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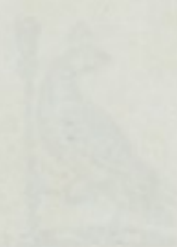
PATHOLOGICAL SPECIMENS

THE MUSEUM

THE ROYAL COLLEGE OF SURGEONS
OF ENGLAND

VOLUME IV

PATHOLOGY OF THE RESPIRATORY AND URINARY ORGANS
THE NERVOUS SYSTEM AND CEREBRUM OF THE BRAIN
THE GENERATIVE ORGANS AND THE UTERINE GLAND



LONDON:
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Edm. Maycock

DESCRIPTIVE CATALOGUE

OF THE

PATHOLOGICAL SPECIMENS

CONTAINED IN

THE MUSEUM

OF

THE ROYAL COLLEGE OF SURGEONS
OF ENGLAND.

VOLUME IV.

PATHOLOGY OF THE RESPIRATORY AND URINARY ORGANS,
THE NERVOUS SYSTEM AND ORGANS OF THE SENSES,
THE GENERATIVE ORGANS, AND THE MAMMARY GLANDS.



LONDON:

PRINTED BY WILLIAM CLOWES AND SONS,
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1849.

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PATHOLOGICAL SPECIMENS

THE MUSEUM

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DIVISION II.

SPECIAL PATHOLOGY,

CONTINUED.

SERIES XXXVII.—INJURIES AND DISEASES OF THE PLEURA
AND LUNGS.

Section A. OF THE PLEURA.

1. *Wounds of the Pleura.*

1747. Part of the lung of a dog, the surface of which is closely adherent to the costal pleura round a wound made into the cavity of the chest.

In his Lectures, Mr. Hunter, referring to this specimen, said :—

“Wounds have been made into the thorax, which have suppurated and yet done well; but how this has been brought about I cannot tell. Thus General Murray, to whom I have often expressed a wish to have a peep into his chest, has been twice thus wounded.

“I made an experiment on a dog, but Nature and the dog cheated me; for I made a wound into the chest, and intended to keep the wound open until the whole surface of the pleura had taken on inflammation, when I meant to have let Nature have her way and cure the dog as she pleased; and then I meant to have killed the animal and seen in what manner this had been done; but the dog would always lie on the wounded side, and when, after death, I examined it, the lungs, I found, had adhered to the wound and prevented the spreading of the inflammation over the surface of the lungs.”

—*Extract from Mr. Clift's Copy of Parkinson's MS. Notes of Mr. Hunter's Lectures*, vol. i., p. 170.

A further account of the same experiment is given in the “Treatise on the Blood,” &c. :—

"It is unnecessary to instance every possible situation where adhesions could be produced; they can take place wherever there are two internal surfaces in contact, or that can be brought into contact. I cannot give a better instance of its utility in the animal economy than in the following experiment:—I wished to know in wounds which penetrated into the chest (many of which I have seen in the army), where suppuration had come on the whole cavity of the chest, as well as on the surface of the lungs, and where the lungs collapsed, how parts were reinstated, or in what form they healed; whether the lungs, &c., lost their suppurating disposition, and dilated, so as to fill the chest again. To ascertain this as far as one well could, I made the following experiment on a dog.

"October, 1779, I made an opening between the ribs into the chest of a dog, and touched the edges of the wound all round with caustic, to prevent it from healing by the first intention, and then allowed the dog to do as he pleased. The air at first passed in and out of his chest by the wound. He ate, &c., for some days, but his appetite gradually began to fall off. He breathed with difficulty, which increased; he lay principally on that side, which we find people do who have the lungs diseased on one side only or principally; and he died on the eleventh day after the opening. On opening the body, I found the collapsed lungs passing directly across the chest and attached to the inside of the wound all round, so that they excluded the cavity of the chest from all external communication. This circumstance, of the lungs falling across the chest, was owing to his having lain principally on that side, which I conceived to have been only accidental.

"The cavity of the chest all round was filled with air. That part of the external surface of the lungs which did not adhere, that is to say, the part opposite the upper surface of the diaphragm, and that part of the pleura which covered the ribs, were entirely free from inflammation or suppuration; this cavity, from these adhesions, being rendered a perfect cavity, shows that air, simply, has no power to excite inflammation when the cavity is otherwise perfect, which the adhesions had effected; this shows also that adhesions of two surfaces round the exposed part exclude every part from the necessity of inflammation, as was explained when treating of inflammation."—*Works*, vol. iii., p. 352.

2. *Effects of Adhesive Inflammation of the Pleura.*

1748. Portion of lung, with a thin, tough layer of recent lymph closely applied upon its pleural surface, and partially reflected. The free surface of the lymph is finely reticular; the attached surface, smooth: there is, also, one long cord of lymph which probably extended across the pleural cavity. The pleura beneath the lymph is slightly opaque; the lung appears healthy.

From the Museum of Sir A. P. Cooper.

1749. Part of a lung, consolidated and covered with a layer of shreddy, flocculent lymph, and false membrane. The vessels of the lung are minutely injected, but no vessels can be seen in the lymph.

From the Museum of Sir A. P. Cooper.

1750. Portions of lung and diaphragm, with organized adhesions extended irregularly between their adjacent thickened pleural surfaces. The branches of the pulmonary artery are minutely injected, but none of the injection can be traced beyond the surface of the lung. *Hunterian.*

1751. Portion of lung, on the surface of which there is a great quantity of false membrane. The false membrane is arranged, chiefly, in two layers, between which is a space half an inch in width. The outer layer, which was adherent to the costal pleura, is from one to two lines thick, tough and laminated; part of it has been reflected, so as to expose the space between it and the thinner and softer layer which covers the surface of the lung. This space is divided by deep partitions of thin, but compact, false membrane placed vertically between the two layers already mentioned, into several cells, which contained a serous fluid. The cells are oval, or, by mutual pressure, angular in form; from half an inch to nearly two inches in diameter; and each is completely partitioned from the rest. *Hunterian.*

1752. Portion of the border of a child's lung, on the surface of which lymph is so deposited that it gives an appearance of small pustules.

The child died with small-pox. Its trachea is in Ser. xxxviii., No. 1844.

Presented by Joseph Swan, Esq.

1753. Portions of lung affected with tuberculous disease, and having on their surfaces a layer of false membrane from one to five lines in thickness. It is dense, tough, white, and obscurely fibrous, like the tissue of a cicatrix; there are no tubercles in it. A similar layer unites the adjacent surfaces of the upper and lower lobes.

From the Museum of George Langstaff, Esq.

1754. Portion of the base of a lung firmly adherent to the diaphragm. Part of the false membrane by which they are united is converted into a thin, smooth layer of hard bony substance. *Presented by Joseph Swan, Esq.*

1755. Parts of five ribs closely approximated, and having a thick plate of bone, coarsely granulated on its surface, attached to their interior. The bone was probably formed in the substance of false membranes between the layers of the pleura; by the contraction of which it is also probable that the ribs were approximated.

3. *Suppuration of the Pleura: Empyema.*

1756. The heart of a child, with the left lung, and part of the costal pleura. Both layers of the pleura are thickened and covered with lymph, which has a smooth but delicately villous and flocculent surface, and appears organized. The lung is compressed into one-fourth of its natural size, and lies close to the pericardium, with the exception of part of its lower lobe, which is adherent to the lower part of the costal pleura, and is drawn into a long, thick band. The heart and pericardium are healthy.

The patient was a very delicate girl, eight years old. She appeared as well as usual till within fifteen days of her death, when an attack, apparently of acute phrenitis, came on. The left side of the chest was now found much enlarged, and the abdomen appeared to be distended with fluid. No treatment was of avail, and the patient was so exhausted that it was not deemed advisable to tap the chest. After death seven pints of pus were found in the left pleural sac, and the diaphragm was pressed down into a large sac, which reached nearly as low as the crest of the ilium, and had produced the appearance of fluid within the abdominal cavity. The right lung was enlarged; the right pleural sac contained six ounces of fluid. The peritoneal covering of the distended portion of the diaphragm was inflamed, and appeared ulcerated, as if an opening would soon have been formed and permitted the pus to pass from the chest into the abdomen.

From the Museum of George Langstaff, Esq.

1756A. Portion of lung, with corresponding portions of pulmonary and costal pleura, from a case of empyema of long standing. The lung is com-

pressed. The opposite surfaces of the pleura are covered with layers of organized lymph, each a line in thickness and coarsely granulated.

Presented by James Paget, Esq.

1757. A lung compressed to a tenth of its natural size by fluid effused in empyema. Its whole surface is invested with a tough, uneven layer of false membrane, which, at the posterior part, adhered closely to the costal pleura.

The patient, a man twenty years old, had empyema between three and four years. Paracentesis thoracis was performed, and he died a fortnight afterwards.

From the Museum of Robert Liston, Esq.

1758. Portion of a diaphragm, including part of its central tendon, through which there is an ulcerated opening, measuring about half an inch in its greatest diameter. The pleural surface of the diaphragm is covered with a thin layer of lymph. The margins of the ulcer are ragged and irregular.

The patient had empyema. Some of the pus escaped from the cavity of the chest into that of the abdomen, through the ulcer in the diaphragm, and produced fatal peritonitis.

Presented by Joseph Swan, Esq.

1759. Parts of three ribs, with their pleural lining, from the same patient as the preceding specimen. The pleura is thickened, and its surface, or that of false membrane on it, is flocculent. Several ulcers have penetrated through the false membrane and pleura to the intercostal muscles.

Presented by Joseph Swan, Esq.

1760. Portion of lung, with the corresponding part of the side of the chest. Both layers of pleura are thickened, and, in parts, intimately adherent. A fistulous canal, through which a piece of glass is passed, extends from that portion of the sac of the pleura which is not obliterated, through the skin, where it has a depressed oval aperture, as if it had long existed. Probably pus discharged itself from the pleural cavity by this aperture.

4. *Cancer of the Pleura.*

1761. The lower part of a left lung, with the corresponding costal pleura, the adjacent portion of the pericardium, and the cartilages of the sixth and seventh ribs. The lung is covered with a thick and tough layer of organized lymph, and was compressed by fluid collected within the pleural cavity. In the place of the costal pleura, and of the pleura covering the pericardium, there is an uneven layer of pale, hard cancerous substance, from half an inch to an inch in thickness. The inner surface of the cancerous substance is nodulated and coarsely granular, but smooth, and not covered with lymph. It is only in one small place adherent to the thickened pulmonary pleura.

There were numerous cancerous tumours in the lungs.

From the Museum of George Langstaff, Esq.

SERIES XXXVII.—Section B. INJURIES AND DISEASES OF THE LUNGS.

1. *Wounds and other Mechanical Injuries.*

1762. Portion of lung, in which a very small wound, now marked by a bristle, was inflicted by a stab with a knife.

The injury proved fatal with general emphysema.

Presented by Sir William Blizard.

1763. Portion of lung, which was wounded by a musket-ball ten days before death. The texture of the lung is solid and granular; the pleura is thickened and covered with a firm layer of lymph half a line in thickness.

The patient was twenty-nine years old. The ball went through the right first rib, and, carrying with it portions of bone, cartilage, and cloth, traversed the upper part of

the lung and the second rib. The patient had no expectoration of blood, but occasionally expectorated large quantities of foetid matter. The whole of the lung after death was found gorged with blood, and "in some degree hepatized;" the right pleural cavity contained foetid pus.*

Presented by Rutherford Alcock, Esq.

1764. Portion of lung, which was lacerated by the passage of a musket-ball through it thirty-one days before death. A thin layer of lymph appears to have been effused on the inner surface of the track of the ball; but the texture of the lung is unchanged.

The patient was twenty-two years old. The ball shattered the upper part of the left humerus, passed into the chest through the fifth rib near the spine, traversed the posterior edge of the middle lobe of the left lung, and then passed to the right side of the spine, and was cut out over the [right scapula. "With the exception of a slight cough on the seventh day after the injury, which disappeared, there was not the slightest indication of the cavity of the chest having been penetrated, or the lung wounded." On the eighteenth day the humerus, showing no progress towards union, was amputated at the shoulder joint. Extensive suppuration took place about the stump and under the trapezius and other muscles; and of this the patient seemed to die, for it was only during the last two days of life that any symptom of injury of the contents of the chest appeared, and then it was only such an anxiety of breathing as is common in those who are dying of exhaustion.

The lungs were healthy throughout. There were considerable and firm adhesions of the pleura on both sides, particularly the right. There was no fluid in the pleura, and no air appeared to have escaped into either the pleura or the cellular tissue.†

Presented by Rutherford Alcock, Esq.

1765. Portion of the middle lobe of a left lung, in which there is a musket-ball which was lodged in it for 159 days before death. The substance of the lung appears healthy, even in the part immediately surrounding the ball.

The patient was forty-two years old. The ball entered above the scapular end of the clavicle. The case was very protracted, but presented no remarkable features; its progress was like that of a case of pulmonary phthisis. At death the external wound was nearly cicatrized. Tubercles and tuberculous cavities were found in both lungs,

* Extract from the MS. Jacksonian Prize Essay, 1841. † Extract from the same Essay.

especially in their lower lobes, and in that of the left lung more than in that of the right; the healthiest part of all was the middle lobe of the left lung, in which the ball was lodged.*

Presented by Rutherford Alcock, Esq.

1766. A starling, of which the integuments and other tissues are emphysematous, probably from a wound of the lung or some of the air-cells.

Hunterian.

1767. Section of a lung, of which a small portion near the lower border is condensed and indurated. In the remainder, the air-cells are greatly dilated, and, in many places, several of them have coalesced, so that the lung has a very coarse, spongy texture, and appears light and shrivelled. The small bronchi are dilated and very thin.

Presented by Sir Everard Home.

1768. Another portion of the same lung, similarly changed in structure.

The history of the patient is published in "The Case of a Person who was Shot through the Lungs, and survived for Thirty-two Years, by Everard Home, Esq., F.R.S.," in the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, vol. ii., p. 169, London, 1800.

"An officer in the British army, thirty-one years of age, was shot through the chest; the ball entered on the left side, between the third and fourth ribs, near the point of the shoulder. It passed obliquely upwards, and came out on the opposite side between the second and third ribs. That the lungs were wounded was very soon ascertained by an hemorrhage from the mouth, which was so profuse as to endanger life.

"He gradually recovered from the immediate effects of the wound, but it was two or three years before he could be said to be restored to health. During the remainder of his life he was very subject to inflammation of his lungs on catching cold, and at those times had a great deal of pain, and a very considerable expectoration. He died in the sixty-fourth year of his age, thirty-two years after having received the wound through his lungs."

[This officer was the General Murray of whom Mr. Hunter spoke in his Lectures: see p. 1. Mr. Clift says, in a note to that passage from the Lectures, "When General Murray came to see Mr. Hunter's collection in 1792 or 1793, in company

* Extract from the MS. Jacksonian Prize Essay, 1841.

with Sir Joseph Banks and others, it was stated that he had not lain down in bed for thirty years, but had slept in a sitting posture during that period. He was deadly pale, and had great difficulty in walking up stairs.]

"Upon examining the thorax after death, the external surface of the lungs was found to be in a natural state; there were some adhesions to the ribs, but not more than frequently occur at that age. There was a small quantity of water in the cavities of the chest.

"In searching for the course of the ball, the spot where it entered the lung of the left side was very readily discoverable by the remains of a small cicatrix, the membrane at that part being thinner than common, and having a puckered appearance, which terminated in a central point. This part of the lungs had not the slightest adhesion to the pleura, but was in its natural detached state. The course of the ball through the substance of the lungs was readily traced by dissection, for an induration of the substance of the lungs was formed wherever it passed; this was best seen by making transverse sections of this thickened part. The appearance of the lungs in the right side was of the same kind, but in a less degree.

"The course of the ball was through the upper lobe of both lungs, at nearly the distance of two inches and a half from the highest part of them. The portion of lungs above the ball did not contain air, but the cells were filled with serum, so that it was more dense than natural, and sank in water; but this part was not in any degree shrunk or contracted. It had no communication with the branches of the bronchi, the adhesive inflammation consequent on the wound having consolidated all the parts above the line through which the ball passed.

"The internal membrane of the trachea, and even that of the smaller branches of the bronchi, were universally vascular, and the edges of the lungs were in some parts emphysematous.

"The heart was more than double its natural size, and in a flaccid state. The valvulae mitrales were thickened, opaque, and white. The semilunar valves of the aorta were diseased in a very unusual manner. One of them was destroyed by ulceration, its margins excepted; the edges of the ulcer were irregular, and the remains of the valve being perforated formed a narrow ring. The same disease had taken place in another of them, but the ulcer, which was nearly in the middle of the valve, was not so large, the disease being apparently in a more recent stage. The third valve was in a natural state."

[It is very probable that the valves thus described are those displayed in No. 1560.]

2. *Emphysema of the Lungs.*

2 a. *Vesicular Emphysema.*

1769. Portion of the lung of a negro, exhibiting a general slight enlargement of the air-cells, with, apparently, some thickening of their walls. Immediately beneath the pleura, also, there are numerous small thinly walled vesicles, of a rounded form, with one or more sides flattened, and varying in diameter from one to four lines. Their appearance is as if, in each of them, all the air-cells of a small lobule of the lung had coalesced, by the removal of their walls, into one cavity, which is bounded only by the partitions separating the adjacent lobules. The pulmonary pleura is tense, and glistens with the large vesicles formed of cells coalesced beneath it. Other portions of the lungs contained masses of earthy matter.

“ I have often,” says Mr. Hunter, “ seen such vesicles [containing air] on the edges of the lungs ; but these may be supposed to be a kind of aneurismal air-cells filled from the trachea, and are circumscribed and impervious, so that, in the state we find them, they have no communication with the external air.”—*Some Observations on Digestion ; Works*, vol. iv., p. 98.

1770. Another portion of the same lung, exhibiting the same form of vesicular emphysema.

1771. Another portion of the same lung.

1772. Another portion of the same lung.

1773. Another portion of the same lung.

The five preceding specimens are Hunterian.

1774. Section of a lung, dried. It exhibits a greater degree of general enlargement of the air-cells than in the preceding specimens ; and, in one

situation, air has escaped from the dilated cells and distended the pleura into a large sac.

Presented by James Paget, Esq.

1775. Part of a lung, in the edge of which many of the air-cells are dilated, and have coalesced. The diseased part projects in a multilocular or sacculated swelling, bounded by the pleura which is opaque and somewhat thickened from previous inflammation.

From a man sixty-five years old, who suffered from asthma for nearly six years.

From the Museum of George Langstaff, Esq.

1776. Section of the border of a lung, dried without previous inflation. It exhibits the results of extreme vesicular emphysema. The whole of the vesicular texture of the lung, including the air-cells and minute bronchial tubes and pulmonary capillary vessels, has disappeared; and there remain only the laminae and cords of fibro-cellular and elastic tissue which formed the boundaries and partitions of the lobes and lobules. These enclose spaces of various form and size, and variously communicating with each other.

Presented by James Paget, Esq.

1777. Another section of the same lung, similarly diseased, but in a rather less degree.

The patient was a middle aged man, who died with an acute attack of jaundice during the passage of gall-stones. Nothing was known of his earlier history; but during his last illness he had not particularly complained of dyspnœa. The lung from which these, and other specimens in the Museum of St. Bartholomew's Hospital, were taken, was very large, light, pale, and anæmic. Nearly the whole of it was thus diseased. The other lung was similarly but rather less affected.

Presented by James Paget, Esq.

