ammoniacal—he had no power to move his legs, and had no feeling below a line drawn round the body on a level with the ensiform appendix. He remained in just the same state except that his general health improved, and that his urine (which was drawn off) became less thick and ammoniacal. On the 19th August and few following days

he was attacked with rigors and sickness, and complained of great pain in the region of the heart, his pulse became weaker and quicker, and his legs started a good deal (he had had starting of the legs before, but not nearly so much). These symptoms lasted on and off for about a week, after which he got better, though the legs started a good deal, and he complained at times of a burning sensation in them. The bowels were rather constipated, and he had occasional attacks of pain in the region of the heart, and at times seemed to have slight sensation in the legs, though not the least power. His general health was very good, though in other respects there was but little improvement, the loss of feeling not extending quite so high as on admission. Went out December 21st, 1864.

256 Recent fracture of the lower end of the radius. There is an old united fracture a little way above.

The preparation was obtained from the body of Sarah A., aged 70, who died in the Hospital while apparently recovering from the effects of a fall, which had happened a month before. There were also fractures of the olecranon and of the surgical neck of the humerus. See *Post Mortem and Case Book* for 1866, No. 36.

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251. The upper end of a femur, to which is attached a large irregular exostosis. A very rugged mass of bone, disposed in arches and pinnacles, porous but not soft, covers the lesser trochanter of the femur. A thin spike projects forwards and inwards

from the neighbourhood of this process for a distance of nearly two inches.

The preparation was taken from the body of William H., aged 26, who died of disease of the spine. A large sinus existed on the outer and upper part of the left thigh, at the bottom of which the rough exostosis could be felt. The sinus had followed an abscess, which formed in the same situation eighteen months before his death. For further particulars see *Post Mortem and Case Book*, 1863, p. 69.

252. The radius and ulna covered with new bone, apparently the result of periostitis. An uneven layer of rough porous bone has overlaid both bones in many situations, so as to give them a very irregular contour.

Nothing is known of the history of this preparation.

253. Ulceration of the body of the sphenoid bone. A large cavity with smooth sides has been formed in the body of the sphenoid bone, which has thus been almost entirely destroyed, and the sphenoidal sinus exposed on its upper aspect. The destruction has taken place rather more on the right than on the left side. The cavity communicates by the right sphenoidal foramen with the nares. All the neighbouring parts of the bone are porous and soft, and the same condition has extended a little way into the basilar portion of the occipital. The cavity is of irregular shape; it is large enough to lodge a small chestnut. At the post mortem examination it was covered above by the pituitary body, which was enlarged, and was in contact with a quantity of pus, with which the opening was filled. The dura mater has been destroyed. There was a little lymph, of some standing, about the base of the brain; the central parts were softened, and the whole tissue greatly injected.

The preparation was obtained from the body of a woman, aged 27, who was on treatment in the Hospital for an abscess of the thigh, when she was seized with shivering, became suddenly delirious, and died in less than twenty-four hours. For further details see *Post Mortem and Case Book*, 1863, p. 85.

254. A tibia, displaying very extensive ulceration, with necrosis, on its inner surface, near the head of the bone. Commencing about two inches from the inner articular surface is a deep irregular hole, a part of which is occupied by a long mass of dark necrosed bone. The bone near the excavation is spongy and soft. The surface on the inner and back part of the bone is rough, and covered with stalactitic projections.

The preparation was taken from the body of a girl, aged 19, whose leg was amputated in the Hospital, Jan. 30th, 1862. She had, as was supposed, very extensive caries of the tibia; this was accompanied by much foul purulent discharge. She

had been long in the Hospital, without any attempt at reparation, and with injury to her general health. The thigh was removed by the circular operation. The patient recovered.

255. A portion of a femur affected with syphilis. A part of the shaft only has been preserved; this has been cut longitudinally, so as to display the interior. In many situations a deposit of new bone has taken place beneath the periosteum. This is thicker in some places than the wall of the shaft, and it surrounds about half the circumference of the bone for a distance of four or five inches. The new bone is very compact; its surface is rough. Under the new formation the shaft of the bone can be followed in an apparently natural state.

This preparation was taken from the body of a patient who died in the old Lock Hospital, worn out from excessive suffering, with the symptoms of syphilitic periostitis. *Presented by* Mr. HENRY LEE.

256. The calvaria, affected with syphilitic disease. It is generally thickened, and porous new bone has been deposited over the greater part of the inner surface. On the inner surface of the right parietal bone is a small circle of rough new bone, probably the remnant of a syphilitic node. In a recent state, the bone was unusually vascular.

This preparation was taken from the body of Henry S. For the history see Series VIII., Prep. 176, where the dura mater from the same subject is described. See also *Path. Soc. Trans.*, Vol. XIII., p. 8; and *Post Mortem and Case Book*, 1862, p. 48.

257. A skull, extensively destroyed by syphilitic disease. There is a large hole through the vertex, nearly three inches long and about half as wide, at the expense of the parietal and frontal bones; and there is another perforation of rather smaller size through the middle of the frontal bone. The edges are rugged and shelving, the outer table much more widely removed than the inner. There are many round patches on both parietal bones, where the bone has a porous character, and looks worm-eaten. There are some detached pieces of bone belonging to the preparation; one is a portion of the right parietal bone, which has been completely separated, and reduced to the condition of a sequestrum. One corner of it is marked by the trephine. The other loose pieces became detached, in a similar manner, from the base of the skull, near the body of the sphenoïd bone.

This preparation was taken from the body of Mary B., aged 24. She had contracted syphilis about seven years before her death. She had had a rupial eruption and ulceration of the throat. About two years before her death she noticed a painful swelling upon her forehead, which after a

time gave way and exposed the bone. Six months later she became much emaciated, weak, and had some loss of power in the right leg. A part of the frontal bone was exposed, dry and dead. There was also some exposed bone in the parietal region, and some nodes scattered about the head. A part of the frontal bone was now removed by the trephine. The operation was followed by some degree of strabismus, but by no very serious mischief. She was lost sight of for a time, but about a year after the operation she came again under treatment. She was now dropsical, as was supposed from disease of the kidneys. Three months later she died. *Presented by* Mr. Henry Lee. For further particulars see case of Mary B., *Beale's Archives*, No. VI., 1860, p. 1.

258. The sternum and sterno-costal joints of a ricketty child. The articulating ends of the ribs are swollen into a globular form, and are more prominent behind than in front. The ribs, particularly their articulating ends, are very soft.

The preparation was taken from the body of a child, aged 2, who was brought as an out-patient to the children's hospital, in consequence of some trifling symptoms referred to the lungs. The mother laid the child upon its belly and chest, to allow of auscultation. When it had been a very short time in this posture—not long enough to enable any sounds to have been heard—the mother, struck by its quietude, raised it up. Its face and head were congested, and the child was dead. On post mortem examination, a small amount of lobular pneumonia was found, but there was nothing to account for sudden death. This had probably taken place from apnœa. The flexible thorax was fatally compressed by the posture of the child. *Presented by* Dr. Dickinson.

259. A pelvis displaying extensive caries of the sacrum. Inside all the sacral foramina the bone can be seen, rough and soft. Loose cancellous tissue forms everywhere the wall of the sacral canal. The external parts of the sacrum are all natural. The horizontal branches of the pubic bones, their front parts, and the upper portions of the ischia, are all rough, and in some places as if worm eaten. They are not softened, however, and it is probable that the morbid appearance of the bones in front of the pelvis is rather due to exposure, and the contact of pus, than to any disease within itself.

The preparation was taken from the body of William L., who died in the Hospital, aged 51. He became a patient several months before, with sinuses burrowing about the penis and scrotum. These were laid open. But the suppuration seemed to extend backwards, and on two other occasions extensive incisions were made about the pubes, perinæum and penis. The pain was most severe in the groin and down the

thighs. Tonics were given, and also narcotics, which the severity of the pain rendered indispensable. After months of acute suffering the patient sank. At the post-mortem examination all the front of the pelvis was exposed to view, of a dark colour, and bathed in pus. The pubic bones, and great portions of the ischia, were denuded of periosteum. For further details, see *Post Mortem and Case Book* for 1861, p. 244.

260. Frontal bone of a child with a spungy growth of new bone, connected with the orbital and vertical plates. The growth was connected with a malignant tumour, which caused protrusion of the eyes. The bony growth projects considerably into the cavity of the skull, as well as into the orbits. It much resembles the structure of a variety of coral. The osseous tissue is arranged in a complexity of plates, which radiate from the frontal bone.

261. Fracture of tibia after necrosis. The shaft of the tibia is wanting, from within about 2 inches of the upper epiphysis to the attachment of the lower. The whole of this space is occupied by an irregular column of spongy bone, hollowed in several places, and adapted at the lower end to the shape of the epiphysis. Near its upper part there is a deep notch, the continuity of the bone being maintained only by a short column of osseous tissue, not thicker than a cedar pencil. At this point a fracture has taken place.

The preparation was obtained from the amputated limb of a boy, aged 15. He was admitted into the Hospital in September, 1861, with acute periostitis of the tibia, for which incisions were made, and which was followed by necrosis and subsequent exfoliation of nearly the whole of the shaft of the tibia. He remained in the house a considerable time. His health having materially suffered from the excessive discharge, and also from a severe attack of secondary hœmorrhage, he was sent into the country for change of air, and was readmitted on July 28th, 1862, when a large piece of dead bone was discovered; this was removed on August 14th. After the operation the wound began to cicatrise freely; when, on August 28th, his crutch slipped, and he fell, fracturing his leg at the seat of the disease. No reparative action was set up, and his strength began to decline. Amputation was, therefore, resorted to on October 2nd. He recovered quickly with an excellent stump.

262. Calvaria, with a large sequestrum at the back part. The sequestrum is triangular in shape, nearly equilateral, about 4 inches in the side. It involves the whole thickness of the skull. The outer surface is more extensive than the internal. There is a small patch of roughened bone over the right eyebrow.

The preparation was obtained from the body of Julia B., aged 26. She died in the Hospital with dropsy and albuminous urine, the result of waxy infiltration of the kidneys. The disease of the skull was attributed to a scald.

At the post-mortem examination the dura mater proved to be coated with purulent lymph, opposite to the sequestrum; internally it was natural. The liver contained round deposits, like dried-up abscesses. The tissues of this organ, as well as the kidneys and spleen, were generally transformed by waxy ('amyloïd') deposit. See *Post Mortem and Case Book*, 1865, p. 194.

263. Frontal bone perforated by caries. The vertical part of the bone is roughened externally with deep irregular depressions, interspersed with nodular elevations. The inner surface of the bone is roughened, but to a less extent. There is a wide opening on the anterior surface into the frontal sinus; this extends more to the left than the right. There is a small hole, which passes from a higher part of the bone into the cranial cavity.

The preparation was taken from the body of John H. B. aged 47. It appeared that five years before his death he had received a blow with his umbrella in a gale of wind over the left eyebrow, which made a severe wound. Shortly after this he became delirious, and afterwards had slight loss of power on the right side. From this he apparently recovered, but about nine weeks before his death he was attacked with pain in the head, drowsiness, melancholy, and wandering. Some loss of power in the right side was noticed, which afterwards became decided, especially in the arm, which was rigid. He eventually became very feeble, and sank into a stupor, in which he died. He retained the power of speech. At the examination of the body the condition of the frontal bone was such as has been described. The dura mater was closely adherent to its inner surface, especially on the left side. The membrane was here thickened, and was inseparable from the front of the hemisphere. A tumour, about as large as a plover's egg, was placed between the dura mater, with which it was closely connected, and the surface of the brain. The traces existed of inflammatory deposit; it had a core of hard matter, like indurated pus, while the outer part was of more recent lymph. The anterior half of the left hemisphere was softened, so as to be readily excavated by dropping water. The surface of the brain was flattened, the septum deflected to the right. See *Post Mortem and Case Book*, 1865, p. 185.