2b. *Subpleural and Interlobular Emphysema of the Lungs.*

1778. Part of the border of an infant's lung, in which air, having escaped from some of the cells, has formed large bladders beneath the pleura, and has passed into the tissue between the lobules. *Hunterian.*

1779. Portion of a lung, on the surface of which there is a sac, nearly three inches in diameter, formed by a very thin layer of pleura, expanded over air which escaped from one or more of the subjacent air-cells. A part of the membrane forming the base of the sac is opaque, as if from former pleurisy; and several blood-vessels traverse its surface.

From a woman forty-five years old, who died with hemorrhage from the lungs, and had long had difficulty of breathing.

Presented by Sir William Blizard.

3. *Hemorrhage in the Lungs: Pulmonary Apoplexy.*

1780. Portion of a lung, exhibiting numerous effusions of blood, like small spots of purpura, beneath the pleura, and a smaller number of similar effusions in its substance.

From a child eight months old. There were similar effusions in and beneath the skin, the mucous membrane of the trachea and bronchi, the pericardium and peritoneum, and the pia mater.

From the Museum of George Langstaff, Esq.

1781. Section of a lung, from a man in whom an aneurism of the aorta opened into the trachea, and several times discharged small quantities of blood into it. The lung presents numerous roundish spots, like blotches, from blood effused into the minute bronchi and air-cells. These spots, which are from one and two lines to an inch in diameter, are firmer than the

rest of the lung, but they are not hard or very compact; on their cut surface many air-cells appear open, not filled with blood, and having their ordinary characters. The outlines of the spots of blood are not well defined, but gradually shaded off with lighter tinges of blood-colour. The parts of the lung adjacent to them are healthy. The bronchial tubes are nearly all full of coagulated blood.

1782. Another section of the same lung.

1783. Another section of the same lung. It is taken from the lower part of the lower lobe; and the air-cells in the apoplectic spots are more generally filled; so that the effused blood makes nearly solid masses.

The three preceding specimens presented by James Paget, Esq.

1784. Part of the lower lobe of a lung, in which extensive hemorrhage has taken place. Blood is diffused through a considerable extent of the pulmonary tissue; and in several small circumscribed spaces, which present more or less of the form of groups of pulmonary lobules, it is collected and coagulated in firm and nearly black well-defined masses. The effusions appear to be particularly numerous and copious beneath the pleura.

The patient died with hæmoptysis.

From the Museum of George Langstaff, Esq.

1785. Section of a lung in the substance of which hemorrhage occurred in two situations. The effused blood forms compact and hard masses. The blood has lost part of its colouring matter, and presents on its cut surface a mottled aspect, with a mixture of different shades of deep crimson, brownish red, and very pale yellow. Its section also exhibits numerous small round and oval cavities, from a quarter of a line to two lines in diameter, with polished internal surfaces.

Presented by Francis Kiernan, Esq.

4. *Effects of Inflammation: Pneumonia.*

1786. Sections of the lower lobe of a lung, the substance of which, by the infiltration of lymph and pus, has acquired a nearly uniform pale, dull yellow colour, varied only by the grey and bluish marks of previous black deposits. It is also solid and heavy; but soft and brittle; and in some parts it has a finely granulated appearance.

Presented by James Paget, Esq.

1787. A section of the upper lobe of a lung, the substance of which is uniformly solid, firm, tough, and heavy. It is of a pale yellowish and greyish white colour, mottled with spots of dark grey and bluish-black deposit; and in the greater part it presents the appearance of extremely minute, opaque, whitish grains scattered in its substance. These changes were probably the result of induration of a hepatized lung.

From a man forty-eight years old. Signs of pneumonia existed for nearly five weeks before his death.

Presented by James Paget, Esq.

5. *Gangrene of the Lungs.*

1788. Part of a lung, nearly the whole of the upper lobe of which is in a state of gangrene. It is heavy, but soft, friable, rotten, and broken-down; variously coloured with shades of dark and dirty green, brown, and black; infiltrated with stinking fluid of like colour. The outline of the gangrenous part is not well defined; the adjacent part of the lung is heavy and nearly solid, but soft. The disease is limited to the upper lobe.

Presented by James Paget, Esq.

6. *Tumours and other allied Morbid Deposits in the Lungs.*

6 a. *Osteoid Tumours.*

1789. Dried sections of a tumour from the surface of a lung, in which a large quantity of earthy matter or bone is deposited.

From a boy whose thigh was amputated some weeks before his death for a large, very hard, and bone-like tumour of the femur. After the operation he had signs of disease of the lungs. After death the disease was found to have returned in the stump of the femur, and on many parts of the pleura there were masses of diseased substance like that which is preserved, and like the tumour of the femur.

From the Museum of Sir A. P. Cooper.

6 b. *Cancer of the Lungs.*

1790. Portion of lung, with several masses of hard, white, lobed, and obscurely fibrous, cancerous substance imbedded in it. Most of them are immediately beneath the pleura, and have flattened and scarcely projecting surfaces. The two largest are an inch in diameter; they project about a line from the surface of the lung, and are adherent to the opposite surface of the pleura, a portion of which is preserved. The others are from a line to half an inch in diameter. Many of them are lightly tinged with the same black substance which is copiously deposited in the pulmonary tissue; and many are surrounded by narrow black areolæ, formed of the same substance.

From a woman forty-six years old, whose breast had been removed for ulcerated cancer of three years' duration. The glands of the axilla were not diseased, and her general health appeared good at the time of the operation.

From the Museum of George Langstaff, Esq.

1791. Portion of lung, in which large, hard, white, obscurely fibrous, cancerous

tumours, like those last described, have been formed. The largest of them, of which a section is shown, projects from the surface of the lung, and forms a broad flattened mass nearly half an inch thick, which is firmly adherent to the opposite surface of the costal pleura.

Many other organs of the same patient were similarly diseased.

From the Museum of George Langstaff, Esq.

1792. Portion of lung, containing several round lobulated masses of firm white cancerous substance. They are imbedded in apparently healthy pulmonary tissue: the largest of them project from the surface of the lung.

“ Case of Cancer in the Breast.

“ Mrs. Ad—m, about forty years of age, observed a lump in her right breast, and in about twelve months after, observing it to become of a considerable size, she applied to me in the autumn of 1792. I ordered leeches, and the embrocation of Goulard, &c., which appeared at first to check its progress. I gave hints of my doubts about the cure, and endeavoured to lead the mind to an operation.

“ She went into the country in the month of January, 1793, and about the beginning of February she returned to town; and the progress it had made in that time was very considerable; as also a small gland in the arm-pit had made its appearance.

“ She also returned with a severe cough and shortness of breath, which I did not like, for I had often seen such after the disease had made considerable progress towards the source of the circulation, along the arm-pit, &c., which I conceived arose from the lungs being affected with the absorbed matter from the tumour, as it must circulate first through them before it got to the common circulation; but all this was only conjecture, for I had not been able to open such as had had this symptom, and seemed to have died of it.

“ She now came to the resolution of having it removed, and I now wished to put it off altogether; but it was imagined that her cough and shortness of breathing was nervous, as it had come on so rapidly and with such violence.

“ The breast and gland were removed, and in the time of removal the pectoral muscle was found to be contaminated, which parts were removed along with the tumour.

“ Everything respecting the wound went on well, but the cough and shortness of breathing became worse and worse. She felt low, and often as if dying; her pulse quick, although not remarkably so; and, what was very singular, her tongue always kept clean and moist.

“ All these symptoms increased upon her, and it was evident she had little or no chance of living, although all this time the sore was going on vastly well.

“ She died about three weeks after the operation, and I wished to examine the body, which was allowed.

" The parts leading from the wound towards the heart in the course of absorption, viz., arm-pit and above the clavicle, were to all appearance sound. The lungs were found to be extremely diseased, and adhered everywhere to the parietes; not so much disease of their substance, as having everywhere disease in their substance, particularly in their adhesions; the mediastinum was particularly so.

" This disease was everywhere of one kind, and was in form of tumours; in largest quantity or masses in the mediastinum and anterior edge of the lungs, where they adhered to the mediastinum, which disease extended laterally and backward in the adhesions. The substance of the lungs everywhere was studded with them, some as small as peas, others as large as walnuts, &c.

" These tumours which were in the adhesions of the lungs were strong, but in the substance of the lungs, they could easily be turned out, being attached very slightly. They were pretty firm in consistence, and, when torn, they broke into pieces like a jelly, viz., not tough. These substances cannot be called tubercles or scrofulous swellings, and how to account for this formation (to my own satisfaction) is to me difficult.

" To suppose they arose from the absorption of the cancerous substance, and circulating immediately through the lungs, contaminating them and producing such effects, does not accord with the effects themselves or the parts in which they were produced.

" Parts were affected that seemed to be both out of the way of the course of absorption, and also out of the way of the circulation in the lungs; for the mediastinum and anterior edges of the lungs being diseased, one might suppose that the absorption took the route of the internal mammillary artery, but even this is not sufficient for the whole exterior surface of the lungs, nor does it accord with the contamination of the lungs from the cancerous absorption circulating through them; for then we should not have expected tumours, but rather a consolidation of the lungs. The short period in which these tumours, adhesions, &c., seemed to form is also uncommon.

" How far this is reducible to the case of Mr. Bennet, the coach-maker, and of the Duke of Queensberry's cook, I will not say, but there is certainly a similarity."—*Hunterian MS. Cases and Dissections*, No. 75.

1793. Portion of a lung, at the lower part of which is a tumour formed of soft, white, cancerous substance, partially tinged with black by the same material as is more abundantly deposited in the tissue of the lung.

From a woman forty-seven years old, who died with several similar tumours in the lungs and omentum nine months after the removal of a cancerous breast.

From the Museum of George Langstaff, Esq.

1794. Portion of a lung, in which there are numerous round and lobular masses of a soft and almost pulpy, vascular, cancerous substance. Most of the

larger masses are formed by the coalition of several small ones. The texture of the lung, in which they are loosely imbedded, appears healthy.

From a woman fifty years old, who had a large tumour of the same kind in the abdomen.

From the Museum of George Langstaff, Esq.

1795. Part of a lung, within, and upon the surface of, which are numerous soft, white, round masses of brain-like medullary cancer, of various sizes. Their substance is uniform and close; their cut surfaces present no appearance of fibrous structure, but rather appear spongy. The parts of the lung upon and in which they are seated appear healthy, and the connections between them very slight. The pulmonary vessels have been minutely injected, but little of the injected fluid has entered the tumours.

From the Museum of George Langstaff, Esq.

1796. Portion of lung, in which there is a round lobed mass of pale, whitish, spongy, cancerous substance, an inch in diameter. The adjacent substance of the lung appears healthy. *From the Museum of Sir A. P. Cooper.*

7. Tubercle in the Lungs: Phthisis Pulmonalis.

1797. Portion of a lung, in which minute tubercles are very thickly scattered. Some of them are so minute that they look like mere points; the largest are less than a line in diameter; they are so closely set, that between the most distant there is scarcely room enough to admit another; yet they are not grouped, and very few appear to have coalesced. Their form is generally oval; their original colour appears to have been yellowish, probably a transparent greenish yellow. *Hunterian.*

1798. The heart, lungs, trachea, and bronchial glands of a child sixteen months old. Through all the substance of the lungs small grey miliary tubercles are thickly scattered. They have uneven outlines, but tend to the oval form; they measure from half a line to a line in diameter; some present

small cavities at their centres. A few of them are in groups; around all, whether scattered or grouped, the pulmonary tissue appears healthy. The bronchial glands are enlarged. The blood-vessels of the lungs were injected through the pulmonary artery.

The child's mother died of phthisis six days after its birth, and it was always sickly and emaciated.

From the Museum of George Langstaff, Esq.

1798A. A similar specimen, not injected, and with fewer tubercles.

Presented by James Paget, Esq.

1799. A portion of lung, in which there are "small scrofulous tubercles dispersed throughout its substance." (*Hunterian MS. Catalogue.*) They are like those last described; a great many of them lie immediately beneath the pleura, projecting a little from the surface of the lung. *Hunterian.*

1800. The lungs of a canary bird (*Fringilla canariensis*), in both of which there are comparatively large circumscribed masses of tubercle.

From the Museum of George Langstaff, Esq.

1801. Section of the lung of a benturong (*Arctictis Benturong*). Tuberculous matter is deposited in a circumscribed space at and below the surface of the lung. The deep outlines of this space are formed of the tissue between some of the lobules of the lung, thickened, indurated, and opaque-white; and several adjacent lobules beyond this space are surrounded with similarly thickened interlobular tissue. Within the space occupied by the tuberculous matter, there are appearances of its having been first deposited in the interlobular tissue, for the lines in which this tissue lay are filled with firm and compact tuberculous matter. In some of the lobules, also, so much tuberculous matter is deposited, that they appear solid, pale yellowish-white like masses of tubercle, in which none of the original pulmonary texture can be discerned; but in other lobules there remain distinct traces of the air-cells, which appear surrounded with tuberculous matter; as if this morbid substance first surrounded a lobule,

and then gradually spread to its central parts and filled every air-cell in it. The vessels of the lung are minutely injected, but none are discernible where the tuberculous matter is deposited.

Presented by the Council of the Zoological Society.

1802. A vertical section of the lung of a babyrussa (*Sus babyrussa*), thickly beset with solid masses of opaque yellow tuberculous matter. Where these are, no trace of the pulmonary texture can be discerned; the morbid substance appears to be deposited in every part of it. Some of the masses, which are very various in size and shape, are partially softened; many have granules of calcareous matter scattered in them, in groups and tortuous and branching lines.

Presented by the Council of the Zoological Society.

1803. Section of a lung, through nearly the whole of which tuberculous matter is infiltrated. The lung is enlarged, but hardly a portion of its proper tissue remains, except near its surface. The substance of the lung, or, rather, what occupies its place, is uniformly compact and heavy, but brittle; the surface of its section is smooth and firm, of a pale yellowish-white colour, marbled and mottled with various shades of grey by the black matter deposited in spots and lines. Near the lower (but, as the preparation is placed, the upper) part of the lung there are a few small cavities of very irregular shape, with walls formed by the adjacent firm tuberculous matter; and there are two similar cavities of rather larger size in the upper lobe. The pleura is thickened and very vascular, strongly contrasting with the interior of the lung, in which, infiltrated with tuberculous matter, hardly any appearance of blood-vessels can be discerned. Beneath the pleura there are numerous scattered and grouped yellowish miliary or crude tubercles. The cut surface of the lung is traversed by an oblique band passing from above downwards, a line in width; this is formed of the adhesions between the corresponding surfaces of the two lobes filled with tuberculous matter.

Presented by James Paget, Esq.

1804. Section of the upper and middle lobes of a lung, of which the blood-vessels were minutely injected from the pulmonary artery. In the lower part of the section there are a few distinct masses, each formed by the grouping and coalescing of several small, oval, yellowish-white miliary tubercles; higher up, the tuberculous matter is infiltrated through nearly all the pulmonary tissue, and at the apex of the lung there are several irregular cavities, bounded and imperfectly partitioned from each other with indurated and tuberculous pulmonary tissue. There is an appearance of blood-vessels traversing the parts in which the tubercles are deposited; these are probably the vessels of the tissue of the lung, which remain in the midst of the tuberculous matter deposited about them; in the same parts the tubercles are mottled with grey by the black deposit.

1805. The heart and part of one of the lungs of a monkey. In the substance of the lung tuberculous matter is thickly and almost uniformly infiltrated, and there are numerous small irregular cavities variously opening into one another, and bounded only by the infiltrated substance of the lung. The pleura is very much thickened.

From the Museum of George Langstaff, Esq.

1806. Two portions of a lung, exhibiting the interior of the walls of a large tuberculous cavity extending through nearly the whole of the upper lobe. The internal surface of the cavity is rendered uneven by the branches of bronchi and blood-vessels which project upon it, like a coarse network of ridges, and by the orifices of several large bronchial tubes, in two of which portions of glass are placed. The cavity is lined throughout with a thin, filmy, false membrane, beneath which numerous minute masses of tubercle are deposited. The thin external layer of the pulmonary substance which remains, forming the wall of the cavity, is black and grey, and indurated; and all the adjacent parts of the lung, both in its interior and on its surface (from which a portion of thickened and adherent pleura has been reflected), are crowded with very minute grey and yellowish scattered tubercles. The part of the pleura which covered in the cavity was firmly

adherent to the interior of the chest. There was coincident tuberculous disease of the intestines and the mesenteric glands.

From the Museum of George Langstaff, Esq.

1807. One of the lungs of a girl about fourteen years old. The upper lobe has been almost wholly destroyed by tuberculous disease. One large cavity is formed in it, of which the walls, composed of the remaining pulmonary tissue, are not more than a line in thickness. The internal surface of the walls of the cavity is for the most part smooth, lined apparently with false membrane; it exhibits prominences formed by the trunks of large vessels branching on it; in some parts it is ulcerated, and in many tubercles are deposited upon or immediately beneath it. The outer surface of this part of the lung is covered with false membrane, and there are numerous tubercles in its substance. The lower lobe is nearly full of miliary tubercles and small cavities. The blood-vessels are partially injected. Tuberculous disease existed in the ileum and mesenteric glands.

From the Museum of George Langstaff, Esq.

1808. A portion of lung, exhibiting two fistulous canals (indicated by bristles), which extended from tuberculous cavities, through the pleura, and communicated with an abscess in the walls of the chest. The parts of the pleura adjacent to the openings in it are thickly covered with tough false membrane. The texture of the lung is hard, shrivelled, and very dark, with black deposit; the cavities which opened externally are not shown, but there is one at the apex of the lung, the walls of which are firm, dry, and lined with thin false membrane.

The patient was a girl fourteen years old, who had signs of phthisis for two years. A swelling formed on the right side between the fourth and fifth ribs, and was attended with great pain and dyspnœa. It was opened, and gave exit to a large quantity of offensively smelling pus. The patient was much relieved, and pus continued for a long time to be discharged. But the opening gradually closed, and she died with hectic fever and diarrhœa. The rest of the lungs was full of tubercles; and there was tuberculous disease of the intestines and mesentery, with fatty degeneration of the liver.

From the Museum of George Langstaff, Esq.

1808A. Section of a lung, which had collapsed, and was compressed by air and fluid in the pleural cavity. Tuberculous matter is thickly deposited in the lung, in the forms of both granules and infiltration. There are also numerous cavities, of various, but chiefly small, sizes; and one of these, in its progress by ulceration, has extended through the pleura pulmonalis, making in it a smooth-edged oval aperture, opening into the opposite wall of the same cavity. In the inflammation of the pleura, which followed the escape of air and pus into its cavity, a thick firm layer of lymph has been deposited over the whole surface of the collapsed lung, and of the costal pleura. The further collapse of the lung appears to have been hindered by a strong old adhesion, which fixed a part of the pleura on its upper lobe to the opposite part of the costal pleura.

Presented by James Paget, Esq.

1809. The lower part of a sternum, with the cartilages of some of the ribs, and the integuments covering them. In the progress of tuberculous disease a part of one of the lungs became adherent to the posterior surface of the sternum. A large cavity formed in this part of the lung, and as the ulceration extended, it destroyed both the layers of pleura and the false membrane by which they were united, produced partial necrosis and ulceration of the sternum, and at length opened through the integuments of the front of the chest, from which the cavity continued for a long time to discharge. The preparation shows an irregular opening, with smoothly-rounded margins in the integuments, the diseased part of the sternum beneath it, and, at the posterior part, a portion of the tuberculous cavity.

The patient was a man forty years old. There was also extensive ulceration of the larynx and trachea, and many portions of the cricoid cartilage perished after ossification, and were coughed up. There were several other cavities in the lungs.

From the Museum of George Langstaff, Esq.