264. Bones of the leg, having upon them large rough deposit of new bone, the result of periostitis. A mass of bone bridges the space between the tibia and fibula, and projects irregularly in

several directions. The tibia is thickened, the fibula extensively roughened.

Nothing is known of the history of this preparation. It appears to have been obtained from an amputated limb.

265. Bones of the tarsus, extensively destroyed by strumous disease. The astragalus and os calcis are reduced to a shapeless spongy mass, in which it is scarcely possible to recognise the outline of the bones. Some cavities exist, in which are isolated fragments of dead bone.

No history of this preparation exists.

266. Calvaria, affected by syphilitic disease. There is spongy carious bone, somewhat discoloured by exposure, upon the frontal and both parietal bones. The inner surface is roughened by diffuse periostitis.

The preparation was obtained from the body of George E., aged 38, who had been the subject of syphilis for eight years. He was admitted, having suppurating sores upon the scalp, with exposed bone. He died of empyema, probably of pyæmic origin. The liver, spleen, and kidneys were affected by 'amyloïd' change. See *Post Mortem and Case Book*, 1864, p. 42.

267. Lower ends of the tibia, containing the cavity of an abscess. The bone is much thickened in its lower third, and roughened upon the surface. In the cancellous tissue above the articular end is an irregular cavity, which would hold about a tablespoonful. It opens into the joint, the articular surfaces belonging to which were roughened and deprived of cartilage.

The preparation was obtained from the amputated limb of a man, who became a hospital patient under the following circumstances:—In 1859 he sprained his ankle, and ever since he has had pain and swelling. For some time this pain was located in one spot, was of a gnawing character, and especially severe at night. Latterly the pain has been constant, more severe, and of a starting character. When admitted, there was considerable elastic swelling about ankle and lower end of leg. The lower extremity of the tibia could be felt to be enlarged, and on pressing the articular surfaces together great pain was experienced. He was of a scrofulous diathesis. Amputation was performed by the rectangular flap.

268. Part of a cranium, showing excavations the result of malignant disease. There is spongy excavation on the inner surface of each parietal bone, which has passed completely through the bone. The opening on the right side is the larger. There is a considerable deposit of new bone around the margins. These openings were in the recent state occupied by cancerous matter. The membranes of the brain were natural, but

there was a cancerous deposit in the adjacent part of each hemisphere.

The preparation was taken from the body of a female who died in the Somerset Lunatic Asylum; she was admitted twelve years before her death with mania and hemiplegia of the right side. She died of malignant disease of the liver and uterus. For particulars see *Path. Soc. Trans.*, Vol. XVI. p. 4; see also Series VIII. p. 223. *Presented by* Dr. JOHN W. OGLE.

269. Os calcis removed by operation. The bone is extensively excavated by caries, at one point nearly perforated. The shape of the bone is much altered by disease and by a previous operation. No part remains of the surface, which should articulate with the astragalus.

The bone was removed from the foot of a girl, aged 6, a patient in the Hospital. There had been symptoms of disease in the bones of the foot for 13 months. When she was admitted she had an open wound, leading to dead bone, connected with the os calcis. This was removed, with temporary improvement; but the swelling reappeared, fresh openings formed, and the entire os calcis was taken out, which was the only bone in which any disease could be detected. The patient recovered from the immediate effects of the operation. The case is still in progress. See *Lancet*, 1865, Vol. I., p. 559, case III.

270. Diseased os calcis. A large part of the superior surface of the bone is necrosed, and is partially separated from the unaffected part. All the articular surfaces of the bone are natural. There is an excavation on the outer aspect of the bone, partly the result of gouging during life.

The bone was obtained from the amputated foot of a man, aged 39, who began to feel pains about the foot 15 months previously, followed by an ulcer under the outer malleolus, which assumed a sloughing condition. Diseased bone was felt in the os calcis, and part of it was gouged away, with temporary relief. The wound, however, did not heal; fresh openings formed; and after taking into consideration the advisability of excising the os calcis, the foot was amputated.

271. Disease of pubes. There is a spongy carious condition of the upper part of the pubic bones, on each side of the symphysis. The disease is most extensive on the left side. It was not continuous across the symphysis.

The preparation was obtained from the body of Maria C., aged 15, who died in the Hospital. For six months before her death she had suffered from pain and difficulty in making water, and pain in the back. Six weeks before her admission a swelling appeared in the left groin, and subsequently broke, discharging much pus. Afterwards a purulent discharge began to flow from the vagina, and the patient sunk.

At the post-mortem examination the portion of bone preserved proved to be the source of the mischief. From the carious patch on the left side, which was discoloured, and bathed with foul matter, pus had burrowed in many directions. It passed outwards along the groin, traversed the upper part of the thigh in many directions, and surrounded the hip-joint, which itself was natural. From the vicinity of the joint the matter passed along the crest of the ileum, over which was a large open sore. Pus had also penetrated the sheath of the psoas muscle at the brim of the pelvis, and had passed upwards to the spine. In the lumbar region was a collection of matter, which appeared to have come up the sheath, as described; it lay in contact with the posterior part of the crest of the ileum and the transverse processes of the lumbar vertebræ, which were denuded. Beside these, a narrow straight sinus bored from the neighbourhood of the open wound on the crest of the ileum, through the pelvic tissues, to the neck of the uterus, into which it opened about half an inch above the os. The kidneys were in an early state of waxy degeneration; their Malpighian bodies were discoloured by iodine. For details see *Post Mortem and Case Book*, 1866, p. 52.

272. A thigh bone, removed by amputation through the hip joint. The head, and neck, and trochanters are wanting; they were softened by caries, and disappeared entirely in maceration. The bone terminates above by an irregular broken end, about which, as well as along the linea aspera, much new bone is seen. The lower end of the bone is carious.

The limb was removed in consequence of long standing disease of the hip joint. The patient, a boy aged 14, was admitted into the Hospital February 14th, 1865. He had been the subject of hip disease, probably strumous, since he was 3 years old, and sinuses proceeded from the joint in various directions. The joint was cut down upon, with a view of performing excision or amputation according to circumstances. The extent of the caries in the femur and in the pelvis made it necessary to perform the latter operation. During its removal the femur broke off at the point where it now terminates. Excepting some sloughing of the wound, the patient did well, and left the Hospital February 7th, 1866, with the wound healed up. For particulars, see *Lancet* for 1866, p. 368 ; also, *St. George's Hospital Reports*, Vol. I.

273. The upper end of a femur altered by malignant disease. The bone is shown in section. There is a quantity of very open cancellous tissue replacing the compact tissue of the femur. The bone was broken during life; about one-third of the length of the bone from the hip joint the fractured end is uppermost. The bone is so much altered in shape that all semblance of head and neck has disappeared.

The preparation was taken from the body of a lady, aged 48, with malignant disease of both femurs, and of the lumbar vertebræ, secondary to scirrhus of the breast. *Presented by* Dr. John W. Ogle.

274. Portion of the parietal bone, and of the adjacent dura mater, showing the effects of a bruise. The bone is discoloured externally, where it had been exposed, in a wound, for a space as large as a sixpence. On the inner surface, opposite, there is a boundary of lymph, which has served to limit pus to a small space between the bone and dura mater. The part of the skull which is affected is opaque, as if it contained pus in the diploe. There is no fracture or mechanical injury to the bone. The dura mater, which is also preserved, shows a circumscribed deposit of purulent matter on its outer surface opposite to the affected bone.

The preparation was obtained from the body of Charles W., aged 30, who came into the Hospital with a scalp wound, which gave rise to pyæmia. See *Post Mortem and Case Book*, 1866, p. 105.

275. Acute necrosis of the shaft of the radius, from a child. The bone was extracted through the opening of an abscess close above the wrist. The child recovered with a perfectly useful arm, all the movements being retained. *Presented by* Prescott Hewett, Esq.

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151. The bones of a knee-joint, affected with strumous disease. Almost the whole surface of the femur has lost its articular lamella, what remains is in the form of isolated patches. The cancellous tissue beneath is exposed and softened. Around the joint is a very scanty deposit of new bone. The same description will apply almost, word for word, to the tibia. The patella has lost its smooth surface except at one corner. Upon its outside is a scanty deposition of new bone.

The preparation was taken from the amputated limb of J. H., a girl of strumous appearance, 16 years of age. When admitted as a patient into the Hospital she had had disease of the joint twelve months. The joint was then distended to a globular shape and was very painful. Free incisions were made and a quantity of pus evacuated. The health became much affected and the limb was amputated. It was then found that the cartilages had been extensively destroyed, and that the pus had burrowed into the calf of the leg. She died of pyæmia two months after her admission, and rather more than a fortnight after the amputation.

152 The bones of the forearm after the resection described in Series III., p. 150. The humerus is shorter than natural in consequence of the operation ; its lower end is spongy, and still shows the even surface made by the saw. All around the joint are numerous irregular outgrowths of bone, which are most plentiful on the back surface and along the articular ridges. The ulna is in a very similar state. Between it and the humerus is a small cavity, which, in the recent state, held a sequestrum. The radius is also spongy, but is less seriously diseased that the other bones.

The man, whose history is recorded in the place referred to up to the time of his leaving the Hospital, came again as a patient ten months afterwards. The joint was then surrounded by sinuses, and was capable of very slight motion. There was much pain and swelling ; the patient's health was impaired, and he begged to have the limb removed, which was done May 10, 1863. The man made a good recovery and went out well.

153. The heads of two humeri removed during life. The one, which includes the largest part of the shaft, is the most extensively diseased ; the greater part of the articular surface has been destroyed, so as to expose the cancellous tissue beneath, which has assumed a very loose spongy character. A thin layer of new bone surrounds the surgical neck, and covers the periosteal surface generally.

This was removed from a man aged 35, who had long suffered pains of a rheumatic character about the right shoulder. The bones of the joint grated upon each other, and could be felt roughened when the finger was introduced through an incision made for the purpose. The head of the humerus was removed, and the glenoïd surface of the scapula chiselled away. He went on apparently well for some time but died somewhat suddenly on the 20th day, having been seized with pains in the head and epileptic fits. After death the brain was found to be extensively congested. The parts about the shoulder had healed in the most natural manner.

The smaller portion of bone is but slightly diseased, only a small patch of the articular lamella has disappeared ; the place might be covered by a shilling. It was removed by operation from a young man who ten months before had a blow upon the shoulder. The part became affected with severe pain, and an abscess connected with the joint opened in the axilla. The head of the bone was felt exposed and rough when the finger was passed into the sinus, previously enlarged to admit it. The patient did well and eventually recovered.

For further particulars see *Post Mortem and Case Book* for 1863, p. 133 ; also *Path. Soc. Trans.*, Vol. XIV., p. 231 ; also *Lancet*, 1863, Vol. II., p. 534.

154. Bony ankylosis of the ankle joint. The tibia is connected to the astragalus, the fibula to the os calcis, the astragalus to the os calcis. One or two spots remain where the bone is still soft and excavated. The history of the case is as follows :— The patient, a female, aged 38, was admitted into the Hospital January 10th, 1866. She stated that six years ago she began to suffer pain in the left ankle, accompanied by swelling, without known cause. She was, however, able to get about until six months ago, when abscesses formed. Ever since she has been confined to bed, and fresh abscesses have constantly appeared. The left ankle was much enlarged, swollen, and distorted. The tissues around were all infiltrated with pus, and there were numerous sinuses leading down to exposed bone. There was not the slightest motion in the ankle joint, but any attempt to move it caused great pain, so that the exact state could not be ascertained. Amputation of the lower third of the leg was performed by the double flap operation. The patient did well.