1810. Portion of a lung, in which a large mass of calcareous substance is deposited immediately beneath the pleura, probably in the place where there was a tuberculous cavity. The surface of the lung is puckered in, like a

cicatrix, over the deposit; and a thin layer around it is condensed, and closely applied upon it. Black matter is abundantly deposited in spots through the lung, and especially around and near the calcareous substance.

From the Museum of George Langstaff, Esq.

1811. Small portions of earthy matter, one marked "From the lungs, immediately under a cicatrix;" the other, "From the pineal gland of a maniac."

Hunterian.

8. *Entozoa in the Lungs.*

1812. Portion of the lung of a lion, containing an acephalocyst hydatid in a cavity thinly lined with false membrane. A part of the surface of the lung is reflected, and the hydatid is laid open.

Hunterian.

1813. Portion of lung, on the surface of which, and partly imbedded in its substance, is a thin membranous cyst covered with the pleura, from which an acephalocyst hydatid has been removed.

Presented by William Lawrence, Esq.

1814. Sections of the lung of a sheep, the blood-vessels of which are injected. The pleura is much thickened, and the pulmonary tissue appears in several parts condensed and diminished in vascularity. Scattered through the substance of the lungs are several hydatid cysts thickened and shrivelled up.

From the Museum of George Langstaff, Esq.

9. *Uncertain Diseases of the Lungs.*

1815. Portion of lung, made dense by the deposition of a pale yellow substance. Immediately beneath the pleura (a part of which has been reflected) there is a deep ulcerated cavity, with soft granular margins.

Hunterian.

1816. Section of a tumour, containing a large quantity of calcareous matter in small granules, which was formed in the substance of the lungs of an ox. There were several tumours of the same kind. It most nearly resembles a fibrous tumour with earthy deposits. *Hunterian.*
1817. Portion of the lung of an ox, covered with irregular lobulated masses of soft substance. Some of these contained pus, others a glairy substance of the colour of pus. The whole of one lung was thus diseased. *Hunterian.*
1818. A collection of small particles of earthy matter, from the lungs of an ox. They consist of minute irregularly formed and wrinkled plates of bone-like substance, somewhat resembling portions of cancellous tissue. *Hunterian.*
1819. A nodulated mass of earthy matter, from the lung of a turkey. *Hunterian.*
1820. Several small round masses of earthy matter, from the lungs of a camel. *Hunterian.*

Specimens of Diseases in, or involving, the Lungs in other parts of the Museum :—

Wounds, 40.

Adhesions of the Pleura, 92, 95, 96, 97, 103.

Effects of Empyema, 725-6.

Osteoid Tumours, 228.

Cancer, 224, 258 (?), 1100.

Tubercle, 295 to 299A.

Abscess of the Liver discharged through the Lung, 1398-9.

Hydatids similarly discharged, 1426.

Compression of the Lungs by Aneurisms or Tumours, 1471, 1473, 1673.

Affections of the Pulmonary Vessels, 1649, 1650, 1651, 1656.

SERIES XXXVIII.—INJURIES AND DISEASES OF THE
LARYNX, TRACHEA, AND BRONCHI.

1. *Wounds.*

1821. The larynx, trachea, and adjacent parts of a man who cut his throat several days before death. There is a wide gap between the thyroid and cricoid cartilages, the edges of which are covered with granulations. Smaller wounds extend from this, on each side, through the anterior part of the cricoid cartilage and the upper ring of the trachea.

The patient had diseased lungs, and his nose sloughed in consequence of the loss of blood from the wound.

Presented by Joseph Swan, Esq.

1822. The tongue, larynx, pharynx, and a portion of the integuments from a man who cut his throat between the os hyoides and the thyroid cartilage. A large aperture remains in the situation of the wound, exposing all the anterior surface of the epiglottis. The integuments around it are completely cicatrized, and so contracted and sunk in, that the lower border of the cicatrix is smoothly continuous with the anterior surface of the epiglottis. The beard has grown almost to the margin of the aperture.

Hunterian.

2. *Foreign Bodies.*

1823. A larynx, with the pharynx and tongue of a man who was suddenly suffocated by a large piece of chewed meat passing into his larynx when he was trying to vomit. The meat is suspended over the arytenoid cartilages; a portion hangs in the pharynx, but the greater part of it is in the larynx, and is sufficiently large to have filled the whole of its cavity from below the epiglottis to the first rings of the trachea.

From the Museum of George Langstaff, Esq.

1824. The larynx, trachea, and first portions of the bronchi of a child two years and a quarter old. A bean, measuring about three-quarters of an inch in length and half an inch in breadth, is lodged in the orifice of the left bronchus, and rather overlaps that of the right bronchus also.

The child died twenty-four hours after the passage of the bean through the larynx.

From the Museum of Sir A. P. Cooper.

3. *Diseases of the Cartilages of the Larynx and Trachea.*

1825. A larynx and trachea, with the commencements of the bronchi, in all of which the cartilages are completely ossified. In the epiglottis, and in the membranes extending from it to the arytenoid cartilages, there are numerous small deposits of bone. In the crico-thyroid membrane, also, and in the membrane uniting some of the rings of the trachea, there are a few similar deposits.

Presented by Sir William Blizard.

1826. A larynx and trachea, with their cartilages ossified. A small portion on each side near the angle of the thyroid cartilage is not ossified through its whole thickness; but with this exception the ossification is complete.

Hunterian.

1827. The lower part of a trachea, with the bronchial trunks. Nearly all the cartilages are completely ossified.

Hunterian.

1828. A thyroid cartilage, partially ossified. It has been macerated, and shows the exactly symmetrical manner in which the ossification has taken place, and that it has occurred first at the posterior and lower borders, and the cornua of the cartilage.

Hunterian.

1829. A thyroid cartilage, completely ossified.

Hunterian.

1830. The half of an hyoid bone, completely ossified.

Hunterian.

1831. A larynx, with part of the trachea. An abscess formed around the greater part of the cricoid cartilage, between its surface and its perichondrium. The posterior three-fourths of the cartilage are exposed in the cavity in which the pus collected; the anterior fourth appears healthy. No ossification of the exposed cartilage has taken place, nor any attempt at exfoliation. The abscess opened into the larynx near the posterior extremity of the vocal cord. There appears, also, to have been another smaller abscess at the right side of the epiglottis.

From the Museum of Robert Walker, Esq.

1832. The left horn of an os hyoides, expectorated after necrosis and exfoliation.

The patient, a woman twenty-eight years old, laboured under dyspnoea for a fortnight, and it became at last so urgent as to threaten suffocation. Tracheotomy was performed, and gave immediate relief. On the thirteenth day after the operation the patient, in a violent fit of coughing, discharged this portion of bone. She afterwards recovered.

From the Museum of Robert Liston, Esq.

1833. A portion of bone coughed up by a nobleman. It is hard bone, cancellous, except on one surface, where it is polished and ivory-like, or like the articular end of a bone long subject to friction after the removal of its cartilage. It has somewhat of the form of an arytenoid cartilage, its polished surface corresponding to the base of the cartilage; and, possibly, it is part of an arytenoid cartilage ossified, necrosed, and separated through an ulcer of the larynx. *Hunterian.*

4. *Diseases of the Mucous Membrane and Submucous Tissue of the Larynx, Trachea, and Bronchi.*

4 a. *Œdema.*

1834. A larynx, with the pharynx and other adjacent parts. The mucous membrane at the upper and back part of the larynx is indurated, and so

thickened and œdematous, that the space bounded by the epiglottis, the arytenoid cartilages, and the folds of membrane between them, is reduced to a narrow vertical chink, from half a line to two lines in width. The interior of the larynx, so far as it can be seen through this narrow aperture, is irregularly ulcerated. Anteriorly, there is an opening at which tracheotomy was performed, and close by its right side a large vein, into which a piece of whalebone is passed.

The patient was a man forty-five years old, who had signs of disease of the larynx for eight months. Three days before his admission into the Edinburgh Royal Infirmary his dyspnœa became more than usually severe. Tracheotomy was performed, with some difficulty, in consequence of the ossification of the rings of the trachea; and on the second day after it the dyspnœa and other symptoms were entirely relieved. On the morning of the third day, however, a fit of suffocation ensued, the tube introduced into the trachea being obstructed with mucus. The tube was changed and strictly attended to, but fits of suffocation recurred, respiration became very much oppressed, and the patient died before noon.

From the Museum of Robert Liston, Esq.

1835. A larynx, with the pharynx, tongue, and other adjacent parts. There is a diffuse, ragged, syphilitic ulceration of the mucous membrane of the pharynx and fauces, and the membrane which covers the upper and back part of the larynx is so swollen by thickening and œdema that the superior opening of the larynx is closed; its situation is indicated only by a vertical groove, at which the opposite folds of mucous membrane meet in the middle line. It may be remarked how, in this œdematous state of the membrane, the lateral margins of the epiglottis are turned backwards and inwards, curving till they nearly meet each other, so as to give the epiglottis a peculiar elongated and narrow shape, making it also stand up nearly vertically, and greatly contributing to the narrowness of the entrance into the larynx.

From a man, forty-two years old, who had had syphilis, and had taken large quantities of mercury. He was admitted into the Edinburgh Royal Infirmary with symptoms of œdema of the larynx, which had existed for several weeks. Tracheotomy was performed on account of a paroxysm of dyspnœa threatening suffocation; and immediately after the operation the patient slept soundly for nearly six hours. He

then awoke, and, before assistance could be afforded him, died suffocated. The preparation is engraved in Mr. Liston's "Elements of Surgery," ed. 1840, p. 442.

From the Museum of Robert Liston, Esq.

1836. A larynx, with the tongue and other adjacent parts. The mucous membrane covering the upper and back part of the larynx is, just as in the last specimen, œdematous and indurated, and the superior aperture of the larynx is reduced by the thickening of all its membranous boundaries, and by the recurvation of the epiglottis. The space between the epiglottis and the arytenoid cartilages is reduced to a vertical aperture about half an inch long and two lines wide. The interior of the larynx is superficially ulcerated.

The patient was a man twenty-three years old, who for several days had gradually increasing symptoms of œdema of the larynx. One day, while sitting quietly, he suddenly got up and ran to the door, exclaiming that he could get no air; in a few seconds he dropped, and died suffocated.

Several of the following specimens display similar œdema of the larynx in connection with pre-existing ulceration or other diseases.

From the Museum of Robert Liston, Esq.

4 b. *Thickening and Induration of the Mucous Membrane.*

1837. A larynx and trachea, with the adjacent parts. Just below the thyroid cartilage is an aperture, where tracheotomy was performed a long time before death. The aperture is very narrow, the skin adheres firmly to its borders, and it is nearly closed with lymph. For an inch below this aperture the membrane lining the trachea is thickened, indurated, and irregular on its surface, as if cicatrized; and the canal becomes gradually narrower till it is less than a quarter of an inch in diameter. It continues of this size for half an inch, and then becomes much larger; but an inch lower down it is again contracted to even a less size than before. This second stricture, however, is shorter than the first, and almost directly below it the trachea resumes its natural size. The mucous membrane is

in all these parts, and especially at the seats of the strictures, thickened, indurated, and uneven, as if from the formation of cicatrices upon its surface.

The case is thus described by Mr. Liston:—"The poor fellow had worn a small silver tube in an opening in his windpipe for many years. It was originally introduced on account of long-continued disease of the larynx, with dreadful suffering and constant sense of impending suffocation. He could not be made to dispense with the tube entirely, as he felt, immediately on the wound closing, a threatening of return of his painful and dangerous symptoms. A small one was substituted for that at first used. He led a very irregular life, used a vast quantity of opium, and no small amount of spirituous liquors. He used to be out in the open air occasionally all night, and suffered repeatedly under attacks of bronchitis and rheumatism. . . . He could articulate tolerably well when he stopped with his finger the orifice of the silver tube; at all times a part of the respired air passed through the natural channel. Latterly, he used to suffer from threatening of suffocation, and he used to relieve himself of the cause of this, namely, the inspissated and ropy mucus which got entangled in the trachea, then not suspected to be in a diseased state, by pushing through the opening in the neck and into the bronchi long turkey's feathers. This feat he performed without causing the slightest excitement or coughing. Ultimately, and about twelve years after the operation had been performed, he died, principally from diseased viscera."—*Elements of Surgery*, ed. 1840, p. 454.

From the Museum of Robert Liston, Esq.

4 c. *Superficial Deposits of Lymph in the Air-Tubes: Croup.*

1838. The larynx and trachea, with the soft palate, tonsils, and other adjacent parts of a boy six years old, who died with croup. The cavity of the larynx, from the upper margin of the epiglottis to the ventricles, is lined with a thin, loose layer of lymph; and scattered portions of lymph are adherent on parts of the mucous membrane lower down. The whole of the mucous membrane is swollen. The tonsils are enlarged.

From the Museum of George Langstaff, Esq.

1839. The larynx, trachea, and thyroid gland of a child. An irregular and very thin layer of lymph is deposited within the larynx and trachea, extending from the posterior surface of the epiglottis, on which it lies in

thin flakes, to about an inch below the cricoid cartilage. The vessels of the thyroid gland are minutely injected.

From the Museum of Sir A. P. Cooper.

1840. The larynx and trachea of a child who died with croup. The mucous membrane, from the upper margin of the epiglottis to the bifurcation of the trachea, has a thick layer of coagulated lymph upon its surface. The layer, which probably formed a complete tube, is thickest in the trachea; it is thin and flaky upon the epiglottis and in the ventricles of the larynx.

Hunterian.

1841. A larynx, trachea, and tongue, from a girl four years old, who died with croup. The lower surface of the epiglottis is covered with a thin layer of lymph, and a tube of moderately firm, granular, false membrane, nearly half a line in thickness, extends from the vocal ligaments to the bifurcation of the trachea. The tonsils are enlarged.

From the Museum of Robert Liston, Esq.

1842. A larynx, with the trachea and large bronchi, exhibiting the effects of croup in an adult. The interior of these parts is lined with a layer of coagulated lymph, forming a membranous tube, of uniform, smooth, and compact texture, which adheres loosely to their walls, and has been torn across just above the bifurcation of the trachea. The thickness of this membrane increases from above downwards, till, in the bronchi, it is equal to a quarter of a line. On the posterior surfaces of the epiglottis and of the arytenoid cartilages there is a thinner deposit of lymph in small flakes. Suspended by a separate thread is a tubular portion of lymph about five inches long, which was coughed up four days before death.

The patient was a lady seventy-five years old, who had signs of croup for ten days. She died in a violent fit of coughing, during which it is supposed that the false membrane was torn across, and caused suffocation by the loose portion closing up the bronchial tubes.

The preparation is engraved in Mr. Liston's "Elements of Surgery," ed. 1840, p. 441.

From the Museum of Robert Liston, Esq.

1843. The larynx and adjacent parts of an adult, who died with "putrid sore throat." The mucous membrane lining the larynx is swollen, and a thin imperfect layer of coagulated lymph is deposited loosely on its inner surface. *Hunterian.*

1844. The larynx and trachea of a child, who died with small-pox. The mucous membrane is slightly thickened, and there are numerous delicate flakes of lymph upon its surface. *Presented by Joseph Swan, Esq.*

1845. A *Bronchial Polypus*; a small portion of coagulated lymph, coughed up from the lungs. It is finely ramified, as if formed in some of the smaller bronchial tubes.

A much larger portion from the same patient is preserved in No. 75, and the history is recorded with its description in vol. i., p. 34.

Hunterian.

1846. Several portions of coagulated lymph, forming branched tubes moulded within the bronchi of the second, third, and many successively inferior orders.

They were expectorated by a person suffering with signs of bronchitis.

Presented by Dr. Jenner.

1847. A quantity of solid branched fibrine, removed from the bronchial tubes of a patient who, during life, had signs of croup, and coughed up smaller portions of similar substance. They appear to have nearly filled the tubes in which they lay. *From the Museum of George Langstaff, Esq.*

1848. Several small masses of a firm brown substance, probably coagulated lymph, from the lungs. *Hunterian.*

4 d. *Ulceration of the Mucous Membrane of the Larynx and Trachea.*

1849. A larynx, with a part of the trachea, exhibiting ulceration of the mucous membrane. Immediately around the vocal cords the ulceration is diffuse and irregular, but symmetrical; it penetrates, at some parts, the whole thickness of the membrane, and has exposed, on each side, a similar small portion of ossified arytenoid cartilage. It is probable that this ulceration was of tuberculous origin: but around its margins, at some distance from the vocal cord, and on the posterior surface of the epiglottis, there are several ulcers of different character. These are distinct, circular, or oval, about a line in diameter, quite superficial, and just like the ulcers of aphthæ; they are irregular in their arrangement.

“ The Honourable Mrs. Dalrymple, aged twenty-eight when she died. She was remarkable for her talents in music, especially vocal. She had been always of a scrofulous habit, having the glands of the neck often swelling to a considerable size from the ear to the clavicle.

“ She caught cold, which fell upon her lungs, and, not considering it to be serious, she regarded it but little till it became very violent.

“ The consumptive symptoms increased, producing all the common symptoms, excepting [that] what she spit was more like the common mucus of the nose than matter, although a yellowish substance was often mixed with it.

“ Some months before she died she lost her voice, could hardly articulate, could not get the sound above what is called her breath or rough whisper, which was extremely hoarse. There was also a difficulty in swallowing, but she could swallow a solid much better than a fluid.

“ *The appearances upon opening the body.*—On opening the chest I found the cartilages of the ribs considerably ossified in their centres. We found the pericardium filled with water, in quantity above four ounces. The lungs were full of tubercles, many come to suppuration, and the trachea filled with the matter, as also mucus from the inside of the cells. The lungs adhered to the pleura. The glottis and root of the epiglottis were ulcerated (which we find sometimes to be the case in complaints of the lungs), and the tips of the arytenoid cartilages were laid bare, and upon examining these cartilages they were found to be entirely bony. Both the thyroid and cricoid cartilages were in part ossified.

“ The lymphatic glands in the mesentery were much enlarged, which in some degree might obstruct the nourishment getting into the constitution. The lacteals were in many places filled with chyle, although what she had eaten for some time before death

must have been but very trifling. Probably the chyle being found in the lacteals was owing to the glands being diseased. These vessels appeared, also, to be diseased in many places, especially where they run upon the intestines; there they were thick in their coats, as also impervious in many parts.

“ This case was similar to General Amherst’s, as also the appearances after death, especially the larynx; but as the General lived longer under the disease, the cartilages were more ossified, and became ankylosed.”—*Hunterian MS. Cases and Dissections*, No. 82.

Hunterian.

1850. A larynx, with the base of the tongue and adjacent parts, from a person who died with pulmonary phthisis. The mucous membrane of nearly the whole interior of the larynx is superficially and irregularly ulcerated. About the margins of the chief and wide-spread ulceration there are a few small superficial aphthous ulcers, like those last described; and it is probable that all the ulceration had its origin in such as these spreading and coalescing. The laryngeal ventricles are almost obliterated by the swelling of the membrane. Deep ulcerations extend into the substance of the tonsils.

Hunterian.

1851. A larynx and trachea, affected with what was considered to be syphilitic ulceration. In the larynx and trachea there are two large ulcers of irregular form, with smooth edges slightly overhanging their equally smooth bases; they have removed the whole thickness of the mucous membrane. Over each arytenoid cartilage there is a small, circular, deep ulcer, exposing part of the cartilage ossified and necrosed. The right ventricle of the larynx is filled up, either by an irregular thickening of the mucous membrane, or by a layer of granulations from the surface of an ulcer, which extends over the right ala of the thyroid cartilage and nearly all the epiglottis.

Presented by Sir W. Blizard.

1852. A larynx, part of the trachea, and the base of the tongue, with several, probably syphilitic, ulcers. Immediately below each vocal ligament there is a large ulcer. That on the right side extends below the whole length of the ligament; it is oval, deep, and has an irregular granulated base. That on the left side is more superficial, and has, for the most part, a

smooth and rather polished surface, as if partially filled up and cicatrized. The adjacent mucous membrane is much swollen; and over the left arytenoid cartilage it is deeply wrinkled. There are ulcers, also, on the epiglottis and on the tonsils: that on the former is circular and superficial, with a very slightly elevated border; those on the latter are deep and irregular, with sharp, abrupt, and rather sinuous margins. *Hunterian.*

1853. A larynx, with the tongue and other adjacent parts. A deep ragged ulcer extends along nearly the whole length of the right side of the dorsum of the tongue. Ulcers of similar character are seen on the edge and posterior surface of the epiglottis, and have destroyed nearly all the mucous membrane passing from it to the right arytenoid cartilage. All the remaining mucous membrane is thickened and œdematous. Below the vocal ligaments the larynx is healthy. At its front there is a large aperture, where laryngotomy was performed.

The patient, a man thirty-six years old, had had syphilis and been salivated two years before; he was admitted into the Edinburgh Royal Infirmary with the ulcers seen in the preparation, and others, which had destroyed the uvula and parts of the inferior surface of the soft palate, and of the back of the pharynx. This disease had existed thirteen months; the patient was very weak and emaciated, and had the usual signs of œdema of the glottis, with occasional paroxysms of intense dyspnœa. In one of these paroxysms laryngotomy was performed, and the respiration after it was easy; but he continued to sink, and died with pneumonia ten days after the operation.

From the Museum of Robert Liston, Esq.

1854. A larynx, with the adjacent parts. The upper half of the epiglottis is destroyed, and the greater part of the mucous membrane on the posterior surface of the remainder is removed by irregular ulceration. The membrane lining the larynx is similarly ulcerated; and that over the arytenoid cartilages has been œdematous.

From a girl twenty-four years old, who caught cold during profuse salivation for syphilis. From that time she had signs of affection of the throat and chest, and she died six months afterwards with tuberculous disease of the lungs, and pain and swelling of many of the bones, in addition to these changes in the larynx.

From the Museum of Robert Liston, Esq.

1855. A tongue, with the soft palate, pharynx, larynx, and other adjacent parts. There has been a very deep and irregular ulcer at the root of the tongue, which has destroyed the epiglottis, and extended more superficially over the neighbouring parts of the larynx, arches of the palate, pharynx, and velum. The surface of the ulcer, though very uneven, is nearly all cicatrized.

The patient, when eighteen years old, had secondary syphilis, and was profusely salivated. Sloughing ulceration in the fauces took place, and for a time his life was in danger, but he recovered with complete loss of voice and difficulty in swallowing, so that he was afraid of taking any kind of food lest he should be suffocated. Two years after the healing of the ulceration he died with phthisis.

From the Museum of George Langstaff, Esq.

1856. A larynx and tongue, from a negro. The epiglottis is deficient, having probably been destroyed by syphilitic ulceration. The surface of all the membrane between the root of the tongue and the upper part of the larynx is uneven, but polished, and depressed like that of a cicatrix. On the left side, opposite the cornu of the os hyoides, there is a deep oval depression, with a smooth base resembling the cicatrix of an ulcer.

From the Museum of John Taunton, Esq.

1857. A larynx, in which, in consequence of the partial healing of ulceration of the fold of membrane between the epiglottis and the left arytenoid cartilage, the epiglottis is drawn down towards the left side, and the passage into the larynx is reduced to a narrow aperture directed obliquely from above downwards, and from the right to the left side.

From the Museum of Robert Liston, Esq.

1858. A larynx and trachea, from which a great part of the mucous membrane appears to have been removed by superficial ulceration, and subsequently to have been cicatrized. The internal surface of the trachea is irregularly seamed and striated. Above the vocal cords the ulceration has been deeper; bristles are passed beneath two bands of mucous membrane left on the surface of the ulceration.

From the Museum of Sir A. P. Cooper.

5. *Tumours and other allied Morbid Growths in, or involving, the Larynx and Trachea.*

1859. A larynx, with the thyroid body. The glottis and the laryngeal ventricles are occupied by a large warty growth, or "cauliflower-like excrescence." The growth is attached to the whole of the mucous membrane covering the vocal cords and the ventricles; its surface is fissured and minutely lobulated: it is large enough to have completely covered the aperture of the glottis. *Hunterian.*

1860. A larynx and trachea, with the main bronchi, exhibiting extensive tuberculous ulceration of the mucous membrane, especially of the posterior wall of the trachea. Two of the ulcers are more than an inch in diameter; and both these, and others of smaller size, have penetrated through the mucous membrane. The outlines of all are irregular; their margins abrupt, not elevated; their bases smooth, or in some instances granulated. There are also numerous round, small, superficial ulcers, many of which lie in rows along the interspaces between the cartilages of the trachea.

1861. Part of a larynx, of which the mucous membrane above the vocal ligaments is beset with minute superficial ulcerations. At the posterior extremity of the left laryngeal ventricle there is a deep, probably tuberculous, ulcer, exposing a part of the arytenoid cartilage. The bursa on the front of the thyro-hyoid membrane is enlarged.

From the Museum of Robert Liston, Esq.

1862. A larynx, with part of the trachea and tongue. The mucous membrane of the larynx above the vocal ligaments is thickened, and has an uneven surface, covered with large granulations. The outline of the surface thus diseased is symmetrical. On the right side, near the level of the lower margin of the cricoid cartilage, are the cicatrices of two round

superficial ulcers, each nearly half an inch in diameter. Anteriorly, in the middle line, is an aperture where tracheotomy was performed several weeks before death; its margins are smoothly rounded.

The patient, a man twenty-two years old, had suffered with signs of phthisis laryngea for five months before tracheotomy was performed. The operation afforded great relief, and on the tenth day after it the interior of the larynx was touched with a strong solution of nitrate of silver, passed up on lint through the wound. This was repeated every second or third day, and the patient's condition improved; but several weeks afterwards, bronchitis ensued, and speedily proved fatal. The lungs were found in an advanced stage of tuberculous disease.

The case is recorded in Mr. Liston's "Elements of Surgery," ed. 1831, part ii., p. 255.

From the Museum of Robert Liston, Esq.

1863. A larynx, from a man who died with pulmonary phthisis. All the mucous membrane of the interior of the larynx, from the middle of the epiglottis to a short distance below the vocal ligaments, is irregularly but symmetrically ulcerated. Most of the ulceration is superficial; but at one part, indicated by a piece of straw, it has penetrated through the submucous tissues. At the angle of the thyroid cartilage, also, the whole of the mucous membrane is destroyed, and a portion of the cartilage, ossified and necrosed, is exposed. Through this, an aperture leads to the exterior of the larynx into the cavity of an abscess, which projected beneath the integuments in front of the thyroid cartilage.

From the Museum of George Langstaff, Esq.

1864. A larynx, in which a thick, irregular mass of soft, probably tuberculous, substance is formed between the inner surface of the alæ of the thyroid cartilage and the mucous membrane. The greater part of the mass lies on the inner side of the left ala; it is here, in some parts, three-quarters of an inch thick; it involves, and has in part destroyed, the cricoid and the right arytenoid cartilages, has pressed in the left vocal ligament and laryngeal ventricle, and has produced at the lower anterior part extensive ulceration of the mucous membrane.

The patient died exhausted after excessive dyspnoea.

From the Museum of Sir A. P. Cooper.

Specimens of Disease of the Larynx, Trachea, and Bronchi, in other parts of the Museum :—

Dilatation, 1767, 1768.

Œdema, 1067, 1081, 1082, 1097.

Effusion of Lymph, 75.

Ulceration, 1073.

Exfoliation of Cartilage, 1097.

Effects of Cancerous and other Tumours, 1054, 1088, 1093-4-7-9, 1103-5-6-7, 1498-9, 1505-6.

Compression by Aneurisms, 1654-6, 1662 to 1666, and others.

SERIES XXXIX.—DISEASES OF THE KIDNEYS.

1. *Hypertrophy and Atrophy.*

1865. Section of a kidney, showing, as is usual in atrophy, a greater than natural accumulation of fat around the pelvis, infundibula, and calyces. The kidney itself is rather reduced in size, its surface is slightly lobed, and there are smooth-walled, serous cysts in its interior. The ureter is dilated and tortuous, and its coats are thickened and indurated.

Hunterian.

1866. A kidney, with the surrounding substance. The glandular substance of the kidney is reduced to a layer which is not anywhere more than one-third of an inch in thickness; and the papillæ are very small. The surface of the kidney is seamed and puckered, but not granulated. The pelvis and its branches are all much dilated, but they are healthy in texture. The capsule of the kidney, and a layer of fat nearly half an inch thick surrounding it and the pelvis, appear to have coalesced so as to form one distinct sac.

From a man who died at St. George's Hospital after the operation for the stone.

Hunterian.

1867. A similar specimen. In consequence of stricture of the urethra, the ureter, pelvis, and calyces are all enlarged; the papillæ of the kidney are no longer prominent; and much of its proper substance has been lost by atrophy. The external form and size of the kidney are not altered. *Hunterian.*

1868. A similar specimen, in which the dilatation of the pelvis and other parts, and the removal of the substance of the kidney, have made further progress.

The preparation is figured in Hunter's Treatise on the Venereal Disease, and with his "Works," pl. xiv.

Hunterian.

1869. Section of a kidney, of which the ureter, pelvis, and infundibula are much enlarged, and nearly all the glandular substance is removed. The organ is thus reduced to a thin-walled multilocular sac, of rather less size than the healthy kidney. Its capsule is thickened and indurated.

Hunterian.

1870. "The kidney become very small, and the ureter much enlarged. The patient never had any complaint in this kidney; the other was of the natural size." (*Hunterian MS. Catalogue.*) The kidney is scarcely more than two inches long; it is lobed, and looks shrivelled; the size of its blood-vessels is proportionally diminished; the pelvis and ureter are dilated, but not structurally diseased. *Hunterian.*

1871. A similar specimen. In consequence, probably, of obstruction in the upper part of the ureter, the pelvis is greatly dilated, and the proper renal substance nearly all removed. What remains of the substance of the kidney forms a thin-walled sacculated cavity, which is about half as large as a healthy kidney, and has on its upper surface a distinct, membranous, serous cyst. The parts have been dried after a coarse injection of the blood-vessels.

From the same patient (a surgeon) as the genital organs. No. 2423.

From the Museum of Sir A. P. Cooper.

1872. Section of a kidney, in which, as in the preceding specimens, the pelvis and the beginning of the ureter are dilated into an elongated oval sac, an inch and a half in diameter. All the divisions of the pelvis are similarly dilated, and the glandular substance of the kidney is almost entirely removed. Its external dimensions are a little reduced, and it forms a single sac divided by three incomplete partitions, and lobulated. The lower part of the ureter is of natural size.

Presented by Sir William Blizard.

1873. A kidney, nearly the whole glandular substance of which has disappeared by atrophy. Its remains are drawn inwards towards the pelvis; and the calyces, having been dilated, project in globular tough-walled sacs upon the surface of the wasted organ. The pelvis is dilated; but the ureter is very small. *Hunterian.*

2. Suppression of the Secretion of the Kidneys.

1874. Sections of the kidneys of a gentleman, who died after three days of complete suppression of urine. They exhibit no change of structure or form. *Presented by Sir Everard Home.*

1875. Kidneys which, like those in the preceding preparation, had not secreted urine for three days before death. In these, also, the size and structure appear unchanged. *Presented by Sir Everard Home.*

3. Dilatation or Expansion of the Kidney.

THE changes shown in the following and in several of the preceding specimens, are those through which the substance of the kidney passes, under the influence of the pressure upon the interior of the pelvis and its branches, when any obstruction exists to the passage of urine along the ureter. They are changes

in the arrangement and relations of the several parts of the kidney, rather than changes of its minute structure, and are most nearly comparable with those that ensue in the brain when it is unfolded and expanded over accumulations of fluid in the cerebral ventricles. An examination of the commencement of the changes, which is well shown in the first following specimen, will make the later stages of the disease easily intelligible.

1876. Section of a kidney, in which the pelvis and its branches are dilated, in consequence of obstruction to the excretion of urine. It shows the gradual flattening and pressing outwards of the points of the papillæ, which take place when the calyces into which they project are dilated around them, and which constitute the first degree of expansion or dilatation of the kidney. A slight elevation at the centre of each dilated calyx marks the former projection of the papillæ, and from the centre of this elevated part the straight blood-vessels between the trunks of the urine-tubes are seen radiating in every direction towards the circumference of the calyx.

From a boy who had the polypi of the bladder preserved in No. 2000.

The preparation is represented in "A Treatise on the Urinary Calculus, by J. G. Crosse," 4to., 1835, pl. xx., fig. 4.

Presented by J. G. Crosse, Esq.

1877. The other kidney of the same child. *Presented by J. G. Crosse, Esq.*

1878. Section of a kidney, of which the pelvis, calyces, and proper substance are dilated, but not changed in texture. In two places, the flattening and pressing back of the papillæ are shown, as in the preceding specimens: each papilla, instead of projecting into the extremity of the calyx, forms but a slight prominence beneath its distended mucous membrane.

Hunterian.

1879. An urinary bladder, and a kidney with its ureter. The muscular coat of the bladder is hypertrophied; its mucous membrane is thickened and wrinkled. The ureter is slightly dilated, a small calculus being lodged near its vesical end; the pelvis and its branches are much more dilated;

the external dimensions of the kidney are increased, but its substance, by a continued process of dilatation like that shown in the preceding specimens, is reduced to a layer between one and three lines thick.

From an elderly man. A larger calculus produced similar obstruction in the other ureter, and similar disease in the other kidney. This specimen is represented in Mr. Crosse's Treatise already referred to, in pl. viii., fig. 2.

Presented by J. G. Crosse, Esq.

1880. A kidney, similarly enlarged in external dimensions by dilatation or expansion around the dilated calyces. The blood-vessels are injected, and the remains of the substance of the kidney appear healthy.

From the Museum of Robert Liston, Esq.

1881. A kidney, in which the pelvis and all its branches are greatly dilated, in consequence of obstruction of the ureter. The glandular substance of the kidney is wasted and expanded over the dilated parts; but it appears to have its natural structure, and its vascularity, as well as that of the pelvis and its branches (shown by minute injection of its vessels), is not diminished.

From a lady above sixty years old, who died with cancer of the breast. Numerous small calculi were in the pelvis and calyces, and small calculi obstructed the ureter. The specimen is represented in Mr. Crosse's Treatise, pl. v.

Presented by J. G. Crosse, Esq.

1882. Section of a sheep's (?) kidney, with its ureter. The ureter, pelvis, and all its branches are very much dilated; and the glandular substance of the kidney is so expanded and atrophied, that it forms a single thin-walled sac, with shallow recesses formed by the projection of the remains of the calyces.

Hunterian.

1883. Two kidneys, with portions of their ureters. One of the kidneys is reduced by atrophy to half its natural size; its glandular substance is nearly all removed; its pelvis, which contained a large calculus, is dilated; and so is its ureter, in which a smaller calculus was lodged.

The other kidney is, in external dimensions, much enlarged; and its glandular substance is little, if at all, diminished, though expanded around the pelvis and calyces which contained numerous calculi, and are dilated even more than those of the kidney first described.

The calculi are preserved separately.

Hunterian.

1884. A kidney, dilated into a multilocular and superficially lobed sac, measuring nine inches in length, and about fifteen inches in circumference. Its glandular substance is reduced by the dilatation, to a layer from half a line to a line thick surrounding the sac, and formed by the dilated calyces. Its capsule is rather thickened. The pelvis is dilated; the ureter, at its commencement, is obliterated, apparently by the deposit of lymph on its interior, and by the thickening and constriction of its walls.

The patient was nineteen years old, and for three years before death had signs of disease of the kidney. His urine was passed with difficulty, though there was no disease of the urethra; it was turbid, and sometimes mixed with blood and gravel. In the last year of his life, the enlarged kidney could be felt in the left hypochondrium; he had violent pain in the loins, in addition to his other symptoms; the urine was loaded with mucus, and at one time a very large quantity of blood was passed with it. When these symptoms at last subsided, the tumour was felt to increase rapidly.

The distended kidney occupied more than half the abdominal cavity, extending from the iliac fossa to the diaphragm; it was filled with five pints of offensively smelling pus and urine, and contained a great number of *pisiform* (oxalate of lime) calculi, which are described in the Series of Calculi, C. 29; Catalogue of Concretions, p. 82; and pl. viii., fig. 6. The right kidney, the bladder, and all the other organs were healthy.

From the Museum of George Langstaff, Esq.

1885. Part of the calculi removed from the pelvis of the kidney last described.

From the Museum of George Langstaff, Esq.

4. *Granular Degeneration of the Kidney; Bright's Disease.*

1886. Section of a kidney affected with granular degeneration. It is rather smaller than is natural. The outer layer of its cortical substance is very

thin, and its surface is coarsely and irregularly granular, and in some situations pitted and seamed, as if it had been drawn inwards.

Presented by John Quekett, Esq.

1887. A section of the other kidney of the same person, similarly diseased; its arteries have been minutely injected with red, its veins with yellow size.

The patient was an intemperate woman, twenty-seven years old. The disease existed two years; but after the first attack, which was ascribed to cold, and in which she had general dropsy with albuminous urine, she remained tolerably well till within a few days before her death. In her last illness she had bronchitis, œdema of the lungs, dropsy of the upper part of the body, and great effusion in the pericardium; the urine was highly albuminous.

Presented by John Quekett, Esq.

5. *Suppuration in and around the Kidney.*

1888. Part of a kidney, in the tubular substance of which is the cavity of a small, irregularly walled abscess.

From a man who died at St. George's Hospital after the operation for the stone.

Hunterian.

1889. A portion of the other kidney of the same patient. The surface of one of the papillæ is incrustated with lymph and calcareous matter.

Hunterian.

1890. A kidney, of which nearly the whole glandular structure has been removed. In its place there is a large cavity, which, together with the distended pelvis, formed the sac of a great abscess. The interior of the cavity is rough, with thick flakes and shreds of lymph; externally, its walls, in which there are plates of earthy substance, are united to a thick, hardened layer of the tissues by which the kidney and its pelvis were surrounded.

The patient, a young man, had long laboured under very obscure but severe

symptoms. The abscess of the kidney formed a considerable swelling in the loins, and was supposed to be a lumbar abscess.

Presented by John Quekett, Esq.

1891. Sections of a kidney. It is nearly twice as large as is natural. Its section presents numerous small deposits, apparently drops of pus, irregularly scattered in its substance, and many small cavities. The lining membrane of the pelvis and calyces, and the ends of the papillæ, are deeply ulcerated, and have coarsely granulated surfaces; they were filled with purulent fluid.

From the Museum of Robert Liston, Esq.

1892. The other kidney of the same person. It is of its natural size. Its substance is nearly all removed, and what remains of it presents deposits like those in the other kidney. The pelvis and calyces are dilated, and their lining membrane has a granular ulcerated surface. There are also some cavities within the substance of the kidney, which appear to have been abscesses.

From an old man, who long had signs of disease of the urinary organs. His bladder was also much diseased.

From the Museum of Robert Liston, Esq.

1893. A kidney, in which pus was extensively diffused through the cortical substance, and between it and the capsule. The capsule has been removed; and the surface of the kidney is flocculent, and covered with shreds of its softened and broken tissue; it exhibits, also, numerous minute cavities and fissures, which contained pus. Its internal substance is softened, and the lining membrane of the pelvis is rough and shreddy.