155. Portions of bone removed from the elbow joint. The bones are all of natural consistence, but the articulating surfaces are roughened. The joint had been diseased for a period of 12 years, and eventually was found to contain pus. The joint was excised six days after the operation; a severe attack of secondary hæmorrhage came on, which proved fatal. The blood was found to have proceeded from an opening in the great anastomotic artery. See *Post Mortem and Case Book*, 1865, p. 206.

156. Portions of the humerus and ulna removed from the elbow-joint. The articular surfaces are rough, and the bone spongy from chronic disease.

The preparation was obtained from a man, aged 36, under the following circumstances :—He was admitted into the Hospital March, 1864, with the history of disease of the right elbow of 2½ years standing, and attributed to an injury. When admitted there was some fulness of the joint, and a soft

fluctuating swelling on the inner side Motion in the joint was not entirely lost. The abscess was opened, and apparently communicated with the joint. He was discharged for a time, and re-admitted on August 17th, there were then numerous sinuses surrounding the joint, but principally on the outer side. On probing, the instrument passed completely through the joint, and exposed bone could be felt. Excision was performed on October 6th. He made a good recovery, and was discharged on November 30th, he had then a considerable range of motion, and could lift a comparatively heavy weight.

157. Pieces of bone removed from the elbow joint. These include portions from the three bones which go to form the joint. They are carious and spongy; in the portion which belonged to the ulna a crude tubercle was imbedded, and in the dry condition traces of it may still be seen.

The portions of bone removed from elbow of Kate W., aged 15. Operation performed August 27th, 1863. The synovial membrane around the joint was found much thickened and pulpy. The cartilage covering the articular surface of the ulna had been absorbed, and there was a deposit of crude tubercle in this bone the size of a bean, which was cut through during the operation. Some sloughing and constitutional disturbance followed the operation; but the wound soon became filled with granulation. In January, 1865, she had very good use of her arm; could put her hand to her mouth, and extend it to nearly a right line. A cough which she had before the operation was performed had now entirely disappeared. For particulars see *British Medical Journal*, February 18th, 1865, p. 160.

158. Pieces of carious bone removed from the elbow, September 21st, 1863. The patient, who was a man, did well, and recovered considerable movement in the limb.

159. Pieces of bone removed from the knee of a boy, Henry M., aged 13. The condyles of the femur, the articular surface of the tibia, and the patella, have been taken away. The femur is the most extensively diseased; it is very spongy, and excavated by many small cavities. All the articular surfaces are roughened. The patient recovered from the operation sufficiently to get about the ward. He was still a patient when the account was written (1866).

160. Head of the femur, in an advanced state of caries, which was removed by operation. The patient was a boy, Edmund D., aged 8, who had been the subject of hip disease for eight months. When admitted into the Hospital the hip was much distorted, the head of the bone lying on the dorsum ilii. The joint was surrounded by a large fluctuating swelling, which

was opened, and discharged much pus. The joint was cut down upon and the entire head of the bone removed. It was spongy throughout, and had entirely lost its articular surface. The patient is still under treatment.

161. Portions of carious bone removed from the knee-joint of James L., a boy aged 9, who was admitted into the Hospital September 25th, 1863, the operation being performed a few days afterwards. Recovery was slow. He went to Margate, and on his return had possession of a very useful limb. When seen after his return, the wounds were all closed and the limb firm.

162. Calcareous mass, which was removed from the interior of the knee-joint. The mass, which is about the size of the last phalanx of the fore-finger, is apparently a loose cartilage, in which earthy matter has been deposited. It was removed from the knee-joint of a labourer, aged 56. He had been for many years conscious of the existence of a loose body in the joint, which had lately appeared to increase in size. It gave rise to frequent attacks of pain and swelling, which prevented his following his employment. There was a pouch of synovial membrane above and external to the joint into which the body could be driven. From this it was removed by incision. The limb was afterwards bandaged. A month after the operation the man was discharged, with a laced bandage to support the knee. See *Medical Times and Gazette*, May, 1865, p. 521.

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21. Specimen showing abscess in the rectus femoris muscle. See *Path. Soc. Trans.*, Vol. XVI., p. 278.

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56. Spina bifida. The sac has been laid open from the front, through the bodies of the vertebræ. No history.

57. Spina bifida. The sac has been opened from behind. The nerves are seen attached to the posterior wall of the sac. The cord has been exposed by the removal of the laminæ. No history.

58. Spina bifida, much resembling the preceding. No history. *Presented by* Dr. John W. Ogle.

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220. A spherical mass of fibrine, which was found in the left auricle of the heart. It is of about the size of a billiard ball, and almost as perfectly spherical. The regularity of the shape is only broken by a slightly raised ridge in one place, and by a small ring-shaped depression about as large as a fourpenny piece in another. The surface is generally of a finely granulated texture. On section it appears that a piece of fibrine of ragged irregular shape is in the centre, and has become surrounded by layers of the same material until a globular form has been produced, which has been increased in size by the same process.

This was obtained from the body of a woman 43 years of age, who died in the Hospital with dropsy, dyspnœa, and other symptoms, which were referred to valvular disease of the heart. She had a loud systolic murmur at the apex, and a doubtful diastolic murmur in the same situation. At the post mortem examination the globular body rolled out of the auricle as soon as that cavity was laid open. It was perfectly unattached. See *Post Mortem and Case Book*, 1862, p. 186; also *Path. Soc. Trans.*, Vol. XIV. p. 127.

221. The left side of the heart, in which the formation described in the preceding paragraph was discovered. The left auricle is immensely dilated, and a rough deposition of fibrine is to be

seen projecting from the appendix. The mitral valve is thickened by means of a great increase in the fibrous tissue which belongs to it, so that the orifice is reduced to about the size of a button hole. It appears probable that a portion of the fibrine has broken from the wall of the auricle, and has become the seat of successive depositions from the blood. The continual motion of the body within the auricle has probably been the means of imparting the spherical shape.

The references are appended to the account of the preceding preparation.

222. Rupture of the heart from direct violence in a girl 4 years old. There is a transverse laceration which has almost separated the apex from the rest of the organ. It is only attached by a sort of hinge which remains on the anterior surface. Both ventricles have been laid open by the injury.

The child was run over by a cart. It was concluded that pressure had been brought to bear upon the back of the child, that the thorax had been thus compressed to a great extent, and the heart torn by some prominent bone, probably a rib, She was brought into the Hospital dead. The muscular tissue of the heart was natural. See *Post Mortem and Case Book* for 1862, p. 224 ; also *Path. Soc. Trans.*, Vol. XIV., p. 65.

223. Heart in which a needle transfixes the left ventricle. The blunt end of the needle is seen upon the anterior surface of the heart, about an inch from the apex ; the point appears upon the posterior surface rather higher up. The needle passes through the left ventricle about midway between the septum and the opposite wall.

The preparation was obtained from the body of Henry C., who died in the Hospital from the effects of chloroform. After the apparent death of the man two needles were thrust into the præcordial region with the object of galvanising the heart. One was extracted, but the other when looked for was found to have disappeared from the surface. The skin was cut through over the puncture, but the needle could not be recovered. It was found at the post mortem examination in the position it now occupies. For further details see *Post Mortem and Case Book* for 1863, p. 234 ; also *Path. Soc. Trans.*, Vol. XV., p. 70.

224. The left ventricle of the heart transfixed by a bayonet-wound. The puncture, into which a bougie has been passed, passes through the ventricle somewhat below its centre, in an antero-posterior direction. The wound has passed almost entirely through the wall, but lays open the cavity to a very slight extent. On looking at the inner surface of the ventricle the bougie is just visible on one side, as it lies in the wound. It is partially concealed by the columnæ carniæ. The outer surface of the heart is covered by a thin layer of soft lymph.

The history of the preparation is as follows :—It was obtained from the body of H. N., aged 17, a member of the Nottingham Volunteers. While running he stumbled, in doing so his bayonet fell, point uppermost, to the ground. While it was in this position he fell upon it, and the point entered his chest. He drew it out and walked a short distance, when he fainted. He was taken to the Nottingham Hospital, where he arrived about an hour after the accident. The patient bore traces of great loss of blood, though the hæmorrhage from the wound was but trifling. A triangular wound was seen in the left side of the chest, between the fifth and sixth ribs, about an inch and a half below and external to the nipple. Next day that side of the chest was found to be dull up to the level of the wound, and subsequently the patient became unable to lie except on the injured side. On the second day after the accident a flexible catheter was introduced through the wound, and a pint of blood was withdrawn from the pleural sac. The sounds of pericardial friction were distinguished. The respiration and the pulse became much quickened, the feet got cold, sordes collected on the teeth, and the patient sunk four days after receiving the wound. At the post mortem examination the wound was found to have passed through the left pleura, through the heart and pericardium as described, to end in the right pleura, after having passed through a portion of the vertebral column. Both pleuræ contained blood. For further particulars, see the account of the case in the *Medical Times and Gazette* for 1863, Vol. II., p. 487. *Presented by* Mr. Thompson.

225. Laceration of the internal carotid artery by a fragment of bone, from a case of compound fracture of the skull. The anterior and middle fossæ of the skull have been preserved in connection with the wounded vessel. The artery was torn in the groove upon the sella turcica, on the under and inner part of its circumference. A bougie has been passed into the vessel so as to make tense its wall and keep the laceration visible. It is thus seen to occupy about half the circumference of the vessel. A large oblong hole has been knocked in the anterior and middle fossæ of the skull on the left side, which reaches from the anterior edge of the orbital plate to the front of the sella turcica. It is rather more than an inch in width. The fracture does not cross the median line.

The preparation was taken from the body of James E., an engine-driver, who was found lying insensible near his engine, and was supposed to have been struck by some portion of the machinery. He was brought to the Hospital with a deep wound occupying the place of the left eye, through which portions of brain matter came. The hæmorrhage was most profuse, and was only controlled by pressure upon the carotid

arteries. He died about three hours after admission. See *Path. Soc. Trans.*, Vol. XIV., p. 132 ; also *Post Mortem and Case Book* for 1862, p. 319.

226. Aneurism of ulnar artery, the probable result of an embolical obstruction of the vessel. The sac, which is formed chiefly by the surrounding muscles and areolar tissue, is about as large as a swan's egg, or, perhaps, rather larger. The walls are very thin. The outer and lower parts of the cavity are occupied by decolorised, laminated coagulum. At the upper part is an empty space which is continuous with the upper division of the vessel, and in a recent state was full of fluid blood. The ulnar artery is separated from the aneurism, both above and below, by a sharp crescentic margin. The coats of the vessel are natural. The part of the artery connected with the lower end of the sac contained a small slender coagulum which was not large enough to obstruct the vessel. At the post mortem examination it was found that the left auricle was coated with loose fibrinous vegetations, which had evidently been carried into the circulation. A fibrinous obstruction was found in one middle cerebral artery, while the other had burst and given rise to an apoplectic extravasation in the brain. There were fibrinous blocks in the spleen, and in one kidney.

The preparation was taken from the body of George H., who died in the Hospital at the age of 17. Two years before he had been laid up with what was believed to be rheumatic fever. He was admitted in consequence of an elastic pulsating tumour in the right forearm. This was on the front of the limb, and was large enough to render the right forearm double the circumference of the left. The swelling reached nearly the whole length of the forearm. In it a distinct systolic bruit was heard. The action of the heart was exaggerated, and the systolic sound was accompanied by a distinct murmur. While under treatment, or rather observation, with the local disorder, he was suddenly seized with the usual symptoms of apoplexy. He became unconscious, and the left arm was believed to be paralysed. This must have been owing to the mass of fibrine which existed at the origin of the right middle cerebral artery. He remained perfectly speechless. Nine days later he had a second attack, similar in character, but followed by hemiplegia of the right side. This must have been due to the apoplectic extravasation. He died two days afterwards. (See Series VIII., p. 194, also next Prep.) For details, see *Post Mortem and Case Book* for 1864, p. 33.

227. The heart alluded to in the preceding description. The left auricle is partially covered with a rugged deposition of fibrine, prominent and easy to be detached.

228. A portion of the left lung, showing the pulmonary artery and its branches occupied by coagulum. The vessel is seen to be completely filled with partially decolorised coagulum, which is slightly adherent to the vessel, of which the coats are perfectly natural. The clot is partly separated from the wall by pieces of bristle. See next Prep.

229. A piece of the deep femoral artery, and of the corresponding vein from the same case, which are obstructed by coagulum, somewhat decolorised, but of more recent date than the clot in the pulmonary vessels. In each vessel the clot terminates above by a point, and below passes into the minutest branches. The artery and vein are both natural, as far as their coats are concerned.

These preparations (228, 229,) were obtained from the body of a young woman, Mary A., aged 23, who died in the Hospital, October, 1863. Five weeks before this she had had pain in the chest, and several distinct rigors. The pain continued until within ten days of her admission. She then (September 30) had the aspect of health, but a rather hysterical manner. The skin was cool, the pulse rather frequent, the tongue clean. She was considered to be the subject of hysteria, and was treated accordingly. On the 13th of October, when about to leave the Hospital, the left leg was found to be swollen, on which account she settled to stay a day or two longer. The same day the nurse was called to her to the water-closet, where she was in a fainting state, and where she expired before any other help could reach her. At the post mortem examination, the pulmonary artery from the valves, to the smallest branches in both lungs which could be reached by dissection, were full of coagulum, mostly of some standing, but some recent. Both right and left divisions were in the same state. The vessels of the left leg, which was the more œdomatous, were found in the condition which has been already described. There were some adhesions between the liver and spleen which appeared to have been formed upon a fibrinous block in the latter, which had become softened to a creamy consistence. All the blood vessels were free from disease in their coats. The heart was natural. See *Post Mortem and Case Book*, 1863, p. 254; also *Path. Soc. Trans.*, Vol. XV., p. 75.

230. A portion of the left ventricle, displaying the aortic valves in a state of ragged ulceration, and covered with loose fibrinous vegetations. These are very irregular in shape, and are of a kind to be easily detached. The aortic valves are covered, as well as the anterior flap of the mitral, on its ventricular surface.

The preparation is preserved to illustrate the conveyance of

masses of fibrine from the heart into the circulation. Portions of the cerebral vessels were thus obstructed. See *Post Mortem and Case Book*, 1864, p. 52. Emma L.

For the history see Series 8, Prep. 192.

231. Hypertrophy of the right ventricle in a child. The right ventricle is as thick as the left, and has a considerably larger cavity.

The preparation was obtained from the body of a child, who died in the Hospital of chronic bronchitis and emphysema, which symptoms had existed during the greater part of its life.

232. Pyæmic affection of the tricuspid valve. The tricuspid valve is the only one affected, the others being quite natural. The valve is much thickened by an opaque material like semi-purulent lymph. In one spot, about midway between the edge of the valve and its attachment, the material has broken down, so as to produce a ragged hole through the valve.

The preparation was taken from the body of Edw. S., aged 46, who died in the Hospital, with the symptoms of pyæmia.

At the post mortem examination there was much pus in the arachnoid cavity at the base of the brain, the central parts of the brain were softened, and there were points of extravasation upon the lining membrane of the ventricles. There was an abscess in the vitreous body of the right eye-ball, and the right lung was hepatised throughout. There was no external wound or injury to which the pyæmia could be attributed. For details see *Post Mortem and Case Book*, 1865, No. 360; also *Path. Soc. Trans.* Vol. xvii.

233. Pyæmic affection of the mitral valve. The heart is natural in all respects, excepting that there are two isolated patches of recent thickening, with a hole in the centre of one, occupying the anterior flap of the valve. The edge of the valve was quite thin and translucent. The patches of opaque thickening were covered with loose vegetations. The interior of the thickened part contained many globules, like imperfectly formed pus. These existed in the thickness of the valve. The hole in the centre had ragged broken edges, as if it had been produced by the breaking down of the most softened parts.

The preparation was obtained from the body of Sarah W., aged 37. She had been confined nearly 6 months before; she did badly, and had inflammation of the veins of the right leg; eventually she had rigors, diarrhœa, and delirium, and died in a comatose condition.

At the post-mortem examination, the uterus was found to contain pus, the lining membrane being injected. The right iliac and femoral veins contained purulent matter. An abscess

existed in the spleen. There was the pyæmic deposit in the substance of the mitral valve, as has been described, to which loose vegetations were attached, these had given rise to fibrinous blocks in the kidneys and spleen. There were also patches of red softening in the brain. For further particulars see *Post Mortem and Case Book* for 1866, p. 79; also, *Path. Soc. Trans.*, Vol. XVII.

234. Hypertrophy and dilatation of the left auricle, associated with long standing contraction of the mitral opening.

The preparation was taken from the body of John R., who died in the Hospital, aged 26, with œdema and difficulty of breathing. For particulars see *Post Mortem and Case Book* for 1865, No. 246.

235. Extensive narrowing of aortic and mitral openings. The valves are thickened by tough fibrous tissue. The mitral opening is apparently almost closed; what opening there is was permanent; from the rigidity of the flaps no valvular action could have taken place. The aortic orifice is similarly narrowed. In its recent state it was not large enough to admit of the passage of a cedar pencil. In the preparation it appears still smaller.

The preparation was taken from the body of Lydia J., aged 39, who died in the Hospital, January 5th, 1865. She had had attacks of anasarca and bronchitis; latterly her breathing became more difficult, and the dropsy became considerable, so that the legs had to be frequently punctured, and it was proposed to puncture the abdomen. The heart's sounds were noted as obscure, tumultuous, and without rhythm, six short sounds corresponding to one beat of the pulse. With the first two of these sounds a short bruit was heard. After death the heart was found to be hypertrophied, both ventricles were contracted and dilated, while the aortic, mitral and tricuspid valves were thickened by fibroid matter. The capsule of the liver was thickened, the kidneys were granular. For particulars see *Post Mortem and Case Book* for 1865, No. 6.

236. Occlusion of the coronary arteries, associated with angina pectoris. The aortic valves and the root of the aorta are much altered by soft atheroma. This lay beneath the lining membrane of the vessel, and had encroached upon the openings of the coronary arteries. The orifice of the left coronary artery had been completely closed, so that its position was not distinguishable without tracing the vessel upwards to the aorta. The orifice of the right was much narrowed. The heart was hypertrophied.

The preparation was taken from the body of a gentleman, who died, aged 45, in a fit of angina pectoris. He had had well marked attacks of the disease for the 3 years preceding

his death. For details see *Path. Soc. Trans.*, Vol. XVII.; also, *Med. Times* for January, 1866, p. 24.

237. Occlusion of the coronary arteries, associated with angina pectoris. There is much soft atheroma about the root of the aorta, which encroaches upon the openings of the coronary arteries, so that neither will allow of the passage of a common probe. These vessels in their course are natural. The valves of the heart are natural. The heart was slightly increased in size, weighing 13½ oz.

The preparation was taken from the body of a man, James H., aged 42, a spare muscular person, a game-keeper. For the last 2 years of his life he had had much epigastric pain, attributed to dyspepsia. He was admitted into the Hospital October 4th, 1865, and there had several well marked attacks of angina pectoris, in one of which he died. See *Post Mortem and Case Book* for 1865, p. 280. *Path. Soc. Trans.*, Vol. XVII.

238. Occlusion of the coronary arteries, associated with angina pectoris. The base of the aorta is covered with soft atheroma, by which the mouths of the coronary arteries were narrowed, the right so much so that its position was only discovered by tracing the vessel up from the outside. The left opening is about large enough to admit the head of a probe. The coats of the coronary arteries themselves are natural. The left ventricle was uncontracted, the valves natural.

The preparation was obtained from the body of a man who had been discharged from the army, in consequence of some affection of the heart. His age was 35. He was brought into the Hospital dead, on the evening of April 28th, 1864, having passed some time in the park in company with a young woman. Her account was to the effect that he fell dead while sitting down, but from the fact that the glans penis was found to be covered with spermatozoa after death, it was conjectured that he had expired during, or shortly after, sexual intercourse. The account obtained was confused and incomplete. For particulars, see case of Richard P. *Post Mortem and Case Book* for 1864, p. 118; also *Path. Soc. Trans.*, Vol. XVII.

239. Obstruction of the coronary arteries, with fatty degeneration of the muscular fibre. The specimen shows the mitral and aortic valves, which are natural, excepting that there is some atheroma upon the mitral. The coronary arteries are converted into rigid tubes by atheroma. One of them is entirely obstructed at its mouth by a coagulum of old date, yellow in colour, and partially softened. Under the microscope the muscular fibres were found to be highly fatty. The arteries generally were very atheromatous.

The preparation was obtained from the body of Dr. H., aged 62.

The following is the history of the case:—In the beginning of 1864, Dr. H. was greatly disturbed by dreams and constant wakings, and an indefinite feeling of nervous anxiety about his health. His pulse was 120, hard, sharp, and small, unaffected by position. Respiration natural; lungs sound; digestion and appetite good. His life was still a very active one, and had of late been made still more energetic by the nervous feeling which seemed to be creeping over him. In this state he continued for about 12 months, driving away his fears by active exercise. At the end of this time his pulse gradually became more rapid, and slightly irregular; his manner more agitated and anxious. Three months later signs of œdema appeared in the left leg, ankle, and hand. Albumen was never present in his urine. He complained now for the first time of giddiness, momentary partial loss of consciousness and muscular power, which would often come on so that he was glad to grasp for a moment anything within his reach. Not until this period did he begin to lose weight. Two months later the heart's action became very tumultuous, no abnormal sounds could be detected; his breathing became a good deal affected upon exertion; the œdema spread to both legs. From this time followed all the symptoms of a failing heart. General anasarca, great dyspnœa, and ascites, supervened, but the most distressing symptom was flatulence. The abdomen would become periodically swollen up with wind, which would escape by the mouth in paroxysms accompanied by retching, which fits were greatly dreaded by the patient; they gave him, however, considerable temporary relief. Ten days before death a slight mitral murmur could be detected, the heart sounds were distinct, and, although heard over a large space, were natural in other respects. The pulse was 160, very feeble, and at times intermittent. The anasarca and ascites were most extensive, and it was a surprise to every one that he lingered on week after week in so deplorable a condition. *Presented by* A. W. Bell, Esq.

240. Ulceration of a small branch of the femoral artery. The large vessel is natural internally, though externally it has been dissected nearly clean by an abscess which surrounded it, and is coated with lymph. A small branch near its lower end has been divided by ulceration about a quarter of an inch from its origin; a small portion of the vessel, about the length stated, remains in connection with the femoral, and its open end has been the source of hemorrhage.

The preparation was taken from the body of Joseph F., aged 18. He had disease of the knee-joint, followed in some unexplained manner by general œdema of the limb. Afterwards suppuration took place in the parts around the knee-joint, the femoral artery was dissected bare, as has been described,

and the ulceration produced. See *Post Mortem and Case Book* for 1864, p. 4; also *Path. Soc. Trans.* Vol. XV., p. 86.

241. Diseased aortic valves, illustrating a case of embolism. There are many long loose masses of fibrine depending from the aortic valves, which are themselves considerably puckered by older disease. The root of the aorta is also roughened.

The preparation was obtained from the body of Nicholas C., aged 36, who died in the Hospital with head symptoms, which came on suddenly during the course of acute rheumatism. There was a plug in the left middle cerebral artery, and the left hemisphere contained many patches of red softening. The cerebral arteries have been preserved (see series 8, prep. 195), and there is a drawing (No. 85) of a section of the left hemisphere of the brain. The particulars of the case are given with the description of the drawing. See *Post Mortem and Case Book* for 1864, p. 254.