From a man sixty years old, to whom tincture of cantharides had been administered for an incontinence of urine, which followed retention. The medicine produced extreme pain, both in the bladder and kidneys, and retention of urine, which continued two days. When the urine was drawn off, it was fetid, and mixed with blood and pus. All power over the bladder was lost, and the patient, scarcely relieved of his sufferings, died in three weeks.

The prostate gland was much enlarged. The mucous membrane of the urethra was covered with lymph; that of the bladder was sloughing.

From the Museum of George Langstaff, Esq.

1894. A kidney, surrounded with a sac with walls a quarter of an inch thick, hard, dense, and apparently composed of the capsule and surrounding tissue consolidated by inflammation. The interior of the sac is lined with a layer of false membrane, and in one situation, opposite the hilus, it is adherent to the surface of the kidney. The kidney itself is contracted, granular, and, in part, covered with lymph.

The case appears to have been one of abscess round the kidney.

Hunterian.

6. *Cysts on, or within, the Kidney.*

1895. A kidney, on the outer surface of which, and deeply imbedded in it, is a thinly walled membranous cyst, of spherical form, and measuring six inches in diameter. The kidney itself is enlarged, and especially elongated; its surface is granular, and exhibits a few more cysts of the same kind, but only a line or two in diameter. The pelvis, ureter, and renal vessels are healthy.

Hunterian.

1896. A similar specimen. The cyst is oval, about three inches in its greatest diameter, and situated upon the anterior surface of the kidney. The kidney is of natural size, but slightly granular. Its blood-vessels have been partially injected with a white fluid.

Hunterian.

1897. A kidney, with a large cyst, like the preceding, attached to its surface, but scarcely at all imbedded in it. The cyst is nearly four inches in diameter, and its walls, having coalesced with the fibrous capsule of the kidney, are tough, and nearly half a line in thickness. Its interior is smooth, but not polished.

Hunterian.

1898. Section of a kidney, enlarged and exhibiting numerous small oval cysts scattered irregularly through its substance, and immediately beneath its surface. They have smooth walls, and are formed of a distinct thin membrane. The pelvis, calyces, and ureter are dilated, but their texture appears healthy.

Hunterian.

1899. Section of a left kidney, in which there are numerous cysts. Most of them are on the surface of the kidney, but the largest, which is an inch in diameter, is in its interior. The surface of the kidney is granular, and near one end of it are two small, prominent tumours or cysts filled with solid substance.

The specimen was taken from the body of Mr. Robert Home, the father of Sir Everard Home, whose case is preserved in the Hunterian MSS.

" The case of Mr. Home.

" July, 1783.—He was attacked with a kind of fit similar to an apoplexy. He lost, in some degree, the use of one side, as also his sight. His memory was very much impaired; however, in time he got tolerably well, all the powers being again nearly restored.

" July, 1784.—He was again attacked with a similar stroke. He lost entirely his sight, felt a small numbness in one hand, lost almost entirely his memory.

" This last was productive of some curious effects; it brought him, in a great many circumstances, to the state of the brute, or at least what I can conceive that state is, respecting reasoning.

*" The total loss of sight, with almost the entire loss of memory, produced a very curious effect: he lost entirely the remembrance of light, and did not annex any idea to light, although he would say that he had not seen you for some time, meaning you had not been there for some time.**

" The appearances upon opening the Body of Mr. Home.

" On sawing through the skull it was found very difficult to avoid cutting through the dura mater; and when sawing through its back part, immediately upon wounding the dura mater with the saw, there came out a considerable quantity of water, which was only a little tinged with blood. A basin was immediately put under it to collect it.

" The dura mater was obliged to be taken off with the skull, for it rather tore than separated from it. Nothing remarkable appeared on the external surface of the brain. On cutting off the upper part of the two hemispheres of the brain, we observed that the medullary substance was not so white as common, and had a brownish cast.

" The corpus callosum was flat, and appeared loose; on cutting through it longitudinally into the right lateral ventricle, we found the ventricle large, as also the additamentum; but not the least drop of water in it. The fornix was detached from the thalami through its whole length, and the plexus, at this attachment, appeared loose. The left lateral ventricle exactly like the right in every circumstance.

* *" This expression arose from the very same idea to those of a blind man, who is conscious of being blind. In the man conscious of his blindness it is a word of course, keeping up to common language, but knowing the impropriety of it when he thinks of it; and in the other, he used the same language from habit also, but without the probability of knowing that he is wrong."*

" All those above-mentioned parts were so detached as to appear as if they had been already dissected and put together again.

" The thalami nervorum optidorum were more rounded than common; their two flat surfaces, which are commonly in contact with each other, were at some distance, and rounded off at the upper edge; so there were no edges to them, and the cortical union between them appeared (from this alteration of form) to be at their upper part, instead of being low down between them.

" When the whole brain was taken out, we observed that the under surface of the posterior lobes of the cerebrum, which lie on the transverse ligaments of the dura mater, were of a yellow colour, with a longitudinal hollow in them, and the pia mater there very loose, like a collapsed bag or membrane. On cutting through this loose membrane of the right side, we got into a bag, and which seemed to lead to between two portions of the brain; and on putting my finger into the additamentum, it was led into this bag. To ascertain the true state of these parts I examined the left side with more attention, and, on cutting through the membrane of the left side, I found that I also got into a bag; but the bottom of this, or that surface next to the brain, did not lead me, as in the former, between two portions of the brain, but it was membranous, and in the middle seemed to pass over between the two portions of the brain, uniting them. I then, as before, passed my finger into the additamentum of this side, and my finger immediately appeared on the other side of this membrane between the two portions of the brain.

" I examined carefully to see if there was any communication between the additamenta and this bag through this membrane, and found, in the partition between the two, a small hole; but I could not say whether this had or had not been made in the time of the examination, but I am rather inclinable to believe it was not, from circumstances that shall be mentioned.

" These bags appeared to be the pia mater, but whether they were formed in its doubling, or some adventitious membrane forming a bag, I cannot say. The quantity of water, in the whole, might be about six ounces. The brain, upon the whole, was rather softer than usual, although not much.

" The questions here that naturally arise are, what are these bags? and did the lateral ventricles communicate with them? I think, when every circumstance is considered, we must suppose they did; for, first, there was a great deal of water spilt previous to the removal of the skull, which certainly came from these bags; secondly, the three first ventricles were very large, and yet contained no water; therefore it is reasonable to suppose that the whole water of the ventricles had escaped through these bags. But another question arises—By what cause were these bags formed? Were they formed by the distention of the ventricles, and then bursting at those parts, so that the water came in contact with the inside of the pia mater, then forming a bag? Or did an extravasation of blood take place at those two parts, either in the doubling of the pia mater, or between it and the brain, and then a communication between these bags and the ventricles was formed by the extravasation, and that the distention of the ventricles was rather an effect of this than a cause of the first?

"The gall-bladder had a stone in it about the size of a common nutmeg, and it was so contracted over the stone as just to contain it.

"The right kidney had a large hydatid attached to its lower end and outer edge, which might contain more than a pint of a bloody fluid. There were also some smaller ones, with a tumour formed on the end of the kidney. The left kidney had two small tumours placed on its external surface, with some small hydatids. No calculi in the pelvis. The ureters of the natural size.

"There were found in the urinary bladder fourteen calculi, two of them nearly of the size of nutmegs, the other twelve much smaller; most of them had flat sides, terminating in rounded angles, and being of a prismatic figure, having three sides with two ends. The two large ones had the appearance, in one part of each, as if a piece of the external layer had been separated and gone, and that the sharp edges were now rounded by new matter having been laid on them."—*Hunterian MS. Cases and Dissections*, No. 25.

Hunterian.

1900. Section of a kidney, enlarged to four or five times its natural size by the development of numerous cysts within it, and upon its surface. The cysts vary in size from half a line to an inch and a half in diameter; the largest are in the central parts of the kidney; their original form appears to have been spherical, but where they are closely crowded they have become irregular and angular; their walls are formed of distinct thin membrane, polished on its internal surface, and externally intimately connected with the remains of the substance of the kidney. Their contents appear various; some are filled with transparent, probably serous, fluid; some with a dark yellowish or brown and viscid substance; some with a turbid, nearly solid, material. The original substance of the gland is in some parts wholly removed; in other parts, small portions remain intervening between the cysts, and appearing healthy in their texture.

Hunterian.

1901. The other section of the kidney last described. The renal capsule is preserved with it, and appears healthy.

Hunterian.

1902. Sections of a kidney, similarly diseased, and with cysts filled with equally various contents.

1902A. Sections of a kidney, similarly diseased. The cysts are of various sizes;

many of them very large. They were for the most part filled with solid matter, consisting of molecules of fat, epithelium-cells, and crystals of cholestearine and triple phosphate. The blood-vessels of the kidney are minutely injected; and microscopic examination showed that the cysts are formed by enlargement of the Malpighian capsules, within which, and, in some instances, expanded on their walls, the Malpighian tufts or glomerules of blood-vessels were seen.

Presented by William Lawrence, Esq.

1903. A similar specimen.

The patient, a shoemaker, had for five years had severe pain in the loins and along the course of the ureters. His urine was scanty, and always mixed with blood, or a purulent fluid. He had numbness of the right leg, frequent severe headache, and occasional œdema of the lower extremities. The other kidney was in the same state; the ureters were dilated. The lungs were full of miliary tubercles. The other organs were healthy.

Presented by — Chambers, Esq.

1904. A large tough-walled cyst, which was found in the place of one of the kidneys of a sheep, and contained a mass of wool rolled up with fluid oil, and fatty matter. The cyst is inverted; its walls are from one to two lines in thickness; its inner surface is rough and covered with portions of fatty substance, and part of the wool is fixed in it. A long, cylindrical, tubular process is continued from the main cyst, and is similarly filled.

The cyst was found in the middle of the mass of fat in which it was expected that the kidney lay. No trace of kidney appeared, and it is possible that the cyst is the degenerated kidney, and the tube prolonged from it the ureter.

The sheep was healthy and very fat, and had a good fleece. The kidney on the other side was very large.

Presented by W. Walcot, Jun., Esq.

7. Cancer of the Kidneys.

1905. Section of a kidney, in which there are several isolated and circumscribed masses of nearly white, medullary, cancerous substance; they are of various size, from a line to half an inch in diameter; and of various form,

round, oval, irregular. The blood-vessels are minutely injected, and the vascular aspect of the kidney contrasts strongly with the whiteness of the tumours, into which very little injection appears to have passed. The texture of the kidney appears healthy, even immediately adjacent to the tumours; and it is not enlarged.

From the Museum of John Heaviside, Esq.

1906. Sections of a kidney, in which there are several small spherical, medullary, cancerous tumours. Like the preceding, its proper substance appears healthy.

From a woman who had carcinoma of the uterus.

From the Museum of George Langstaff, Esq.

1907. Section of a kidney, and of a tumour which occupies one end of it. The tumour has a spheroidal form, and is upwards of three inches in diameter; it appears composed of a vascular and firm medullary substance; the capsule of the kidney is continued over it, and is thickened. Where the tumour has grown, the substance of the kidney appears to have been absorbed; so that the tumour is invested externally by the capsule of the kidney, and internally by the thickened membranes of the calyces, upon which it has pressed, and which separate it from the remains of the glandular substance.

From the Museum of George Langstaff, Esq.

1908. The kidneys of a child, with medullary tumours. One of the kidneys has its natural size, and appears healthy externally; but a tumour, an inch in diameter, is attached to its hilus. Of the other kidney only the outer border remains; the rest of its substance has been destroyed by the growth of an oval medullary tumour, measuring seven inches and five inches in its chief diameters. The substance of the tumour (of which a section only is preserved) is firm and compact; it is intersected by numerous wavy fibrous partitions; and has many small, smooth-walled, oval cysts scattered through its interior. It is invested by a thin capsule, and part of its surface appears soft, spongy, and flocculent. *Hunterian.*

1909. Sections of a kidney, at one end of which there is a round mass of soft and spongy cancerous substance, upwards of three inches in diameter. The mass is intersected by fibrous radiating bands, and varies considerably in firmness in different parts. The adjacent part of the kidney appears healthy in texture, but reduced in size; and the pelvis and its branches are dilated.

From the same patient as the bladder, No. 2001.

Presented by Dr. Willis.

1910. Section of a kidney, of which one half has been destroyed by the growth of a thickly-walled spherical cyst, about three inches in diameter. The cyst contains flakes and irregular masses of a soft, fibrinous-looking substance, and a small, spheroidal, lobulated tumour, composed apparently of medullary substance, is attached to the inner surface of its wall.

The patient had medullary tumours in the liver.

From the Museum of George Langstaff, Esq.

1911. Section of a kidney, in which there are numerous circular, deep black, melanotic deposits, from a quarter of a line to half an inch in diameter. The intervening substance of the kidney is healthy, and it is not altered in size or form. A part of the capsule is reflected; it also is the seat of melanotic deposits.

From the Museum of George Langstaff, Esq.

1912. Sections of a kidney, completely filled, and blackened with melanotic deposit. It is not altered in size or form. The blood-vessels on the surface of the capsule are filled with similar black matter.

From the Museum of George Langstaff, Esq.

8. *Tubercle in the Kidneys.*

1913. Section of a kidney, from one half of which nearly all the substance is removed, apparently by ulceration, leaving large cavities lined with

a thick and coarsely granulated, buff-coloured, false membrane. Some of the cavities have small flakes of softened tuberculous matter adhering to their walls. In the other half of the kidney are numerous small, close-set deposits of tuberculous matter, which at one part have coalesced and softened. In the last-mentioned part the softened mass is partially surrounded with a layer of false membrane, like that which forms the walls of the cavities. The blood-vessels of the kidney are injected; and what remains of its substance appears healthy.

From the Museum of John Heaviside, Esq.

1914. Section of a kidney, in which the extremities of some of the pyramids have been destroyed by irregular ulceration, probably in consequence of tuberculous disease. There are a few small tuberculous deposits in other parts of the kidney; and beneath the mucous membrane of the pelvis there are several isolated tubercles, some of which have softened and ulcerated by small apertures through the surface. *Hunterian.*

1915. A kidney, of which the ureter and the pelvis, and all its divisions, are dilated. Their lining membrane is generally ulcerated, and that of the calyces is thickened and coarsely granulated. The papillæ and portions of the adjacent substance of the kidney have been destroyed by ulceration, probably of tuberculous nature, and many cavities are thus formed which open widely into the diseased calyces.

Presented by Sir Everard Home.

1916. A similar specimen.

The patient was a boy fifteen years old, who died with extensive tuberculous disease of the lungs, urinary bladder, and rectum. He passed blood and pus with his urine for six years before his death, and towards the end of his life had incontinence of urine and diarrhœa.

Presented by Sir William Blizard.

1917. Section of a kidney, apparently from a child, in which, in the place of nearly all the natural texture, there are three large cavities roughly lined with lymph, and probably of tuberculous origin. The tissues around the

kidney are thickened and indurated, and a calculus is imbedded in it near its surface. *Hunterian.*

1918. Section of a kidney, similarly diseased, probably from the same child, for the size and form of both the kidney itself and the cavities in it are exactly alike. *Hunterian.*

1919. Sections of a kidney, in which there are several cavities which appear to have been filled by softened, inspissated, tuberculous matter.

“ November, 1757.—A man was dissected, and, on examining the kidneys, we found that that on the left was diseased. Its size was rather less than the other. The fat surrounding that was hard, and adhered very firmly to it. When this was removed, I found the surface of the kidney very irregular and white, especially at the risings; and, on cutting into those white knobs, there came out a thick white mucus, like white paint, or chalk and water mixed. I examined the pelvis, and found a stone of a black colour, and the rest of the pelvis filled with white substance. I divided the kidney nearly into two. Its substance was very firm and white. I found three or four cysts filled with white matter, and one of the cysts had its coat ossified, and contained a clear water. In one of the cysts that contained the white matter was a stone like that in the pelvis, but no bigger than a pea. The cysts seemed to be in the cortical substance rather than in the tubular.”—*Hunterian MS. Dissections of Morbid Bodies*, No. 40.

1920. Sections of a kidney and of a renal capsule, “from a butcher whose smelling was remarkably acute.” The substance of the kidney is atrophied, shrunken, and contracted, as if by cicatrization, especially in its middle part, where it is not altogether more than half an inch in thickness. At this part, also, there is some morbid deposit of white substance, probably thickened and dried tuberculous matter, in the kidney; and in other parts there are large serous cysts. An unusual quantity of fat is accumulated around the pelvis and its divisions. The renal capsule is enlarged and firm. *Hunterian.*

9. *Entozoa in the Kidneys.*

1921. Sections of a kidney, probably from a sheep, the interior of which is full of acephalocyst hydatids, varying from a line to half an inch in

diameter, and some with thin and pellucid, others with thicker and opaque, membranes. In consequence of their growth, the glandular substance of the kidney is reduced to a layer from half a line to a line in thickness. Neither the form nor the size of the kidney appears altered.

Hunterian.

1922. A similar specimen; a section of a sheep's kidney full of large acephalocyst hydatids.

Hunterian.

1923. The other section of the same kidney.

Hunterian.

1924. The kidney of a sheep, in which is imbedded a hard globular mass, an inch and a half in diameter, and composed of concentric layers of alternately yellowish and white substances. It probably consists of the débris of acephalocyst hydatids, which died and burst, and of which the membranes were then rolled up and compressed, and became the seat of calcareous deposits. The structure of the kidney is healthy.

Hunterian.

1925. Numerous acephalocyst hydatids, broken and rolled up, which were discharged with the urine, but of which the original seat is unknown.

“ J. Taylor, Esq., aged thirty-two, and of a delicate constitution, inclinable to be hectic, viz. a little cough, with a quick pulse, but at times tolerably well, fell from his horse in hunting on the 31st of January, 1781, and hurt himself considerably in the right flank; but, though the pain was extremely violent, no external contusion appeared.

“ He vomited very much, and passed bloody urine after the accident; he was confined to his bed a week, and continued to discharge urine with a bloody tinge for at least two months, with some little variety in the appearance, as the fluid was sometimes simply tintured with red, and at other times loaded with bloody grume, particularly after the exercise of riding, which he still used.

“ Ever since he has had occasionally sickness at stomach. After several remedies were given, and attention paid to him, he seemed to get the better of all the local symptoms, but remained in a very debilitated state.

“ A hectic soon after manifested itself, and continued to afflict him more or less till

the 30th of November, 1783, when he was attacked with rigor and fever, with considerable pain in his right side. These symptoms were followed by an evident tumour in the right hypochondrium, which was very hard and circumscribed, and for the discussion of which cicuta and mercurial preparations were exhibited.

" He came to London in 1785, and put himself under the care of Dr. Lettsom and Mr. Sharpe, to whose opinion Mr. Hunter's was soon after joined.

" The tumour then occupied the whole of the left side, as far forwards as the navel, and came as low as the ilium of that side, extending upwards, and there became lost, going under the ribs. A fluctuation was plainly felt in the tumour. Dr. Lettsom prescribed some alterative pills, consisting of small doses of calomel, and an opening draught to be taken occasionally; and Mr. Sharpe applied a soap-cerate plaister to the side affected.

" On the 2nd of February a degree of strangury came on, for which gum arabic and cream of tartar dissolved in Aq. Hord. were prescribed. On the 3rd he was attacked with fever, shivering, and a great increase of the strangury.

" As it was conceived that probably the matter which had come away at times with the urine might come from the cyst, there was probably a communication, it was possible that the whole might come this way.

" I then wished his strength would allow him to ride, or even to go in a coach, for the case required the same treatment as gravel in the kidneys requires, which is, pretty quick motion, if the patient can bear it, although probably not so violent.