242. Dilatation of veins of right arm. The preparation is dry. The veins and arteries have been injected with red and yellow material respectively. There is enormous dilatation of the veins from the shoulder to below the elbow. The axillary vein is many times its proper size, the superficial veins and venæ comites are greatly enlarged, and a close plexus of veins has been developed in the substance of all the muscles on the anterior part of the arm. The arteries are perfectly natural. The arm, during life, was greatly swollen, the superficial veins were enlarged, the position of their valves being marked by slight swellings. The biceps could be felt larger than natural, in consequence, as was supposed, of the formation of veins in its interior. The disease had begun four years before the patient's death. He woke from sleep with a sensation of numbness in the right side of the body, this was followed by aching pains in the arm. There was as yet no swelling, but six months later he had a similar attack, after which the arm was found to be increased in size. He afterwards had several attacks of the same nature, after each of which the enlargement became greater. While under treatment he caught typhus, of which he died. See *Post Mortem and Case Book* for 1864, p. 112. This preparation was chiefly dissected by W. R. Tindale, Esq.

243. Rupture of the left ventricle of the heart. There is a rent on the anterior surface of this ventricle, about an inch from the apex; this passes through into the cavity. There is in the neighbourhood of this a fissure, which only extends a little way into the substance. The muscular substance is very fatty. The valves are natural.

The preparation was obtained from the body of a lady, aged 66, who was attacked with pain in the chest and left

arm a week after having suffered violently from sea-sickness. On the day following that on which the pain was complained of she died suddenly. The pericardium was afterwards found full of coagulum. The case is published in the *Path. Trans.*, Vol. XV., p. 84. *Presented by* G. D. Pollock, Esq.

244. Ulceration of the jugular vein into the cavity of an abscess. The abscess is seen on the left side of the trachea, with a large irregular opening in the jugular vein at the bottom of it.

The preparation was taken from the body of Joseph W., aged 3, who was admitted with suppurating glands on each side of the neck, the result of scarlatina. The abscesses were laid open with relief, but one of them became the seat of profuse hemorrhage two days after it had been opened. The death of the child took place the next day after a second attack of bleeding. For details, see *Post Mortem and Case Book* for 1864, p. 235.

245. Perforation of the septum of the ventricles, associated with fibroid change in the muscular tissue. The left ventricle is dilated and hypertrophied, the valves nearly natural. At the lower part of the cavity the muscular substance is entirely replaced by a thin layer of firm fibrous tissue. The same formation covers part of the septum on the left side, and through the part so covered a hole passes into the right ventricle. The opening has rounded edges, it passes obliquely through the septum, turning upwards as it nears the right side. Over the part of the pericardium where the fibroid change has taken place there are traces of recent pericarditis, elsewhere the membrane was adherent by old false membrane.

The preparation was taken from the body of Michael C., who died in the Hospital, aged 62. Little was known of his antecedents. He had had cough for a year, latterly accompanied with much dyspnœa. There was a loud systolic murmur all over the heart. At the post-mortem examination the heart was found in the condition described. There was extensive hepatization of the left lung. See *Post Mortem and Case Book* for 1865, p. 126.

246. Aneurism of the innominate artery. The sac is of an oval shape, about as large as a swan's egg. It springs from the anterior wall of the vessel, the posterior wall remaining quite natural. The sac is connected with the part of the vessel next to the aorta. The walls are very thin, particularly in front, where they consist of scarcely more than the condensed tissues around the tumour. The pneumogastric and recurrent nerves on the right side were displaced by the tumour, and were injected to a pink colour.

The preparation was taken from the body of George P.,

aged 43, a potman. He had felt palpitation and dyspnœa for 6 weeks before his death. Latterly he had "fits" of an uncertain nature, which were attended with total loss of consciousness. While in the Hospital he was seized, while in his usual health, with spasmodic dyspnœa, for which tracheotomy was promptly performed, but which led to his immediate death. There had been no cardiac murmur. The only physical sign of the disease had been slight fulness below the right clavicle. The pulse on the right side was smaller than on the left. See *Post Mortem and Case Book* for 1865, p. 66.

247. A specimen showing rupture of the popliteal artery. The rupture is not quite complete, the two ends being still united by a small portion of the anterior wall of the vessel. The coats around the rupture are much thickened, and there is no plugging of the orifice. The popliteal vein is uninjured, but the walls of this vein, as well as those of the anterior and posterior tibial, are much thickened, and they contain clots adherent to the lining membrane. The knee-joint is uninjured.

The preparation was taken from a man who had been struck on the front of the thigh by a crow-bar 6 weeks previously. This accident was followed by slight swelling, gradually increasing, but without gangrene, up to the time of admission. When admitted the limb was swollen, tense, and white; there was no discolouration about it, except a bleb filled with bloody serum on the heel. Amputation of the thigh was immediately performed, but he died on the nineteenth day of pyæmia. See *Path. Soc. Trans.*, Vol. XVII.; *Post Mortem and Case Book*, 1866, p. 57.

248. Part of the arch of the aorta, extensively altered by atheroma, and presenting a rupture, which leads into the pericardium. There is an irregular fissure, extending for about three inches along the aorta, and generally about half an inch in width. This has been formed by a rupture through the inner part of the wall, the torn edges having separated so as to expose the outer layer of the wall, by which only is the continuity of the vessel maintained. At the bottom of the fissure a nearly smooth surface is seen, which is firmly attached to the torn edges of the inner coat. From the fact that the part of the wall thus exposed consists chiefly of fibrous tissue, it was inferred that the rupture had divided the two inner coats, leaving the outer coat exposed. There were signs that the rent was of some standing, for the edges of the rent had become fixed to the surface behind them. In the exposed part of the outer coat a small hole passed through into the pericardium.

The preparation was taken from the body of a man, Abraham K., aged 59, who was brought into the Hospital

dead. He was a builder. While standing upon a scaffolding six feet in height, he was heard to call out, and fell against a post, looking very white. He fell to the ground, and never gave any sign of life afterwards. There was some difficulty in obtaining particulars as to his previous health. It was said that he had always had good health; but the friends were interested in making out that his death was due solely to the fall. See *Post Mortem and Case Book*, 1866, p. 86. See also Preparation 249, *Path. Soc. Trans.* Vol. XVII.

249. The rest of the aorta belonging to the preceeding case (p. 248), In this portion is seen the remainder of the fissure which had been the seat of the rupture; and also higher up the arch a small patch is seen, where the inner coat has scaled off, leaving loose and ragged edges, while the middle or outer coat is exposed to view.

250. Malformation of the heart from a child, aged 3½. The two ventricles are separated by a very incomplete septum. They are of very unequal size; that on the left side is much the larger, and is in connection with both the pulmonary artery and the aorta. This large cavity, though on the left side, represents the right ventricle, for the position of the heart and aorta was reversed in the body; the heart being inclined to the right side of the body, and the arch of the aorta curved in the direction contrary to what is normal. The aorta is given off directly by this cavity. The pulmonary artery is not given off directly, but is separated by a small recess, which opens into the artery on one side, and into the large cavity on the other. This large ventricle communicates with an auricle through a large auriculo-ventricular valve, and with the smaller ventricle through the imperfect septum. The smaller ventricle communicates with its auricle, and with the larger ventricle through the septum. No artery arises from it. Dr. Peacock kindly examined this specimen, and considered that the smaller recess from which the pulmonary artery arises, represents the infundibulum of the right ventricle, while the smaller ventricular cavity with which no artery is connected, represents the sinus of the right ventricle; the two parts of the right ventricle being thus partially separated from each other.

The preparation was obtained from the body of a boy, aged 3½, who had had cyanosis from birth. The skin, lips, and mucous membrane were blue, the surface cold, the pulse feeble and intermittent. There was a distinct murmur over the base of the heart. The breathing was hurried and difficult, the pupils always much dilated. The child was dull, torpid, and drowsy. Death took place somewhat suddenly.

At the post-mortem examination it was found that, as sup-

posed by Dr. Peacock, the position of the heart and of the aorta was reversed, the sides being interchanged. The innominate artery arose from the left side of the arch, and gave off the left common carotid and subclavian arteries. The right common carotid and subclavian arteries arose from the arch itself. This case has been described in the *Path. Soc. Trans.* Vol. XVII. *Presented by* Dr. MURRAY GIBBES.

251. Hydatids taken from the pericardium. They were found surrounding the base of the heart; one of large size contained about two ounces of thick pus, and the *débris* of a large hydatid: the other tumours, consisting of two hydatids, contained a clear fluid.

Taken from a patient who had presented anomalous symptoms during life, and had had some kind of a fit, followed by loss of power of the right side, and who after death was found to have plugging of the anterior cerebral artery and softening of the brain. See *Medical Times and Gazette*, Vol. II. 1864, p. 565. *Presented by* Dr. J. W. OGLE.

252. Aneurism of the descending thoracic aorta, about the size of a peach, opening by a small aperture into the left bronchus. It was taken from a man who suffered much from dyspnœa, and who died suddenly, after coughing up a large quantity of blood. After death the lung was found collapsed, and the bronchial tubes full of blood. The artery was atheromatous. See *Path. Soc. Trans.* Vol. XVII. *Presented by* Dr. J. W. OGLE.

253. Aneurism of the common iliac artery about the size of a cricket-ball, and full of laminated firm blood coagulum. The opening of communication with the artery, about the size of a florin, is situated about two inches above the bifurcation of the vessel into its two subdivisions

The specimen was taken from a woman, aged 71, who died in the Somerset Lunatic Asylum. Excepting slight asthmatical attacks, she had enjoyed good health, save that she had had a series of "fainting fits" twelve months previously. She died suddenly from hæmorrhage resulting from rupture of the aneurism above described into the peritoneal cavity. See *Path. Soc. Trans.* Vol. XVII. *Presented by* Dr. J. W. OGLE.

254. Aneurism of the abdominal aorta, communicating with the vessel by an aperture the size of a shilling, and communicating with the peritoneal cavity by a small opening, where the sac has given way. The walls are thick, but the aneurism contains no laminated fibrin. The aorta is extensively atheromatous. The specimen was taken from a man, aged 38, who had suffered from intense pain in the left hypochondriac and epigastric region, and also from a pulsating tumour in the same situation. He died suddenly whilst getting into bed. See *Path. Soc. Trans.*, Vol. XVII. *Presented by* Dr. J. W. OGLE.

255. Aneurism of thoracic aorta, bursting along the œsophagus. The aorta is preserved with the œsophagus in connection with it. There is an immense dilatation of the ascending and descending part of the thoracic aorta, the coats of which vessel are extensively changed by atheroma. Beyond the origin of the great vessels, the sac, which at that part was very thin, had contracted adhesions to the œsophagus. The coats had given way at this point, and the blood had forced a channel into the muscular wall of the œsophagus. It had passed downwards in the thickness of the muscular coat, and had finally escaped into the peritoneal cavity by a rent in the serous membrane close to the cardiac orifice of the stomach. The channel which has been made in the thickness of the wall of the œsophagus is occupied by a bougie. The lower end of the channel has been cut open for a short distance, so as to show its relations. The other end of the bougie is seen in the aneurismal sac. The proper cavity of the œsophagus is pointed out by a glass rod.

The preparation was obtained from the body of Thomas V., aged 54, who died in the Hospital. He was admitted for fistula in ano, and an operation was performed. He had symptoms of phthisis. While apparently recovering from the effects of the operation, he was suddenly seized with faintness, and a sense of suffocation, followed by a state of collapse, in which he expired, in about half an hour.