" It is to be observed, that he took, through the whole course of the disease, such medicines as were required at the time the symptoms arose: such as gum arabic, dissolved in the common emulsion; saline draughts, when there was fever; opium, both internally and by clysters, when in pain; and opening medicines, when costive.

" On the 4th, 5th, 6th, 7th, 8th, and 9th he was much the same. On the 10th, after a slight exertion in laughing, in the forenoon, about three-quarters of a pint of purulent matter, void of fœtor, was discharged through the urethra. The urine was turbid for a day or two after this, and the strangury abated. The remedies were continued as before. On the 12th and 13th he was tolerably well, except a little strangury.

" The tumour had felt far more yielding for some days previous to the discharge, and gave such distinct signs of containing a fluid, that an operation was hinted at by Mr. Sharpe; but, as there was no reason to suppose any adhesion or connection between the parietes and the tumour, I was of opinion it had rather be postponed, as being hazardous and uncertain.

" On the 15th he found a body push from his urethra in making water; the strangury being immediately previous very violent. After this the pain ceased altogether. On examining the body, it appeared to be an hydatid.

" On the 16th the strangury was renewed, and at some periods was very violent. On the 18th, in the morning, he was tolerably easy; but about two in the afternoon he had a more violent and severe attack than any of the former, with numbness in the leg on the side affected, and great increase of pain in attempting to move it. The pain

returned in the evening, and three or four more hydatids came away, of about the same size with the former; and the urine had a milky appearance.

" On the 19th he passed some more hydatids, with great previous pain; but after they came away he was much easier, and the urine was in due quantity. The pain was very violent on the 20th. At least a dozen hydatids were discharged this evening.

" On the 21st he found himself very much fatigued and depressed from the pain he had suffered the day before. About half-past two this day, a pint and a half of matter at least was discharged from the urethra, and about thirty hydatids with it, twenty-two of which were rather large. The purulent discharge did not cease as before, but on the succeeding evacuations there was the same appearance; but not in so thick a state as at first, owing perhaps to its being blended with urine. No rigor preceded this discharge, nor was it attended with any febrile symptoms, but he found himself very faint from it.

" On the 23rd matter still continued discharging, sometimes in a state of unmixed pus, with very little urine blended with it, and after a considerable quantity of the purulent matter had come away to-day the urine was again quite clear. More than twenty hydatids were passed to-day and with very little pain. He had a slight degree of fever, for which he took a saline draught. The discharge continued on the morning of the 24th, and the urine was mixed with pus; but during the night it became quite clear again, and no hydatids were discharged: he slept well with his anodyne.

" On the 25th the urine was clear in the morning, and the discharge had ceased. He sat up several hours to-day. In the afternoon the urine was again charged with pus, but no hydatids came away. At night the urine became quite clear again; but the next morning, soon after getting up, several very large hydatids were discharged, with some previous pain, and about a pint and a half of pus.

" On measuring the belly it was found to be only thirty inches and a half in its extreme circumference, although it had measured when most distended thirty-four and a half inches. The urine continued turbid all day, and of a purulent colour; and in the evening another large quantity of matter was discharged, but without any hydatid or pain. The patient was much better, and found himself lighter (as he expressed it) and stronger; his appetite increased, and he could move his body or legs in any direction, which he could not effect before, for on stooping on any occasion, or on lifting his foot on a chair to buckle his shoe, he suffered great pain. The discharge continued purulent all night, and on measuring the next morning (the 27th), before he had gone to stool, there was a decrease of half an inch. The same kind of discharge continued all day, and the patient felt himself improving very rapidly in his strength: he was able to walk about without pain, and to-day, for the first time, had not the smallest irritation in his urinary organs. He slept well last night, with only a quarter of a grain of opium, and his body was sufficiently soluble without a laxative.

" On the 28th and 29th he still continued to pass purulent urine. March 1st and 2nd he proceeded as before, and went out in a coach on the 1st, the motion of which he bore very well. He had clear urine in the morning, but towards the afternoon discharged two or three hydatids, and a great quantity of pus afterwards with the urine,

which continued purulent during the succeeding day, but in the night became clear and in its usual quantity.

"The urine remained clear the whole day of the 3rd, and he complained of pain, which increased at night. The night was restless, and before morning he discharged three or four hydatids, followed by pus. His urine continued turbid during the 4th, and his pain much relieved. On measuring to-day before he had an evacuation by stool he wanted six inches and a half of a yard in circumference. He went out in a coach, and walked some part of the way; which exercise he bore well. At night some little pain came on, and two or three hydatids were discharged, followed by purulent urine, which continued during the night; but on the morning of the 5th was clear again, except depositing a sediment on standing.

"Dr. Lettsom ordered him the bark twice a-day in cold infusion; he was not much weakened by his discharge, and his appetite was improved. His urine got more pale and clear towards evening, and on the 6th deposited very little sediment, and during the night was passed in very large quantities without any deposition.

"On the 7th, after moving about a little in his apartment, he was seized with pain, and discharged six or seven hydatids, with at least half a pint of pure pus; the urine continued turbid during the day, but got clear towards evening, and remained so all night.

"On the morning of the 9th, after a severe fit of pain, fourteen or fifteen hydatids of various sizes were discharged; these were followed by very thick pus. On measuring him this morning he wanted nearly seven inches of a yard; although, when he came to town, his extreme circumference was thirty-two and a half inches. There was no tumour visible externally, and the integuments were quite loose and flabby on the left side; but, on examining the part with the hand, there still appeared to be an enlargement.

"His bark produced nausea, and the Doctor ordered him to take it but once a-day. No alteration took place till the 12th, in the morning, when he discharged about a pint of pus soon after rising, preceded by ten or twelve hydatids, and without much pain; and he walked afterwards full three miles, without inconvenience or fatigue.

"The urine became transparent again in the evening, but he was rather uneasy, and continued so during the greater part of the 13th, when he felt a pain similar to that which he had suffered previous to the first discharge from the tumour. On the 14th he was well in every respect; his urine was quite clear.

"He was very easy on the morning of the 15th, but was seized with violent pain towards the afternoon; unlike the pain which he had lately experienced, but similar to that which he had been subject to prior to the first discharge of hydatids.

"He suffered much pain on the 21st, and the tumour was now considerably enlarged, seeming to have nearly attained its original great size. Febrile symptoms came on on the 22nd. His side was very tumid and tense, with great pain in the loins, towards which part the swelling extended more than it had done before. He remained under the same degree of fever and pain during the 23rd, and was particularly restless during the night.

" Between eight and nine on the 25th he passed a much larger hydatid than any that had yet come away, with about a pint and a half of pus, and several smaller hydatids, and one more as large as the first and many fragments. Two or three specks of blood appeared among the pus. He was now much easier. His fever continued in a slight degree during the next day, but he was free of pain, and his side seemed more flaccid than at any former period.

" Little or no variation was observable till the 29th; more or less discharge had taken place every day, and his febrile symptoms were moderate. On this day the pain increased considerably, and several hydatids were passed, with about a quarter of a pint of pus. His fever and uneasiness continued to diminish.

" On the 4th of April he rode ten miles on a rough-trotting horse, and came home with great pain in his loins; he went on, however, well till the 21st, when he again felt uneasiness in his side; and on the 22nd fever supervened, which lasted all night, but went off towards morning.

" He proceeded with slight febrile attacks till the 8th of May, when he had a discharge amounting to nearly two quarts at once; with several hydatids much larger than before, but of a more broken texture, and less opaque than the former; they were also of a blacker hue.

" This evacuation was attended with much less pain than any of the preceding, and he was perfectly easy immediately after, and not at all faint. His urine continued turbid till the 23rd; the side remained very flaccid and easy; his appetite was good, and his rest tolerable. He this day went out of town to Kensington. Some broken portions of hydatids came away on the 26th; his urine was turbid, but his side not enlarged.

" On the 3rd of June, in the evening, he was attacked with strangury, which had been preceded by much uneasiness in the bowels, like the pains of colic, and several pellicles came away next morning; they seemed from their size to be the remains of some very large hydatids, were of a blackish hue and a soft gelatinous texture; they came away with much more facility than any of the preceding, and were followed by little or no matter. Two or three small, perfect hydatids were at the same time discharged.

" On the 5th the urine was quite clear, which it had not been since the last considerable discharge; and he was quite free from pain. His health and strength were much restored, and he felt no inconvenience but a pain in the loins on walking far. On the 7th of June he was attacked with more violent pain and strangury than he had ever before suffered for the same space of time, and was particularly afflicted with colicky pains in the bowels. He passed several more large fragments of hydatids this day, and a small quantity of matter. The side previous to this discharge was somewhat enlarged; but was this day reduced to an equality with the other.

" June 29th, his health was considerably mended, and he could bear exercise without fatigue. His left side felt now more empty than before; his urine continued of that purulent turbidness which it had put on for some time past, and several whole hydatids and fragments of others had been discharged within these few days, but all of them of

a gelatinous consistence, and some black, except one, which was large and semi-transparent, and which bore the same appearance as when they came away in their more perfect state.

" July 11th: he had been troubled for about ten days with a pain under his short ribs, in the right side, confined to the space of half-a-crown, which produced no uneasiness in inspiration, but was very troublesome when he pulled his body erect from a stooping posture, or when he put on the boot on the right leg. He was this day seized with a violent pain in the belly, in the umbilical region, extending across that part just as colic does. He mentioned that he suffered a similar pain before the last discharge of hydatids but one; he passed several hydatids, about six in number, some of which were large, after which the pain subsided.

" On the 13th he complained that the hydatids pressed very much in his bladder, and that he could not get rid of them; he had been kept awake all night with pain, but suffered no strangury, nor was the pain very excessive. In a few hours he passed an hydatid of a very large size, and much rent, of a firm texture and whitish colour. He was cupped the day before yesterday for the pain in his side, which still continued troublesome, at which he was much alarmed lest it should be the same disease beginning in the right kidney. On the 15th he still complained of some pain, which was particularly aggravated by motion or pressure, but no enlargement could be felt. The pain was most severe when the lowest false rib was pressed on. He this day went into Suffolk for the summer, in good health in other respects, and return of strength and appetite.

" From the above symptoms and appearances we may draw the following conclusions:—

" First, that the bag is a congeries of hydatids: whether of the kidney or near it cannot now be determined. That it immediately communicated with either the pelvis of the kidney, urethra, or bladder. That probably this communication was small, and therefore at times stopped, probably by an hydatid; and while this was the case he made clear water, and when the communication was opened, which was probably by an hydatid passing, then a gush of matter with hydatids followed. The discharge of the matter and hydatids stopped, and nothing but urine came away.

" This continued for some days, which we imputed to the passage being stopped by a hydatid, because we could not suppose that the bag would now form any matter; therefore we were waiting for another discharge of matter, &c., which took place and lasted for some days in the same manner as before. The evacuation of matter and hydatids stopped a second time, and no inconvenience attended for some time; and when it was become pretty full, I observed that the bag was not nearly so large as formerly, so that it had contracted considerably in the time of the evacuation of the water, &c.

" It continued filling for several weeks; he became uneasy, slight fever, &c. I tried to squeeze the swelling, to see if I could squeeze the hydatid through the passage, but did not succeed. He rode gently on horseback, with the same view; he became rather easier. Fever, &c., had abated; and the bag became as large as at first, but

at last it burst through, and about a quart of matter, with a vast number of hydatids, came away, many larger than any of the former, and he then became easier in body and mind.

"A repetition of these stoppages took place perhaps every fortnight or three weeks, but never lasted so long as to give much uneasiness, or produce a fullness in that side; fewer came away each time, and they were of a larger size; the smaller having more readily found a passage.

"Some of the largest skins or coats appeared to have been as large as goose's eggs; one of them had a neck like a flask, but was so broken as not to allow me to ascertain the mouth of it.

"He at last, as it were, became acquainted with the disease: when a stoppage came on, and when an opening of the communication betwixt the bag and the urinary canal took place, he seemed to know it by a peculiar sensation. When on their passage down the ureter to the bladder, he was also sensible of it; and when they had got there, he was then easy.

"As I had formerly squeezed the tumour, to see if I could squeeze the hydatids into the urinary passages, he often repeated the same experiment, and conceived that he often succeeded; especially when the communication was open, for then he was certain he squeezed them into the urinary passages.

"One of the largest came away from the bladder; it at first took some time in the urethra, but came away very much torn.

"As he was going into the country, July 16th, I gave him some bougies to pass into the bladder, in case any should in future stick in the passage, so as to make the suppression of urine troublesome or dangerous.

"Towards the last of their coming away, much less matter came than formerly; often the water was pretty clear when they were passing. This was in the beginning of October, 1784."—*Hunterian MS. Cases and Observations*, No. 75.

A shorter account of this case, with sketches of the hydatids, is in a paper by Dr. Lettsom, entitled "History of Two Cases of Hydatides Renales," in the *Memoirs of the Medical Society of London*, vol. ii. p. 32, London, 1794.

Hunterian.

1925A. Portions of earthy, bone-like matter, some of which are imbedded in dried animal substance, having somewhat of the shape of a kidney.

The note sent with the specimen described it as "A kidney become bony; formerly had hydatids; the case published by Dr. Lettsom. The patient had a large stone extracted at St. George's, 1803." The case was probably the second in Dr. Lettsom's paper already referred to. A butcher was for some years subject to pain in the right kidney, descending in the course of the ureter, and ceasing after the discharge of hydatids with the urine. There were considerable intervals between the attacks, in which he appeared quite well; but, as the disease advanced, the attacks became more

frequent, and the hydatids larger; till, after about ten years, the discharges of hydatids gradually ceased, and he seemed completely recovered.

Presented by Sir Everard Home.

10. *Diseases of the Renal Blood-vessels.*

1926. A kidney, the veins of which are filled, even to their small branches, with fibrinous coagula.

The following account of the case is preserved in the transcripts of the Hunterian MSS. :—

“ Abscess.

“ Lady B—p, about a fortnight ago, caught a cold, and was taken with a severe fever; had violent pains in her two hips. At last a swelling was observed on the left hip, just upon the large trochanter; this suppurated, and a fluctuation was plainly felt. It was opened near the most depending part by a small opening in comparison to the size of the abscess. In about two months this healed up to a small orifice; and the pulse, which was at first about a hundred and thirty in the minute, was reduced to between eighty and ninety. It was thought advisable to dilate it the whole length of the abscess, because it had healed partially and broke out again; this increased the pulse to the former standard, which was done when all parts concerned seemed sound. The whole surface of the wound and abscess soon looked well, granulated, and became less: the pulse was reduced again, but not so very low as before, never below ninety; but hovered about a hundred, sometimes more, sometimes less.

“ Two months after this second opening, a hard frost set in, with a great fall of snow; an inflammation came upon the edges of the wound, which spread all over the wound and abscess, attended by a low, quick pulse, which much alarmed me. This became very foul, covered with a large greyish slough; the pulse rose and increased to one hundred and twenty-eight. In a few days the abscess part began to clear, which extended to the lips of the wound, but the lips themselves never threw off their sloughs. This circumstance was a strong proof to me that the bone was sound, as also every other part that had originally any connection with the abscess, which was an agreeable circumstance, as the cure in some measure depended on the health of those parts.

“ The sore began to slough again, but more slowly than at first; then for some days it seemed perfectly at a stand. The pulse fluctuated between one hundred and one hundred and thirty, generally slower at night than in the morning, through the whole of the disease. She gradually became [worse?], though not remarkably so, till within three days of her death, when a mild thaw had set in, and was violently attacked with a pain in her right side, and then began visibly to sink, which was more visible in her sensibility than pulse. Some days before she died, the stomach became very

irritable, so much as hardly to retain either nourishment or medicine of any sort, except opiates, and the last of that kind she kept down with great difficulty.

“ General Observations attending the Case from beginning to end.

“ The pulse was in general too quick ; had seldom a clear or perfect, distinct stroke, but a vibrating, or attended with a thrill. The pulse never sunk but when the inflammation and sloughs came first on, but did not last above one day. She did not waste in flesh, nor lose much her bodily strength. Her spirits, which were never high, but even and uniform, kept up to the last.

“ Although the sore was going on well, it was slow, and always showed a kind of debility, but the pulse always keeping quick and vibrating ; which showed an irritating cause somewhere, yet strong, which also showed a considerable strength of the arteries ; however, the powers of action of those vessels seemed to give way first ; they seemed to be perfectly at rest, so that nothing but simple circulation seemed to be going on for some time, the very absorption of the body into itself was at a stand.

“ This want of power to act, in the active parts, viz., those parts which carry on the different operations, gives a sense of repletion to the stomach, and perhaps more than repletion, a sense of disgust might ensue : as the stomach is the seat of sensation of simple life, and acts accordingly, we may with some show of reason suppose that when the body is in this, that, or the other state, that the stomach is inflamed [influenced?] by it. If the whole constitution is in a certain state of inactivity, so that fresh supplies in the circulation may rather be of dis-service, then the stomach in that case will reject all nourishment, and the powers of digestion be stopped. As what Lady B—p went through, and a continued sore in a good way did not account sufficiently for the slowness of the sore’s healing and quickness of pulse, a cause was sought for after death which might prove more satisfactory.”—*Hunterian MS. Cases in Surgery*, p. 18.

“ Dissection of Lady Beauchamp.

“ On opening the body the brain was found sound ; the heart and thoracic viscera were to all appearance sound. There was some bloody water in the thorax, which could not have been there long, as there was no thoracic complaint, excepting the pain in the right side three days before death.

“ All the abdominal viscera sound, excepting the right kidney (which lay lower than common) ; this viscus larger than natural, much harder or solider, and of a dark red. Upon its surface lay some extravasated blood, which must have been recent from its appearance, and which might have given rise to the pain in the side before mentioned. On slitting open the inferior vena cava we found a ragged coagulum of blood, sticking and almost shutting up the orifice of the right emulgent vein. On slitting up that vein we found it almost choaked up with coagulated blood through its whole length, and in the ramifications as far as we could trace them. This coagulum was strongest and densest closer to the coats of the vein, in its centre spongy and cellular. It would appear that this disease was in all the ramifications of the kidney, as it was loaded with blood, which did not ooze out when cut into. The pelvis was almost obliterated by the pressure of the kidney on the sides.

" All the parts surrounding the abscess were sound.

" The granulations upon the great trochanter had a tendency to ossify, as most granulations have when near the bone, as to receive the ossifying inflammation from that bone."—*Hunterian MS. Dissections of Morbid Bodies*, No. 159, p. 262.

Hunterian.

11. *Diseases of the Renal Pelvis, its Branches, and the Ureter, including the changes produced by Renal Calculi.*

11 a. *Stricture and Dilatation.*

1927. Part of an ureter, which, in consequence of stricture of the urethra, is dilated to nearly an inch in diameter. Its walls are as thick as those of a healthy ureter, and are healthy in their texture. *Hunterian.*

1928. The pelvis of one of the kidneys, and part of the ureter, of the patient whose bladder and prostate gland are preserved in No. 2498. The pelvis is much dilated; the ureter is less so, but, about an inch from its commencement, makes two abrupt turns. Thus, three portions of it lie side by side, and they are closely united; a condition by which the passage of urine from the pelvis must have been greatly obstructed.

Hunterian.

1929. Portion of a kidney, with the ureter. The ureter is dilated, and, about three inches from its commencement, contracts, apparently with a circular thickening of its walls. Above the contraction it is somewhat sacculated, with prominent membranous folds projecting from its walls.

From the Museum of Sir A. P. Cooper.

11 b. *Effects of Inflammation of the Renal Pelvis and Ureter.*

1930. Section of a kidney, with part of the ureter. The coats of the ureter are thickened, and its mucous membrane is granulated. About an inch from

the pelvis, the ureter makes a very abrupt turn, and one of its walls is folded, almost like a valve stretching across its canal, and hindering the passage of fluid through it. *Hunterian.*

1931. A kidney, of which the lining membrane of the pelvis and ureter is thickened, granulated, and in parts superficially ulcerated. The substance of the kidney appears healthy. *Hunterian.*

1932. A kidney enlarged, and with the lining membrane of the pelvis, calyces, and ureter dilated, thickened, very coarsely granulated, and in many places covered with lymph and calculous matter. On many parts, also, of the lining membrane there are small, superficial, oval and circular ulcers, about a line in diameter, like the ulcers following aphthous or miliary vesicles; they are perhaps to be ascribed to small cysts or vesicles, like those more commonly found in the kidney, which were developed beneath the lining membrane of the urinary passages, and then burst through it. *Hunterian.*

1933. Portion of an ureter dilated, and exhibiting a superficial circular ulcer of its mucous membrane. The ulcer has a smooth base and a narrow, slightly elevated margin. There are several small points of ulceration on the adjacent surface of the membrane.

From the Museum of Sir A. P. Cooper.

11 c. *Effects of Renal Calculi.*

1934. A kidney, with the pelvis and its branches dilated, and some small calculi adhering to the papillæ as if imbedded in their substance. *Hunterian.*

1935. The kidney of a dog, with numerous small calculi in the pelvis and calyces. *Hunterian.*

1936. A kidney, the pelvis of which was nearly filled with the numerous small

white calculi and particles which now lie at the bottom of the bottle. The lining membrane of the pelvis is thickened and flocculent; and the surface of the kidney is irregularly granulated. *Hunterian.*

1937. "The left kidney of a child, who died at St. George's Hospital, where a stricture was suspected. The pelvis and infundibula are enlarged and lined by a layer of coagulable lymph. Calculi are lodged in the infundibula." (*Hunterian MS. Catalogue.*)

1938. "The right kidney of the same child, where the infundibula are also enlarged and ulcerated, so as to communicate with the cavity of the abdomen." (*Hunterian MS. Catalogue.*) In both kidneys, together with the enlargement of the pelvis and infundibula, the glandular substance is reduced in many places to a line in thickness. At the upper end of the right kidney it was reduced to the fourth of a line, and, after being somewhat distended, appears to have been ruptured, or partially ulcerated and then torn. *Hunterian.*

1939. Portion of a kidney, with three large calculi filling dilated and ulcerated calyces. *Hunterian.*

1940. Section of the kidney of a girl four years old, who died after having been cut for the stone: (her diseased bladder is in No. 2032). The pelvis contains a large calculus, a process from which passes into and exactly fits one of the dilated calyces. The substance of the kidney is atrophied. *Hunterian.*

1941. A kidney, the blood-vessels of which are injected. The pelvis and calyces are dilated, and three of the latter are obstructed by calculi.

The patient had signs of disease of the kidney for many years, and often passed bloody urine. She died with diseased liver and dropsy. The pelvis of this kidney was full of coagulated blood.

From the Museum of George Langstaff, Esq.

1942. A similar specimen, except in that the blood-vessels are not injected, and the calculi are larger. *Presented by Sir William Blizard.*

1943. A kidney, of which the pelvis and some of its branches have been greatly dilated. Two large calculi are contained in them. The substance of the kidney appears granular, and much of it has been removed at the part where the calyces are chiefly dilated.

From a patient who died with a large medullary tumour of the bladder.

From the Museum of R. B. Walker, Esq.

1944. A kidney, the pelvis of which is nearly filled by a calculus. The calyces are dilated, and the substance of the kidney is so atrophied that some of the dilated calyces nearly reach its surface. Its surface is granulated, and in some situations seamed and drawn in, as if cicatrized after ulceration or loss of substance. The blood-vessels have been injected. The pelvis was surrounded with a large quantity of fat, which has been dissected from one side of it.

From a lady of advanced age, who died of rupture of the heart, and who gave no other sign of suffering from disease in the kidney than by complaining of lumbago. The specimen is engraved in Mr. Crosse's "Treatise on the Urinary Calculus," pl. iii., fig. 3.

Presented by J. G. Crosse, Esq.

1945. Section of a kidney, the pelvis of which is filled by a large branched calculus. The calyces are all dilated, and were full of small calculi. The whole organ has its natural size, and its glandular substance appears healthy.

From a child who long suffered with discharges of turbid, grumous urine. For six weeks before her death she improved under the use of alkalies and Uva Ursi. Two days before death she became slightly feverish, and died unexpectedly in a fainting fit.

From the Museum of Sir A. P. Cooper.

1946. The kidney of a lad who died at the London Hospital. The pelvis, its branches, and the commencement of the ureter are much dilated, and they

are all nearly filled by two large calculi, which have grown in the branched form of the parts containing them. The substance of the kidney is in several places almost wholly removed, and in all parts much atrophied.

Hunterian.

1947. Section of a kidney, in which the pelvis and all its branches are filled by large calculi. The kidney, like nearly all the preceding, is atrophied.

1948. A similar specimen, with yet larger calculi. The kidney is reduced in size and indurated; and much of its proper substance appears replaced by a tough white tissue like that of cicatrix.

1949. A kidney, in which several dilated calyces are filled by large calculi. Their lining membrane in contact with the calculi is rough and ulcerated. The adjacent substance of the kidney is wasted, and is nearly all consolidated into a dense fibrous tissue, together with the fibrous capsule and the adipose tissue around the pelvis.

Presented by Sir William Blizard.

1950. Section of a kidney, nearly filled by one large branching calculus, around which the pelvis and calyces are dilated, and the glandular substance is atrophied and indurated.

Presented by Sir William Blizard.

1951. A kidney, of which the pelvis and its branches are filled by an oval calculus, with a finely granulated surface, measuring three inches in its larger, and two in its shorter diameter. The greater part of the substance of the kidney is removed, and what remains of it appears disorganized. The opposite kidney, the ureters, and the bladder were healthy.

Presented by Sir William Blizard.

1952. A kidney, the pelvis of which is dilated into a sac three inches long, and two inches in diameter, by a calculus which was lodged within it. All the divisions of the pelvis are dilated, and many of the urine-tubes

are full of calculous matter. Some of the blood-vessels have been injected with a white fluid. *Presented by Sir William Blizard.*

1953. A kidney, of which the ureter, near the pelvis, is completely obstructed by a large calculus, exactly adapted to its form. The pelvis and its branches are thickened and dilated, and a calculus similar to that in the ureter is lodged in one of the calyces. The substance of the kidney is atrophied. *Hunterian.*

1954. The lower part of a bladder, with the prostate, ureters, &c. All the coats of the bladder are thickened and indurated. The prostate gland is enlarged to nearly twice its natural size, and the third lobe is prominent. The right ureter is dilated near its termination in the bladder.

In the dilated portion of the ureter a calculus was fixed, which was distinctly felt with a sound. Lithotomy had been determined on, but the patient, who had long suffered from signs of stone, died before the operation could be performed.

1955. A kidney, in which the pelvis and all its branches are dilated into large pouches, over which the glandular substance is spread out and atrophied. The dilated pelvis and many of the calyces are full of large calculi.

Presented by Sir William Blizard.

1956. A kidney, similarly, but more, and more irregularly, dilated. The pelvis and calyces were full of purulent fluid and numerous small particles of dark calculous matter. Their lining membrane is thickened and granular. The ureter is healthy.

Presented by Sir William Blizard.

1957. A kidney, of which the blood-vessels are minutely injected. The pelvis is nearly filled by a calculus; and both it and the calyces are dilated into large sacs and unnaturally vascular. The whole kidney is considerably increased in size by dilatation; and its glandular substance is reduced to a very thin layer.

From a woman sixty-three years old, who suffered for nearly four years with signs of nephritis, which, during the last six months of her life, became very severe. Pus

and blood were discharged with the urine, and, at the last, ascites and chronic peritonitis ensued, for which she was twice tapped.

The pelvis and its branches in this kidney contained a pint of pus. The left kidney was similarly diseased, but in a less degree. A further account of the case is given in the "Catalogue of the Anatomical Museum of George Langstaff," p. 319.

From the Museum of George Langstaff, Esq.

1958. A kidney, of which the pelvis and the beginning of the ureter are filled by a calculus. As in the preceding specimen, all the branches of the pelvis are exceedingly dilated; so that the kidney has acquired the form of a large multilocular sac, surrounded by a layer of glandular substance varying from half a line to three lines in thickness. The lining membrane of the sac is healthy in its texture, and thicker than that of the calyces in their natural state. *Hunterian.*

1959. A similar specimen; but the kidney is distended to a much larger size, measuring eight inches in length, and four and a half in breadth. The lining membrane of the enlarged calyces, pelvis, and ureter is thickened, coarsely granulated, and covered with lymph. The capsule of the kidney and the adjacent tissues are thickened, hardened, and consolidated.

Hunterian.

1960. The remainder of the ureter, and a portion of the bladder, from the same patient as the kidney last described. The ureter is dilated; its coats are a line or more in thickness, and its interior is irregularly ulcerated. The bladder is inverted, and presents several circular, sharp-bordered ulcers in an otherwise healthy mucous membrane.

Hunterian.

1961. A similar specimen; a kidney dilated into a large multilocular sac, in consequence of the obstruction of the first portion of the ureter by a calculus. The sac is about eight inches in length, and five in breadth; scarcely any glandular substance is discernible. The ureter below the obstructed part is healthy.

Presented by Sir Everard Home.

Specimens of Diseases of the Kidney in other parts of the Museum:—

3, 145, 263, 1589, 1976, 2010, 2018, 2025, 2030, 2476, 2540.

SERIES XL.—INJURIES AND DISEASES OF THE URINARY
BLADDER.

1962. A healthy urinary bladder, in the contracted state with the prostate gland. The muscular fibres are displayed by the removal of the peritoneal covering and cellular tissue.

From a man who was killed by a blow on the stomach.

Hunterian.

1. *Hypertrophy.*

1963. Portion of the fundus of a bladder, the muscular coat of which is half an inch thick, though not contracted. The external fasciculi of muscular fibres are very strongly developed, and are prominent in curved and interlacing ridges. The mucous membrane is closely and deeply corrugated, but healthy in its texture.

Hunterian.

1964. A bladder, prostate gland, and part of the penis. In consequence of a stricture at the junction of the bulbous and membranous parts of the urethra, the cavity of the bladder is greatly enlarged, and its muscular coat is proportionally hypertrophied. Its internal fasciculi project in strong, flat bands, and form a coarse network beneath the mucous membrane. The band of muscular fibres passing transversely from one ureter to the other, and the fibres extending from it to the prostate, are remarkably thick, broad, and distinct; slips of paper have been passed beneath its chief fasciculi. The mucous membrane and the tissues around the bladder appear quite healthy. The ureters are dilated and thickened, but their orifices are not enlarged. The prostate gland is laid open from behind, and several small cavities which contained calculi are shown in its interior.

1965. Section of a bladder, with the prostate gland, &c. In consequence of stricture of the urethra, the muscular coat of the bladder is greatly increased in thickness; and its fasciculi are very prominent beneath the mucous membrane, which itself appears very thin and soft. *Hunterian.*

2. *Rupture and Over-distention of the Bladder.*

1966. A bladder, which was ruptured in a fall from a coach. The chief rent is an inch in length, and extends in a vertical direction through the lower and anterior part of the organ. There is a second of smaller size to the right of this. The larger opening above them was made to display the interior of the bladder, all the tissues of which are healthy and contracted.

Presented by Sir William Blizard.

1967. The bladder of a woman, which burst near the entrance of the ureter in consequence of neglected retention of urine. The bladder is inverted; the greater part of its mucous membrane is destroyed by superficial ulceration, and appears to have been acutely inflamed. The margins of the rupture are irregular and shreddy, as if sloughing had taken place.

The urine escaped into the peritoneal cavity, and produced peritonitis, which was fatal on the fourth day.

From the Museum of George Langstaff, Esq.

1968. An uterus and bladder, some time after parturition. The uterus has contracted to about six inches in length; a portion of placenta or coagulated blood adheres to the upper and right side of its cavity. The bladder, having been distended by urine during the whole period of parturition, has had its mucous membrane at one part extensively torn. At this part, the submucous tissue is exposed with long sloughing shreds, and in many other situations there are smaller lacerations, which look like superficial ulcers of the mucous membrane. The bladder appears to have

contracted but little after its distention, and its walls are not more than a line in thickness.

The patient's death was believed to be due to the retention of urine.

Presented by Sir William Blizard.

1968A. A bladder, which was very much distended with urine. Its muscular coat is thickened, but its fasciculi are wide apart. Many sacculi of mucous membrane (two of which are on the antero-lateral walls) are pushed outwards, and are laid open from the exterior.

The patient was a man sixty-two years old. He had enlargement of the prostate gland, with increased frequency and slight difficulty of passing urine; but he kept his bed for only a few days before he died.

From the Museum of John Howship, Esq.

3. *Hernia of the Bladder.*

1969. Part of the pelvis of a lion, with an hernia of the fundus of the urinary bladder through the left inguinal canal. The hernia is exposed by the removal of the left wall of the abdomen. *Hunterian.*

1970. A bladder, uterus, and vagina. The interior of the bladder is exposed from the front, and that of the vagina from behind. The posterior wall of the neck of the bladder is protruded in a broad, deep pouch into the upper part of the vagina, in which it forms a considerable tumour, between two and three inches in front of the os uteri; the textures of all the parts appear healthy. *From the Museum of Sir A. P. Cooper.*

4. *Partial Dilatation.*

a. *Of all the Coats of the Bladder.*

1971. A bladder, in which a wide and deep pouch is formed by a partial dilatation of all the coats directly behind the prostate gland. The pouch

is wider at its communication with the bladder than at any other part; it is directed rather towards the left side; it is such an one as may have been caused by the lodgment of a calculus. The walls of the bladder are thickened and indurated. *Hunterian.*

1972. A bladder, with the prostate gland, part of the penis, &c. The prostate is somewhat enlarged and hardened, and its middle lobe is prominent. Immediately above the middle lobe, a long and projecting curved ridge extends between the ureters, which, in proportion to the size of the bladder, are unnaturally wide apart. This ridge, which is formed by the increase of the transverse band of muscular fibres between the ureters, is the lower boundary of a sac in which all the coats of the bladder are dilated. The muscular coat of the bladder is generally much hypertrophied; its mucous membrane had the appearance of acute inflammation, and this extended for an inch up each ureter; its cavity, except at the dilatation, is very small. One of the ejaculatory ducts, in which a portion of whalebone is placed, is unusually large. All the tissues around the prostate, vesiculæ seminales, and adjacent parts are thickened and consolidated.

From a man who complained of pain in the bladder, extending to the glans penis or the kidneys, and of frequent desire to make water. The attacks came on at very short intervals, and admitted of little relief from anodynes. The case is further described in Sir E. Home's work "On the Treatment of the Diseases of the Prostate Gland," vol. ii., p. 182; and the preparation is engraved in pl. ix. in the same volume.

Presented by Sir Everard Home.

1973. A bladder, with the prostate gland, part of the penis, &c. Two large and several smaller sacculi are protruded from the posterior wall, and there are some depressions of the mucous membrane between the meshes of the hypertrophied muscular fasciculi. The walls of the largest sacculi are more than a quarter of an inch thick; they have distinct layers of muscular fibres; and the mucous membrane lining them is thickened and granular. Some of these sacculi contained several small calculi. There is a cavity, as if from a small abscess, in the anterior part of the prostate

gland; and there is a narrow stricture in the membranous portion of the urethra immediately behind the bulb.

The specimen is engraved in Sir E. Home's work quoted above, in Vol. I., pl. 13.

Presented by Sir Everard Home.

1974. A bladder, of which a portion of the inferior and right lateral wall is dilated into a sac nearly three inches in diameter. The walls of the sac are about a line and a half in thickness, and appear to be formed of smooth and healthy mucous membrane, a thin layer of muscular tissue, and an external, tough, and indurated fibro-cellular investment; it communicates by a large orifice with the cavity of the bladder. A similar but much smaller sac is protruded from the middle of the posterior wall of the bladder. The muscular coat of the bladder is hypertrophied; its mucous membrane is healthy in texture, but in many places pushed out in pits between the muscular fibres; its cavity appears to have been generally rather smaller than that of the sac by its side. The prostate gland is slightly enlarged.

1975. A bladder, with the prostate gland and other adjacent parts. The cavity of the bladder is much contracted; its muscular coat is half an inch thick; its mucous membrane thickened and deeply corrugated. At the middle of the posterior wall of the bladder, is a small oval aperture leading into a spheroidal sac nearly four inches in diameter. The walls of this sac are about a line in thickness; it is lined with smooth mucous membrane, which is partially covered with lymph, and is a little ulcerated around the orifice of communication with the bladder; its upper half is covered with peritoneum; and there is an appearance of a layer of muscular fibres in the cut margin of its walls. The prostate gland, and especially its middle lobe, are enlarged. A portion of bougie is placed in a passage, which was forced with a catheter, through the middle lobe of the prostate into the bladder, seventeen days before the patient's death. The upper opening of this passage is just below the aperture between the bladder and the sac.

The patient was a gentleman sixty-six years old. He had retention of urine, and a

catheter was with much difficulty passed into the bladder. His condition was improved for two days, but he gained no power of expelling his urine; and after this time violent spasmodic contractions of the bladder, accompanied by severe pain, frequently recurred, and continued to the time of his death. The case is related at length in Sir E. Home's work "On the Treatment of the Diseases of the Prostate Gland," vol. i., p. 157; and the preparation is figured in the same work, vol. i., pl. vii.

Hunterian.

1976. The urinary organs of a boy two years and a half old. Both the kidneys are dilated, without much enlargement, into cysts, incompletely partitioned; there are scarcely any remains of their glandular substance. The pelvis and ureters, also, are proportionally dilated; the latter are at some parts three-quarters of an inch in diameter. The bladder is very large; its muscular coat is hypertrophied, and its internal fasciculi are remarkably prominent. Immediately behind the prostate, both the muscular and mucous coats of the bladder are dilated into a spheroidal sac two inches and a half in diameter. The sac has smooth thin walls; the muscular fibres in them are thin and wide apart, as if separated by distention; its cavity opens into that of the bladder through an aperture an inch in diameter, with a sharp, smooth margin; and it is directed from the bladder downwards and backwards upon the rectum. One of the ureters opens into the pouch just below its orifice of communication with the bladder; the other opens into the bladder just above the same orifice. The prostate and what remains of the penis are healthy.

The patient had many signs of stone in the bladder, and when sounded, an impression like that of touching a foreign body was often distinctly felt, as often, probably, as the sound struck against the margin of the communication between the bladder and the sac. Mesenteric disease also existed, and of this the child died. No foreign body was found in the bladder, nor is there evidence to show on what the obstruction to the passage of urine which had existed depended.

The preparation is described and figured in Mr. Liston's "Practical Surgery," p. 471.

From the Museum of Robert Liston, Esq.