At the post mortem examination, tubercles and vomicæ were found in the lungs. A large quantity of coagulum was found in the abdominal cavity, which altogether weighed above three pounds. The blood was found to have reached this cavity, in the manner displayed by the preparation, breaking out of the sac into the coats of the œsophagus, and reaching the peritoneal cavity by forcing a passage between the fibres of the muscular wall. For details see *Post Mortem and Case Book*, 1862, p. 295.

CONTINUATION TO SERIES VII.

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Fat from pleura, 124.
Communication between pleura and bronchial tubes, 125.
Necrosis of cartilage of larynx, 126.
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124. Fat from the pleura. Portions of a layer of fat which lay in adhesions between the pleura are here preserved. The layer is about an eighth of an inch thick and covered a considerable proportion of the lung. Under the microscope it was found

to present all the characters of genuine fat, such as might belong to the omentum.

For further particulars, see *Post Mortem and Case Book*, 1862. p. 315 ; also *Path. Soc. Trans.*, Vol. XIV. p. 26.

125. A portion of lung, showing a communication between the pleura and the bronchial tubes. The outer part of the lung is coated with lymph, and was in contact with pus, which was contained in the pleura. There are two openings through the lung, by which pus had made its way into one of the large bronchi.

The preparation was obtained from the body of Robert B., a drayman, aged 45. He was attacked with cough and dyspnœa six weeks before his death. When admitted he had evidence of pneumonia, on which apparently pleurisy supervened. He eventually sunk. Eight hours before his death there was a copious discharge of pus from the mouth and nose. The disease was uncomplicated. See *Post Mortem and Case Book*, 1863, p. 61.

126. Necrosis of the cricoid cartilage. The thick part of the cartilage is seen to be separated almost entirely from the tissues which surround it. In the recent state there was a little purulent matter around it. The soft parts in the neighbourhood are much thickened ; there is much œdematous swelling under the glottis, and the glands at the back of the tongue are exaggerated.

The preparation was taken from the body of a man, aged 46, who had had huskiness of voice and occasional difficulty of breathing for more than a year. Death was preceded by increased dyspnœa of a spasmodic character, but took place at last somewhat suddenly, in his sleep. An old cicatrix was afterwards found in front of the crico-thyroid membrane. He had had syphilis in early life, but not recently. See *Path. Soc. Trans.*, Vol. XV., p. 36; also *Post Mortem and Case Book*, 1865, p. 1.

127. Epithelial cancer of the larynx. The pharynx is laid open, so as to show a mass of warty-looking growth growing from the upper surface of the epiglottis and back of the tongue. The laryngeal opening is much diminished, by depression of the epiglottis and thickening around, and the larynx is also narrowed internally by infiltration of malignant matter in the neighbourhood of the vocal cords. The microscope showed the growth to be of the epithelial variety.

The preparation was obtained from the body of a man, aged 46, who had had a spasmodic affection of the larynx for 11 weeks before his death, which took place quite suddenly, apparently choked by a cup of tea.

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190. Aneurism of basilar artery, fatal by rupture. For history, see drawing, p. 78. See *Post Mortem and Case Book*, 1865, p. 59 ; also *Path. Soc. Trans.*, 1865, p. 83.

191. Dura mater, covered with pus, in consequence of suppurative inflammation of the sinuses. The dura mater is spread out so as to shew its inner surface, of which the part forming the right arachnoid cavity is coated with thick pus. The pus does not pass below the lateral sinus. The sinus, and the longitudinal, have been laid open so as to shew their contents, which resemble those of the arachnoïd cavity.

The preparation was obtained from the body of John F., who died in Hospital at the age of 20. He had been out of health for six months, for the latter half of which time he had had a discharge from the right ear. An abscess then appeared over the mastoïd bone, he was seized with convulsions, he became imperfectly paralysed, and finally, as the fits increased in frequency, he became unconscious, and died. The tympanum was found to be full of sanious matter, and the membrana perforated by a small hole. There was, however, no disease whatever in the temporal bone. A small canal, containing a vein, was discovered, which made a direct communication between the tympanum and the lateral sinus. This canal was large enough to admit an eye-probe. *See Post Mortem and Case Book*, 1863, p. 312 ; also *Path. Soc. Trans.*, Vol. XV. p. 26.

P.S. After maceration it was discovered that the canal described was not a natural formation, but was the result of disease. See Series XVI., Prep. 31, where the temporal bone is described.

192. The arteries, from the base of the brain, containing masses of fibrine, which have been conveyed from the heart.

The preparation includes the circle of Willis, and the arteries which go to it. There is a lump of yellow fibrine as large as a pea at the termination of the basilar artery, and there is another of much the same size in the commencement of the left middle cerebral. Beside these there are one or two smaller masses. The arteries themselves are perfectly natural. The left hemisphere of the brain was generally softened (white). Both white and grey portions were affected; and there were numbers of the so-called "inflammatory globules." The aortic valves were ragged, and gave origin to a quantity of friable fibroïd matter, which had, no doubt, furnished the plugs in the cerebral vessels.

The preparation was taken from the body of Emma L., who died at the age of 17, in the Hospital. She was admitted December 23, 1863, with the symptoms of subacute rheumatism, and with a regurgitant aortic murmur. Ten days afterwards she suddenly became unconscious, and soon afterwards hemiplegic on the right side. The power of speech was almost lost. She could only say "yes" or "no," often saying one when she meant the other. Her intelligence and power of movement were less affected than her power of speech. She died about five weeks after the commencement of the head symptoms. The case had been recognised during life as one in which the cerebral arteries were plugged by material conveyed from the heart.

For preparation of the heart, see Series 6, Prep. 230.

For details of case, see *Post Mortem and Case Book*, 1864, p. 52.

193. The arteries of the brain, occupied by coagulum, which has been deposited in them during life. The vessels have been dissected out and spread upon talc. They are preserved in spirit, as in the previous preparation. The terminations of both internal carotid arteries with their continuations, as middle cerebral, are distended with nearly black coagulum. The plugs, as seen in the preparation, extend for about two inches on each side, but the parts which the internal carotids contained would have added considerably to this length. Beside these there are one or two isolated plugs in the small arteries. The vessels belonging to the cerebral system have escaped. The coats of the vessels are perfectly natural. At the post mortem examination the arteries throughout the body proved to be

natural. There was nothing to call for special remark, excepting that there existed great contraction of the mitral valve, which would admit the point of one finger. The tricuspid was narrowed, but to a less extent. There was no coagulum about the heart, or anywhere excepting in the cerebral vessels. The blood was fluid.

The preparation was taken from the body of Sarah O., who died in the Hospital on the 27th of December, 1863, aged 23. She was unmarried. Ten years before her death she had suffered from acute rheumatism, and of late she had been troubled with œdema, palpitation, dyspnœa, and such symptoms as are usually produced by a valvular disease of the heart. While under treatment in the house for this complaint she became suddenly faint, and at once expired. While washing her face in bed she suddenly fell back in a state of syncope, and died in the course of a few minutes. See *Post Mortem and Case Book*, 1863, p. 315. Also *St George's Hospital Reports*, Vol. I., p.

194. The arteries from the anterior part of the base of the brain, showing an apoplectic clot surrounding the left middle cerebral, while at the origin of the right is a mass of fibrine which has been conveyed from the heart. The coats of the vessels are natural. The mass of extravasated blood which imbeds the left middle cerebral artery, is only a portion of what existed. At the post mortem examination a clot as large as a hen's heg was found in the middle lobe of the brain, lying beneath the floor of the lateral ventricle. No plug was detected in the vessel, though it was presumed that one had existed, and occasioned the bursting of the artery behind it. There is a lump of buff-coloured fibrine at the origin of the right middle cerebral, which is of irregular shape and considerable size. Its position is indicated by a bristle.

The preparation was taken from the body of George H. There were ragged vegetations upon the left auricle. Pieces of fibrin had been carried thence into the cerebral arteries, as described, and also into the ulnar artery, giving rise to an aneurism in that situation as well as into some of the viscera, causing fibrinous blocks. For the heart and ulnar artery see Series VI., Preps. 226 and 227, where the details of the case are recorded. Also see *Post Mortem and Case Book*, 1864, p. 33.

See also a drawing which represents the organs in a fresh state, No. 60.

195. Cerebral arteries dissected out, showing a mass of fibrine at one of the bifurcations of the left middle cerebral.

The preparation was obtained from the body of Nicholas C., who died with head symptoms in the course of acute

rheumatism. The heart is preserved in Series VI., Prep. 241. There is a drawing of a section of the left hemisphere of the brain, No. 85, where the details are given. See *Post Mortem and Case Book*, 1864, p. 254.

196. Dura mater showing a laceration of the middle meningeal artery, in consequence of a fracture of the skull. (See next preparation.)

197. The hemispheres of the brain, showing the amount of compression caused by extravasation of blood from the middle meningeal artery. There is a large concavity occupying the lateral part of the left hemisphere through its whole height, and for the anterior two-thirds. The sulci are everywhere filled up.

This preparation and the preceding were obtained from the body of a man who died after a fracture of the skull. The fractured bones are preserved as Prep. 152, Series I., where the history of the case is given. See also *Post Mortem and Case Book*, 1864, p. 320.

198. Fibro-fatty tumours of dura mater. There are two tumours, one as large as a walnut, the other smaller, in connection with the inner surface of the dura mater. These consisted of two materials, an outer fibrous, containing fibrillating cells ; while there was a core consisting of fatty matter.

These preparations were obtained from the body of a man who had had a sunstroke in India five years before his death. He had epileptic attacks, gradually increasing in frequency. In these however he was not totally unconscious. The convulsive seizures became at last almost without intermission. See *Post Mortem and Case Book for* 1863, p. 108 ; also *Pathological Transactions*, Vol. XV. p. 28.

199. Portion of the brain, showing a sharply defined excavation on the under surface of the left anterior lobe. The hollow is about such as might be concealed by a fourpenny-piece, and is about a quarter of an inch in depth. It was associated with fracture of the adjacent part of the orbital plate, and laceration of the dura mater.

The preparation was obtained from the body of a boy, James M., aged 12, who had, two months before his death, been a patient in the Hospital with a fracture of the skull. He died of scarlatina, after having apparently completely recovered from the injury. See *Post Mortem and Case Book*, 1864, p. 342.

200. Aneurysm of the middle cerebral artery. The sac is globular, of the size of a large pea. It was formed upon the left middle cerebral artery, about two inches from its origin, where the vessel lay in the Fissure of Sylvius. A rupture had taken place on the wall of the cyst, farthest from the origin of

the vessel. From this source blood had been poured out in great abundance into the subarachnoid cavity at the base of the brain. The vessels were not atheromatous.

The preparation was taken from the body of Samuel H., aged 32, who fell down in the street while following his usual occupation, and died shortly afterwards. See *Post Mortem and Case Book*, 1865, p. 170.

201. Aneurysm of middle cerebral artery. The arteries are preserved in connection with the base of the brain. The sac, which is the size of a small bean, is connected with one side of the left middle cerebral artery, near its origin. The sac pressed upon the left third nerve, close to pons. The nerve is adherent to the wall of the sac, and had been flattened by pressure. The sac had burst by a comparatively large opening ; a large quantity of coagulum was found in the subarachnoid cavity, and also between the layers of arachnoid.

The preparation was taken from the body of Caroline P., aged 42, who died in the Hospital. She had four fits, of uncertain nature, but attended with loss of consciousness, during the nine weeks which preceded her admission. After the third attack her left eyelid began to droop, the eye being turned outwards, and the pupil dilated. She was admitted December 13th, 1865, and died on the 21st of the same month. While in the house she had much pain on the left side of the head, with some numbness in the left limbs. After having had a slight epileptiform attack she had three fits in quick succession without convulsion, followed by stertor and coma. After the third she remained comatose and died. See *Post Mortem and Case Book*, 1865, p. 351.

202. Sections of the cerebral hemispheres, showing a peculiar honeycombed condition, which is suggestive of the existence of cysts in the brain tissue. The condition is believed to be due to the post-mortem formation of gas, in consequence of decomposition. For history see Series XIV., Prep. 156 ; also *Path. Soc. Trans.*, Vol. XVI., p. 203. *Presented by* Dr. DICKINSON.

203. Cerebellum, containing an abscess in the upper part of the left lobe. The matter had burrowed from the interior of the petrous bone, which was carious, by way of the internal auditory meatus. There was no general meningitis, the pus having been limited by adhesions around the internal auditory foramen. For history see Series XVI., Prep. 34, where the temporal bone is described. See *Post Mortem and Case Book*, 1863, p. 284.

204. Cerebellar apoplexy. The cerebellum is cut across so as to show a cavity in the interior of the right lobe, which contained clot. The cavity is very extensive, nearly dividing the lobe into two parts along the horizontal plane. There was

a small opening on the lateral surface of the lobe, through which some blood had escaped.

The preparation was obtained from the body of an old woman, who was found in a room by herself in a state of insensibility. She was at once brought to the Hospital. When seen she was insensible, stertorous, and moribund. All the limbs were paralysed and relaxed. See *Post Mortem and Case Book*, 1864, p. 286.

205. Coagulation of blood in the basilar artery. A part of the brain has been preserved, so as to show the relations of the vessel. The basilar artery is laid open, so as to display a decolorised coagulum occupying its whole length. The coagulum is large enough to distend the basilar, and consequently could not have passed through either of the vertebrals. The coats of the vessels are natural. In the recent state the coagulum was hard, adherent, and more perfectly decolorised on its outer than in its central parts. All the other cerebral vessels were natural. There were no vegetations within the heart, nor any coagula or blocks in any other situation. The mitral valve was thickened and stiff.

The preparation was taken from the body of Charles H., aged 26, a man of intemperate habits. After drinking very freely he was seized with giddiness, followed in four days by loss of speech and loss of power on the right side. He was in a state of much prostration, and passed the evacuations into the bed. It was noticed that the muscles of the face were paralysed on the left side, those of the limbs being affected on the right. The breathing and action of the heart became very rapid, and he sank seven days after the first symptoms. See *Post Mortem and Case Book*, 1866, p. 25 ; also published by Dr. DICKINSON in the *St. George's Hospital Reports*, Vol. I.

206. Coagulation of blood in the cerebral arteries. The vertebral basilar, anterior and middle cerebral, and in fact all the large arteries of the base, are occupied by black clot. The coats of the vessels are natural. The vessels affected had at the time of the post-mortem examination a full, cord-like appearance, and contained black soft clot, of the consistence of currant jelly. The coagulum was not quite continuous, spaces being left here and there in which none existed. Both internal carotid arteries were affected in the same way. There was no clot of the kind in the heart, the blood being generally fluid. The valves were natural.

The preparation was obtained from the body of Thomas B., aged 36, a tramp, who was seized with a fit of uncertain character when he had nearly completed a march from Leeds to London. He was at once brought to the Hospital. When he came under notice he did not appear quite insensible, but was

unable to speak. The left arm was rigid, but there was no other evidence of paralysis. The urine was passed under him. He gradually sunk, and died on the fourth day after the seizure. See *Post Mortem and Case Book*, 1865, p. 203; also published by Dr. DICKINSON in the *St. George's Hospital Reports*, Vol. I.

207. Malignant tumour of brain. There is a large mass of new growth occupying the floor of the left lateral ventricle and the space between it and the base of the brain. The growth occupies chiefly the middle lobe, but extends somewhat into both the anterior and posterior. The mass replaces the outer parts of the corpus striatum and optic thalamus, and extends thence to within a quarter of an inch of the lateral surface of the brain. The tumour has a coarse spongy texture. Under the microscope it was found to consist of a multitude of nucleated cells of all possible shapes, some being fibrillated, lying in a network of blood-vessels. There was evidence of much pressure in the flattening of the convolutions, and the displacement to the right of the septum lucidum.

The preparation was taken from the body of John C., who died in the Hospital at the age of 50. He had been subject to dizziness and faintness for 2½ months before his death. He latterly became weak and odd in manner. He then had constant pain in the head, lost his memory, and had an uncertainty of gait. Latterly there was much vomiting. He lost the power of standing, but it appears rather from weakness than paralysis. The right pupil was larger than the left. He died in a seizure, in which the limbs were contracted. See *Post Mortem and Case Book*, 1863, p. 229.

208. The head of a child affected with chronic hydrocephalus. The head has been cut through the centre, so as to show the disposition of the brain. The fluid was contained in the lateral ventricles, which are of enormous size, and which communicate with each other by a foramen of nearly five inches in diameter. The hemispheres are spread out against the skull, the brain substance being extended into a layer about an eighth of an inch in thickness. All the convolutions are obliterated. In the preparation a thin vertical layer of cerebral tissue, which formed the inner wall of the lateral ventricle, has been cut away so as to show the interior. The third ventricle was distended, and formed a common cavity with the lateral ventricles. Beside these spaces a sort of extra ventricle was formed between the upper surface of the cerebellum and the tentorium. The fourth ventricle was natural.

The preparation was obtained from the body of a child, aged 7 months. During life the head was 31 inches in circumference, 21½ from one auditory meatus to the other, over

the vertex. The child's intelligence was good, and its health little affected. Death was produced by sloughing sores upon the head, the result of pressure. Full particulars will be found in the *Post Mortem and Case Book*, 1865, p. 2; see also drawing, No. 82.

209. The left hemisphere of the brain, from the preceding case. The corresponding half of the skull is preserved, Series 2.

210. Tumour of the brain. A section of the brain has been made a little below the floor of the lateral ventricles. There is a large growth in the lower half of the right middle lobe. It extends downwards to the base, and adhered to the dura mater in this situation. In the vertical direction the mass measured two inches. This had occasioned considerable pressure, as evinced by flattening on both sides of the brain. Under the microscope the growth, which was not circumscribed, was seen to consist chiefly of cells, of very various shapes. No malignant disease existed elsewhere.

The preparation was obtained from the body of Sarah N., a woman, aged 56. She had been seized with vomiting six weeks before her death; this was followed by a sort of apopletic attack, of which the more urgent symptoms passed off, leaving paralysis of the left limbs and left side of the face. At first the left arm was rigid, but it latterly became lax. There was frontal headache. The manner and expression were described as being those of a narcotised person. She died quietly, without stertor. For details see *Post Mortem and Case Book*, 1864, p. 75.

211. The sciatic nerve after amputation of the thigh. The nerve belonging to what remained of the amputated limb preserves its bulk and external appearance. The nerve of the opposite limb is displayed for comparison. When a section from the nerve of the stump was examined microscopically scarcely any nerve-tubes remained, their places being occupied by granular amorphous matter. There is a large neuroma at the cut end of the nerve. In a section of the nerve of the other side the tubes occupied the whole space, except what was covered by the divisions of fibrous tissue.

The preparation was obtained from the body of a Greenwich pensioner, who died in 1865. His leg had been shot off in action in the *Dictator* frigate in the year 1806. *Presented by* Dr. Dickinson.

212. Sciatic nerve many years after amputation of the thigh. There is a large neuromatous swelling at the cut extremity. The nerve of the other side is preserved for comparison. The microscopic structure is the same as is described in the preceding case.

The preparation was obtained from the body of a Greenwich pensioner, aged 79. *Presented by* Dr. Dickinson.

213. A part of the spinal cord and its membranes, from a case in which hemorrhage had taken place into the arachnoid cavity of the skull in consequence of fracture. The blood had run freely into the spinal canal, and is seen surrounding the cord as a layer of black coagulum. This was evenly spread over the whole cord, so as to distend the dura mater. The blood is seen to occupy the space between the layers of arachnoid. See *Post Mortem and Case Book.*

214. Cast of the fourth ventricle made by blood poured into this cavity, in consequence of an apoplectic extravasation. This illustrates the fact that the fourth ventricle is completely shut off from the spinal canal. The coagulum has been rigidly limited on the spinal aspect of the ventricle. See *Post Mortem and Case Book.*

215. Blood cyst of arachnoïd, formed of firm, dark blood-stained "false membrane," adherent firmly to the inner surface of the dura mater, and, to a slight extent, but firmly, to the arachnoïd membrane, covering the brain, and containing a quantity of red fluid and firm blood coagulum.

Taken from a patient who had suffered from delusions, maniacal excitement, general paralysis, dementia and partial hemiplegia ; and death from coma. See *Journal of Mental Science,* No. XVI., New Series. *Presented by* Dr. J. W. Ogle.

216. "False membranes," apparently formed from extravasated blood covering both cerebral hemispheres, that on the left side being the firmest and thickest. Microscopically, they were found to consist entirely of fibrous tissue, blended with the elements of the colouring matter of the blood. Here and there very slight indications of the formation of vessels existed.

The preparation is taken from a patient who died in the Somerset Lunatic Asylum in a state of dementia. There is no history of any accident. See *Path. Soc. Trans.,* Vol. XVII. *Presented by* Dr. J. W. Ogle.

217. Hard fibrous growth containing peculiar microscopical bodies, occupying a portion of the anterior parts of both cerebral hemispheres. The growth was found on the upper surface of the brain, and on the left side penetrated to such a depth as to form part of the boundary of the lateral ventricle. It was found to consist of a firm fibrous or fibroïd mass, here and there studded with calcareous deposit, and in places of almost a cartilaginous consistency. On microscopical examination, the fibrous growth was found to contain numbers of chiefly globular, but at times, oval-shaped bodies (varying in size up to $\frac{1}{100}$th of an inch) tuberculated on their surface, and having a laminated concentric arrangement. The action of acetic and mineral acids rendered these bodies comparatively transparent, by removing calcareous matter (with efferves-

cence), and in many cases showed the concentric arrangement to prevail throughout their entire substance.

The preparation was taken from an epileptic patient who died in the Somerset Lunatic Asylum. See *Path. Soc. Trans.*, Vol. XVII. *Presented by* Dr. J. W. Ogle.

218. Large recently extravasated clot of blood, occupying the central parts of the pons Varolii, and extending on each side into the crura cerebelli.

The preparation was taken from a woman, who died in the Hospital on the third day after admission. She had had the attack two weeks previously, since when she had been hemiplegic, and never regained consciousness. The arteries at the base of the brain were atheromatous. See *Post Mortem and Case Book*, 1854, p. 168 ; also *Path. Soc. Trans.*, p. 9.

219. Fibrinous plug obliterating a part of the right middle cerebral artery and causing softening of the brain in the neighbourhood. The vessel is obliterated from a point close to the termination of the carotid artery almost as far as the Island of Reil, by a closely adherent and decolorised clot. The heart was healthy, but adhering to the lining membrane of the aorta, which was atheromatous, were numerous and large fibrinous accumulations. There were fibrinous blocks in both kidneys.

The preparation was taken from a man who had died in the Hospital. He had been subject to epileptic seizures, and when admitted he had partial hemiplegia of the left side. He afterwards had gangrene of the great toe. See *Path. Soc. Trans.*, Vol. XV., p. 12 ; also *Post Mortem and Case Book*, 1860, p. 116.

220. Fibrinous coagulum blocking up the basilar artery. The walls of the artery are thickened ; its calibre dilated, and its tube rendered quite impervious by a coagulum adherent to the walls of the vessel. The heart was flabby, but otherwise natural.

The preparation was taken from a man who was admitted with hysterical symptoms, followed by loss of power in the left side, and in whom before death fever-like symptoms of a typhoïd type set in. See *Path. Soc. Trans.*, Vol. XV., p. 15 ; and *Post Mortem and Case Book*, 1856, p. 76.

221. Secondary abscess in the middle lobe of the left hemisphere of the brain. The abscess is about the size of a filbert, and is lined by a granular membrane. There were secondary deposits in the lungs.

The preparation is taken from a man who had undergone amputation of the forearm, and who died with symptoms of pyæmia. See *Path. Soc. Trans.*, Vol. XV., p. 9 ; and *Post Mortem and Case Book*, 1860, p. 308.

222. Extensive softening of parts of both cerebral hemispheres, with

a large cyst (? the remains of former extravasation of blood) in the left hemisphere.

The preparation was taken from the body of an intemperate man, who six weeks before death suffered from want of power in left leg, followed by epileptic attacks, and terminating in coma. See *Path. Soc. Trans.*, Vol. XVII. *Presented by* Dr. J. W. Ogle.

223. Carcinomatous growth of the brain. A portion of the cerebral hemisphere, infiltrated with purulent fluid, and occupied by a soft reddish brown growth, which consisted under the microscope of nerve cells, mixed up with cancer cells.

Taken from a patient suffering from mania and hemiplegia. See *Path. Soc. Trans.*, Vol. XVI., p. 4. *Presented by* Dr. J. W. Ogle.

224. Large calcareous mass, weighing about a drachm, found imbedded in the upper part of the right hemisphere of the brain. It consists of sixty per cent. of phosphate of lime and magnesia, and of forty per cent. of albuminous matter.

The specimen was taken from a patient who was found dead in bed, and who during life had had very slight symptoms. See *Path. Soc. Trans.*, Vol. XVII. *Presented by* Dr. J. W. Ogle.

225. Softening of the spinal cord, the result of pressure of the odontoid process.

The preparation was taken from a boy, aged 16, who had suffered from disease of the cervical vertebræ, and who died suddenly upon attempting to raise his head in bed. After death extensive caries of the first and second vertebræ was found with rupture of the transverse ligament. See *Path. Soc. Trans.*, Vol. XV. p. 16. *Presented by* Dr. J. W. Ogle.

226. Softening of the entire spinal cord, from a case of general paralysis of the insane, associated with epilepsy. For details, see *Path. Soc. Trans.*, Vol. XVI. p. 25. *Presented by* Dr. J. W. Ogle.

227. Slight softening of the spinal cord, caused by pressure of effused lymph external to the spinal dura mater ; the result of caries of the lumbar vertebræ.

The specimen was taken from a patient who had suffered from paraplegia, commencing with symptoms thought to be those of sciatica. See *Path. Soc. Trans.*, Vol. XVI. p. 34. *Presented by* Dr. J. W. Ogle.

228. Softening of the spinal cord, especially in the dorsal region, from a lunatic suffering from general paralysis, accompanied by epileptic fits. The brain was unusually firm. See *Path. Soc. Trans.*, p. 25. *Presented by* Dr. J. W. Ogle.

229. Softening of the upper third of the spinal cord, from a patient who suffered from suicidal melancholy. See *Path. Soc. Trans.*, Vol. XVII. *Presented by* Dr. J. W. Ogle.

230. Softening of the entire length of the spinal cord. There was also softening of the brain substance, and pus in the theca vertebralis.

Taken from a patient suffering from "general paralysis," combined with dementia. See *Path. Soc. Trans.*, Vol. XVI. p. 26. *Presented by* Dr. J. W. Ogle.

231. Softening of the entire length of the spinal cord, from a case of "general paralysis" of the insane. See *Path. Soc. Trans*, Vol. XVII. *Presented by* Dr. J. W. Ogle.

232. Portion of the spinal cord from the dorsal legion, much softened; removed from the body of a man who died of "general paralysis of the insane." See *Path. Soc. Trans.*, Vol. XV. p. 2. *Presented by* Dr. J. Ogle.

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346. Malformation of the liver. The liver is divided into several parts. The main division has passed along the longitudinal fissure, dividing the organ into two large parts, which correspond to the right and left lobes. These were separated in the body by the space of several inches, the smaller part being attached by a sort of mesentery to the cardiac end of the stomach. Beside the two main divisions are many small separate nodules of liver substance attached to each. See *Post Mortem and Case Book* for 1865, p. 364; also *Path. Soc. Trans.*, Vol. XVII.

347. A cyst, containing shrivelled hydatids, which was found in the right lobe of the liver after death. There was no record of any symptoms during life. See *Post Mortem and Case Book* for 1866, p. 72.

348. Liver of a pig, transfixed by a wooden skewer, which had probably been swallowed. The skewer passes completely through the central part of the right lobe of the liver, as well as one wall of the stomach. The blunt end of the skewer lay in the cavity of the stomach. The animal was slaughtered for food,

and the skewer found in the position described. *Presented by the* MARQUIS of DOWNSHIRE.

349. Malignant disease of the gall bladder. The gall bladder contains three large gall stones each about an inch in diameter. One of them is impacted at the mouth of the cystic duct. The gall bladder is dilated, and the coats are thickened by a layer of malignant growth, which occupied the place of the mucous membrane. The serous coat was unaffected. There was much hard fibroïd tissue in the liver substance near the gall bladder. The tissue was generally infiltrated with bile.

The preparation was taken from the body of a man, aged 38, who had long been a patient in the Hospital with jaundice. A round tumour was felt under the ribs on the right side, which was recognised as a distended gall bladder. He eventually sunk with general symptoms of prostration and cachexia which were taken to indicate malignant disease. See *Post Mortem and Case Book* for 1866, p. 3.

350. A coil of small intestine, shewing a wound in the mesentery, which has divided one of the mesenteric arteries. The wound caused fatal hæmorrhage into the peritoneum. The incision was made in the course of an operation for hernia.

351. Constriction of œsophagus, which came on in consequence of the contraction of a cicatrix, which resulted from an attempt to commit suicide by cutting the throat. The opening is narrowed so as to admit a large catheter with difficulty. There is very little thickening. *Presented by* Dr. DUDFIELD.

352. Portion of the lower end of the ileum, in which the mucous membrane is converted into a yellowish green slough. The last two feet only were affected.

The preparation was taken from the body of a young woman who had empyæma, which followed abscesses of the breast. See *Post Mortem and Case Book* for 1864, p. 330; also *Path. Soc. Trans.*, Vol. XVI. p. 132.

353. Duodenum, of which the coats are infiltrated with pus. The effusion occupies the submucous areolar tissue. There is much thickening of the whole bowel.

The preparation was obtained from the body of a man who had many of the organs affected of the waxy or "amyloïd" change. There was also peritonitis, probably set up by the state of the duodenum. For particulars, see *Post Mortem and Case Book*, 1864, p. 283.

354. Large bowel, affected with enteritis. The mucous membrane is in patches of a dark brown colour as if sloughing. There are some minute holes in the affected intestine, which had been partally closed up by adhesions.

The preparation was taken from the body of a boy 13 years of age, who died after nine days' illness. He had pain and

some hardness in the belly, with difficulty in passing water. He had much vomiting, but no diarrhœa. He eventually became collapsed, and so expired. See *Post Mortem and Case Book*, 1864, p. 319; also *Path Soc. Trans.* Vol. XVI. p. 132.

355. Stomach, burst after death by the development of gas. The manner in which the rupture has taken place is such as to show that it had been produced by mechanical force, the serous coat being torn extensively, the mucous to a less degree, the intervening areolar tissue least of all.

The preparation was obtained from the body of a young woman, who died with symptoms of irritant poisoning. See *Post Mortem and Case Book*, 1864, p. 303; also *Path. Soc. Trans.*, Vol. XVI., p. 130.

356. Large end of stomach, showing a large perforation made by the action of the gastric juice. The coats are much thinned in the neighbourhood of the opening, and the blood in the vessels has become discoloured. The hole is about as large as a half-crown. The edges are ragged, as if it had been completed by mechanical force.

357. Cæcum and vermiform appendix, in connection with fæcal concretions. There were several fæcal calculi in the appendix, which had become perforated, and thus given rise to fatal peritonitis. There is a peculiar sacculus projecting from the cæcum which is entirely filled by a concretion as large as a chestnut. The sacculus is probably congenital. See *Post Mortem and Case Book*, 1865, p. 189.

358. A colloïd cyst contained between the coats of the cæcum. The cyst is the size of a small orange. It had occasioned no symptoms.

It was obtained from the body of a woman, aged 75. See *Post Mortem and Case Book*, 1865, p. 65; also *Path. Soc. Trans.*, Vol. XVI., p. 138.

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Dilatation and atrophy of kidney, 62.

62. Atrophied kidney, with the ureter obstructed by a calculus. The kidney is dilated into a cyst, of which the walls are very thin, and contain but a very thin layer of renal substance. The upper part of the ureter is distended by a calculus, of an irregularly cylindrical shape; this is firmly impacted. The

duct has been cut open, so as to show the relations of the stone.

The preparation was taken from the body of Alfred H., aged 22, who died in the Hospital thirty-one days after having met with an accident, by which the right kidney was ruptured. While in a stooping posture a brick had fallen upon his back. This was followed by collapse and hæmaturia. The latter symptom continued, with intermissions, until he sank, at the end of a month. At the post mortem examination there was found to be a rent completely through the cortical part of the right kidney, while the left kidney was atrophied and dilated in the manner described. The tissue of the right kidney contained small abscesses, beside which the pelvis was dilated into small saccular cavities, which contained peculiar stellate calculi. (See calculi.) The man was working as a bricklayer at the time of the accident. Nothing is known of any previous symptoms. For details see *Post Mortem and Case Book.* 1862, p. 293.

63. Three bottles containing pigment obtained from urine.

The bottle marked A contains blue pigment, resembling indigo blue in appearance and chemical reaction. B contains pink colouring matter ; C, purple. The urine from which these matters were extracted measured 6 ozs., it was passed by a young woman who died of an abscess in the peritoneum. The colours were thrown down by the addition of hydrochloric acid. The blue pigment is the part which remained insoluble in alcohol. It is in solution in sulphuric acid. The bottles B and C contain the portions soluble in alcohol. See *Path. Soc. Trans.*, Vol. XVI., p. 181. *Presented by* Dr. Dickinson.

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154. Large mass within the cavity of the uterus, consisting of retained placenta and fœtal membranes. It is cylindrical in shape, of a brownish-red colour, smooth on its surface, and rounded at its lower extremity, but perforated for the passage ot some shreddy membranous material, which protruded into the vagina. Except at its upper part, its whole extent is free. In the centre is a cavity, lined by a fibrous membrane.

The specimen was taken from a woman who died in the

Hospital, after an operation for strangulated hernia. See *Path. Soc. Trans.*, Vol. XI., p. 181.

155. Uterus remarkable for its size and form, having an elongated peach-shaped polypus attached to its inner surface at the base. The organ is about five inches in length, and very narrow in proportion to its length, and presenting a long cylinder-like cavity.

The specimen was taken from a woman, who was admitted into the Hospital suffering from an accumulation of fluid in the abdominal cavity. After death an enormous cyst, containing several quarts of fluid, was found replacing the right ovary. There was also a cyst connected with the left ovary. See *Path. Soc. Trans.*, Vol. XVII.; also *Post Mortem and Case Book*, 1853, p. 163.

156. Rupture of uterus at an early period of pregnancy. The uterus which appears to be in about the third month of pregnancy has a large irregular opening on its anterior and upper part.

The preparation was taken from the body of a young unmarried lady, who was found dead in her bed-room. At the post mortem examination the pelvic cavity was found to contain much blood; the uterus was lacerated as stated, but no ovum could be found. There was a corpus luteum in the ovary. It appeared probable that the opening in the uterus was the result of mechanical violence, but the facts could not be fully ascertained. The particulars are given at length in the *Path. Soc. Trans.*, Vol. XVI. p. 203. *Presented by* Dr. DICKINSON.

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