1977. A bladder, with the prostate gland and part of the rectum. The bladder is of large size, and has the appearance of consisting of two distinct cavities

of equal size placed one above the other,* and separated by an oblique partition. This partition appears to be composed of the same tissues as the coats of the bladder itself; it is situated just below the internal orifice of the urethra, and the aperture in its centre, by which the upper communicates with the lower cavity of the bladder, is circular, and not more than half an inch in diameter. The urethra, through which a piece of glass is passed, opens into the lower and front part of the upper cavity of the bladder, passing with a greater than usual obliquity upwards through the prostate; the ureters open through the middle of the posterior wall of the lower cavity, and, in the preparation, they appear unnaturally far apart, in consequence of the two cavities having been laid open from behind, to exhibit their interior and the septum between them. The walls of the upper cavity are healthy, and just like those of an ordinary urinary bladder. The mucous membrane of the lower cavity is in every part ulcerated, and beset with calcareous deposits, so that, when first removed, the walls felt hard and rocky. The orifices of the ureters were completely blocked up by some of these deposits, and their canals are dilated. The rectum is pushed unusually far backwards by the inferior cavity of the bladder, which, as already said, is placed almost entirely below and behind the prostate gland. The interpretation of this singular specimen is afforded by what is seen in the preceding one. As in that, a large sac is formed by the lower and posterior part of the bladder, distended or pouched-out towards the rectum. In the preceding specimen the distended part comprises the orifice of only one ureter; in this, both are included in it. The diseased condition of the tissues of the pouch, or lower cavity, are probably explained by the following history of the case:—

The patient was a gentleman fifty-one years old, who, after he had for fifteen years suffered from what was considered to be a disease of the kidneys, received an injury of the loins in a fall. By this, his former disease, in which he had sometimes passed in his urine substances resembling the membranes of hydatids, was much aggravated. About six weeks before his death, and some months after the fall, from which he had partially recovered, his urine became very offensive, as if it contained putrid animal matter, and was often mixed with small calculi and gravel. With these he had a high degree of fever, painful micturition, severe pain in the loins and in the course of the

* In the preparation the upper cavity is placed on the left side, the rectum on the right.

ureters, nausea, vomiting, &c. The quantity of urine passed during the last month did not exceed more than two or three ounces daily, and in the last week scarcely any was passed, either voluntarily or through the catheter. Little change in these symptoms occurred from day to day, and he gradually sank. Towards the close of life he had general pain and tumefaction of the abdomen.

After death, in addition to the changes displayed in the preparation, there was found an aperture, produced either by rupture or sloughing, in the back part of the lower cavity of the bladder, in the line in which it was afterwards more widely laid open. The parts adjacent to this rupture were gangrenous, and urine was extravasated in them. The ureters and the pelves of both kidneys were exceedingly dilated. The right kidney was distended into a large sac, and the left kidney was large and soft in its texture. There were, also, signs of general peritonitis.

It is probable that the pouch of the bladder had existed for many years; but that, as in the preceding specimen, the tissues composing it had been sound till, through disease of the kidneys, aggravated or, perhaps, produced by the injury, unhealthy urine used to collect. This, as the pouch always lay below the level of the prostate gland, could not be quickly or completely discharged; and, thus delayed, it probably deposited the calcareous matter, and produced the ulceration of the walls of the pouch. At last, when the pouch could neither empty itself nor be emptied by the catheter, it sloughed and burst.

Presented by Dr. Denmark.

1978. "A bladder, with five cysts formed by calculi, all communicating with the bladder." (*Hunterian MS. Catalogue.*) The cysts or pouches from the bladder are all very like that shown in No. 1976. They are disposed transversely across the lower and posterior part of the bladder, and their arrangement is almost symmetrical. The two outermost are nearly spherical, and between two and three inches in diameter; two in the middle have the same form, and are rather more than an inch in diameter; the fifth, situated on the right side, is smaller than the others, and is not laid open. They open into the bladder through five smooth, round, or oval apertures, from half to three-quarters of an inch in diameter, which all lie in a row about half an inch above the orifices of the ureters. Their walls are composed of mucous, muscular, and cellular tissue, and are about half as thick as those of the bladder. All the textures, both of the cysts and of the bladder itself, appear quite healthy. The prostate gland has two small cavities in its interior, but is in other respects healthy; neither is there any morbid change in the part of the urethra

which is preserved, and which includes the whole of the canal except the anterior half of the spongy portion. The ureters are large, and their coats are thickened. *Hunterian.*

4 b. *Partial Dilatation of the Mucous and Cellular Coats of the Bladder: "A hernia of the internal coat between the [muscular] fasciculi."*

Hunter's Works, ii., p. 299.

1979. Part of the posterior wall of a bladder, in which is a small, wide-mouthed, saccular protrusion, like a hernia or diverticulum of the mucous membrane with the cellular coat distended over it. *Hunterian.*

1980. The posterior half of a bladder, with an enlarged prostate gland. There are two saccular protrusions of the mucous membrane, both of which communicate, through comparatively small circular orifices, with the cavity of the bladder. *Hunterian.*

1981. Portion of a bladder, in which are several small sacculi of the mucous membrane. One of them contains a calculus. The lower end of the right ureter is dilated, and obstructed by a calculus. One of the sacculi close by it has been laid open, and is composed of mucous membrane protruded, like a hernial sac, between the muscular fasciculi.

Hunterian.

1982. A bladder and prostate gland. In consequence of stricture of the urethra, the muscular coat of the bladder is hypertrophied; and in the posterior wall there are, as in the preceding specimen, many pouches of the mucous membrane, unusually regular in form and size, pushed out between the muscular fasciculi, but not protruded far enough to be prominent externally. The prostate is enlarged. *Hunterian.*

1983. A section, giving a side view, of a bladder, prostate, and urethra. The muscular coat of the bladder is slightly hypertrophied; its mucous mem-

brane is healthy, but a part of it, in the front wall, is protruded in a long narrow-necked pouch between the muscular fasciculi. There is a stricture at the membranous part of the urethra; the prostatic portion is much dilated; the prostate, vesiculæ seminales, and ureters are healthy.

From the Museum of Robert Liston, Esq.

1984. A bladder, distended and dried. There are two sacculi, probably formed of the mucous membrane protruded through the muscular coat, in the posterior wall; and one similarly formed in the middle of the anterior wall. This last is hemispherical, and measures an inch and two-thirds in diameter; its orifice is circular, and an inch in diameter.

Hunterian.

1985. A bladder and prostate gland, with the adjacent parts. A large fragment of a calculus broken in lithotomy is tightly fixed at the junction of the prostatic and membranous portions of the urethra, the mucous membrane around it being ulcerated. The bladder is very small, and its coats are thin. On its posterior wall, close to the orifice of the right ureter, is a sacculus of mucous membrane, communicating with the cavity of the bladder through an aperture only a line in diameter. The sacculus is about an inch in diameter; its walls are thick and tough, and its lining membrane is smooth; it was filled by the three calculi which are loose in the bottle, and which must have been almost entirely formed in it, for its orifice of communication with the bladder is too small to give passage to even the smallest of them. There is a cavity, like that of an abscess, outside the right lobe of the prostate, but not communicating with the bladder or urethra.

The patient, twenty-three years old, had incontinence of urine, and other signs of stone in the bladder, from childhood. In June, 1842, a stone was crushed in his bladder, and a month afterwards a portion of the calculus became fixed in the urethra. It remained there about ten weeks, and then was removed through an incision into the urethra. A few days afterwards the portion which is preserved became impacted in the same place, and produced extreme pain and difficulty in making water, with signs of inflamed bladder, and great disturbance of the general health; the patient in two

months died exhausted. Both the kidneys were acutely inflamed, with small collections of pus in their interior.

From the Museum of Robert Walker, Esq.

5. *Inflammation and Ulceration of the Bladder.*

1986. Portion of a bladder, of which, in consequence of stricture of the urethra, the muscular coat is thickened. The mucous membrane has been inflamed, and is nearly covered with a layer of closely adherent, tough mucus or lymph, with particles of calcareous matter imbedded in it. Some small calculi are also enclosed in pits of the mucous membrane depressed into the meshes of the muscular fasciculi. *Hunterian.*

1987. A bladder and prostate gland. The muscular coat of the bladder is from a quarter to three-quarters of an inch thick, and strongly fasciculated. The mucous membrane is thickened and indurated; its internal surface is deeply corrugated; it forms a layer from half a line to three lines in thickness: in some places it appears superficially ulcerated; in others it is covered with thick portions of lymph: it appears, also, to have been very vascular. The prostate gland has been, in great part, destroyed, apparently by irregular suppuration in its interior.

Presented by William Norris, Esq.

1988. A bladder, in which there had been a calculus. Its mucous and muscular coats are thickened and indurated; the former is superficially ulcerated, and its internal surface has a dark granulated aspect, and thin layers of lymph or mucus, mixed with calculous particles, adhere to the surfaces of its ridges. *Hunterian.*

1989. A bladder and part of the urethra. The coats of the bladder are from half to three-quarters of an inch thick, and are so indurated and consolidated together, and with the surrounding tissues, that their several parts cannot be discerned. The mucous membrane is deeply and irregu-

larly ulcerated, and covered with lymph or mucus, and calculous matter. The prostate gland is enlarged. The mucous membrane of the urethra is thickened, indurated, and roughened with deposits like those in the bladder.

These changes were the consequence of a stricture of the urethra, of thirty years' standing, which is preserved in No. 2563.

Presented by Sir Everard Home.

1990. A bladder, of which all the coats are perforated by a small ragged ulcer, just above and outside the right ureter. In other parts it appears healthy.

Hunterian.

1991. "A diseased bladder, from which was a bleeding. It has some of the coagulated blood adhering to it, and some of the loose coagula lying at the bottom of the bottle." (*Hunterian MS. Catalogue.*) The mucous membrane is nearly all removed, as if by sloughing, from the lower and posterior part of the bladder; its remains are ragged and flocculent; the exposed subjacent tissues are neither thickened nor indurated. The prostate is somewhat enlarged.

Hunterian.

1992. A bladder, with the prostate gland and part of the penis, laid open from behind. The cavity of the bladder is much contracted; its coats are thickened, and appear indurated; its internal surface is ulcerated and coarsely granular, but no trace of this condition extends into the urethra. There is an aperture with irregular margins in the anterior wall of the bladder, about two inches above the prostate, which was made for the discharge of urine three months before the patient's death.

From the Museum of Robert Liston, Esq.

1993. A layer of membrane, of saccular form, about six inches in its longer, and four inches in its shorter diameter, which was discharged from the aperture made into the bladder last described. Its form indicates that it lined the whole interior of the bladder, and was cast off from it in one piece. The outer surface is flocculent, and appears in parts distinctly

fibrous; its inner surface is granular, and reticulated, like superficially ulcerated mucous membrane. It varies in thickness from a line to one-tenth, or a smaller fraction of a line in different situations, but is moderately tough; and altogether exactly resembles the mucous membrane of a bladder, separated as a slough in one piece.

The patient was a man seventy years old, in whom, after a fall from a scaffold, retention of urine came on. The catheter was introduced frequently for about three weeks after the injury, and nothing but thick puriform matter was discharged through it. An incision being made into the bladder above the pubes, a large quantity of purulent fluid and this membrane escaped. The patient lived for three months afterwards, discharging his urine partly through the wound and partly through the urethra. He died exhausted.

From the Museum of Robert Liston, Esq.

1994. Part of a bladder, the walls of which over a great extent have been destroyed by sloughing and ulceration. In some situations the destruction has extended through the whole thickness of the walls.

From a patient who received an injury of the spinal cord.

Presented by Joseph Swan, Esq.

6. *Inflammation of the Tissues round the Bladder.*

1995. The sigmoid flexure of a colon, on a part of the external surface of which are the remains of an abscess between it and the fundus of the urinary bladder.

From a man who died three weeks after fracture of the dorsal portion of the spinal column, and whose case is described by Mr. Swan in "A Treatise on Diseases and Injuries of the Nerves," London, 1834, 8vo., p. 220. "There was a complete paralysis of all that part of the body below the fracture." "He never complained of pain either in the chest or abdomen." "Much matter had been discharged with the urine." The effects of acute peritonitis were found after death, and the abdomen contained a large quantity of serum mixed with purulent fluid.

Presented by Joseph Swan, Esq.

1996. A bladder, rectum, and prostate gland, with the adjacent parts. Between the bladder and the rectum is the cavity of a large abscess, which opened through an irregular aperture in the fundus of the bladder, and through a long, smoothly-edged aperture in the rectum, just behind and above the prostate gland. Through this latter opening, also, there was a communication with a small abscess in the substance of the prostate gland. A portion of glass, passed obliquely downwards and backwards, from the urethra through the abscess in the prostate, then across the lower part of the abscess between the rectum and bladder, and then through the opening into the rectum, indicates the relative positions of the parts. Another portion of glass is placed in a short false passage through the wall of part of the prostatic portion of the urethra; and others are placed in the ureters. The bladder is contracted, its muscular coat is thickened, its mucous membrane superficially ulcerated. The rectum, except for the opening in it, is healthy.

The patient, a man forty years old, had long had a discharge of pus and blood with his urine. A large tumour was felt between the bladder and rectum, and, being cut into from the latter, a quantity of pus was discharged. After this the urine always flowed through the rectum, and a fortnight afterwards the patient died.

Presented by Joseph Swan, Esq.

1997. Part of a pelvis and of the anterior wall of the abdomen, with the bladder and the external organs of generation. After long-continued stricture of the urethra, with numerous fistulæ in the perineum, a passage was spontaneously formed through the upper part of the anterior wall of the bladder and the corresponding part of the wall of the abdomen, through which passage the urine was for a long time discharged. The opening in the abdominal wall has the ordinary appearance of the orifice of a fistulous canal; it is situated in the middle line, about an inch and a half below the umbilicus. That in the bladder is directly beneath the urachus, which may be seen passing upwards from above the opening to the umbilicus. The whole length of the passage is about an inch; it is just such an one as usually remains in successful cases of tapping the bladder above the pubes.

Presented by Solomon Sawrey, Esq.

1998. A bladder, in which is an ulcerated aperture through the middle of the posterior wall. This aperture, which is about three-quarters of an inch in diameter, and is indicated by a portion of quill placed in it, leads downwards, outwards, and backwards into the cavity of a lumbar abscess, which was situated by the side and back of the bladder. Another quill is passed through a long canal in the indurated tissue between the bladder and rectum, with which also the abscess communicated. The communication and discharge of pus with the urine existed for the last four months of the patient's life. *From the Museum of John Howship, Esq.*

7. *Tumours in or involving the Bladder.*

7 a. *Polypi.*

1999. A lateral section of the bladder and urethra of a young girl. Numerous lobulated, warty, or cauliflower-like, polypous growths, said to be composed of adipose substance, arise from the mucous lining, and nearly fill the cavity of the bladder. The largest of these growths has a base nearly two inches in diameter; the others have narrow pedicles: two of them have grown from the neck of the bladder into the urethra, and appear to have protruded beyond its external orifice, their ends being ulcerated and flocculent. They all appear to be covered with a continuation of the mucous membrane of the bladder. The bladder is healthy and of ordinary size; the urethra is stretched, by the growths projecting into it, to nearly an inch in diameter.

The preparation is figured in Dr. Baillie's "Illustrations," fasc. vii., pl. 4, fig. 2.

Hunterian.

2000. The bladder and part of the penis of a child. There is a group of several lobulated, polypous growths from the mucous membrane of the neck of the bladder, and of the prostatic part of the urethra. Most of these have narrow pedicles, and an elongated oval form, and are about half an inch in length; but one, situated higher than the rest, is broad and flattened,

and nearly an inch in diameter. They all appear to have a firm texture, and to be covered with mucous membrane like that of the bladder. The muscular coat of the bladder is hypertrophied, but the rest of both the bladder and the urethra is healthy. The ureters are dilated.

The specimen is engraved in Mr. Crosse's Treatise on Calculus, already referred to, pl. xx., fig. 2, from which also the following history of the case is taken. The kidneys of the same patient are preserved in Nos. 1876, 1877.

" Master C—— was about a year and a half old, when I was first consulted about him, on account of frequent inclination to pass his water, attended by straining and painful efforts; he had been observed to be thus affected little more than a month, and was already shrunk by severe suffering. Medicine failing to relieve, I at length sounded the bladder, but could feel no stone. Alkalies, opiates, and the warm bath were employed; he always rested a little better on the night the bath was taken; still his symptoms increased in severity, shrinking him rapidly. He was continually wet with urine, which was passed in drops, an effort being made at various intervals, from a few minutes to half an hour. Each attempt to void the urine was accompanied by violent straining and rubbing the end of the penis with the hand. The nights were passed in the same manner as the days, except that during the former the little patient was said to scream more and strain rather less violently; unless laudanum were given him, he never got any rest until the morning, when he would occasionally sleep hurriedly for an hour or two. At almost every fit of severe straining and voiding of urine a little *faeces* were passed, but the rectum never prolapsed. About every two or three weeks I used the sound gently, and twice thought I felt a stone, but not satisfactorily; when I received this impression, it was always on passing the sound towards the left side of the bladder. No bleeding ever followed the several soundings performed by me during three months, and the urine was generally voided a little better afterwards, sometimes as much as a table-spoonful at a time. On the 28th of December I again used the sound, which was resisted by something unusual towards the left side of the bladder; for several days after this examination the urine was tinged with blood. The patient had become greatly emaciated by this time, the skin hanging flabbily about him, and the countenance presenting as expressive a picture of suffering and grief as ever I witnessed. Soon afterwards I called into consultation the most experienced surgeon on the spot, who was of opinion that he felt a stone; to me the evidence was not at all clear, and I could only state that I believed I sometimes felt a stone towards the left side of the bladder. Various ideas passed through my mind in the course of these examinations. I thought a stone might be encysted at the termination of the left ureter, as it was thereabouts I always felt the resistance; I had frequently introduced the finger into the rectum whilst sounding, without gaining any information, except that when the child screamed, and the muscular coats of the bladder contracted firmly upon its contents, it felt like a firm, tense ball, shaped like, and about twice the size of, a walnut. I believed that I could feel a prominence answering to the termination of each ureter in the bladder.

"The little boy was evidently sinking under his painful disease, and when two years old, it was agreed that an operation should be attempted for his relief; it was accordingly performed on the 10th of January. I introduced the curved staff without difficulty; the anus prolapsed from the violent straining. The same experienced surgeon who had met me before in consultation now gave his assistance, and stated again his opinion that he felt a stone; I stated I could not do so, although I introduced the sound, as well as the staff; but I felt a resisting body at the left side of the bladder, about the termination of the left ureter. I hesitated about proceeding further; after a few minutes delay, however, I determined to cut into the bladder, and re-introduced the staff for this purpose. I observed there was a great fulness of the perineum; as soon as I cut down to the staff, and opened the membranous part of the urethra, a semi-transparent substance appeared in the wound, resembling the mucus which had been passed from the rectum by the child's straining when first placed upon the table. . . . With the assistance of my left fore-finger, guided by the staff, I carried the scalpel forward fairly to the neck of the bladder, and, on withdrawing the knife, I observed that the wound became instantly filled with a mass resembling, on this sudden view, what one would have expected to see had I opened the peritoneum and allowed the processus vermiformis and several folds of the small intestines to protrude. I pushed back the protruded parts, carrying my left little finger into the bladder, where I could feel no stone, but found the cavity filled with soft tumours, with a firmer substance near the orifice of the left ureter. . . . The same parts then protruded as on the bladder being first opened, and they proved on inspection to be tumours, connected together like a cluster of grapes, some more, some less transparent, resembling in firmness, appearance, and structure the mild polypus nasi; the membrane by which they were connected with each other, and with the inner surface of the bladder, was long and loose enough to allow some of the tumours to hang externally dependent at the wound, and I have no doubt that, by the violent straining efforts of the child when first placed on the table, they had entered the urethra; this is, indeed, proved to have happened by the tumours appearing in the wound the instant I bared the staff, and it accounts for the fulness of the perineum which I noticed immediately before commencing the operation.

"The nature of these tumours being now understood, and no doubt left of their being mild polypous masses growing from the inner surface of the bladder, it became obvious that the only chance for the patient's recovery must be sought by removing them; I accordingly cut off with scissors all that were within sight. The violent straining efforts which the child had kept up constantly during the operation brought several more tumours, as big as grapes, down sufficiently low to admit of being cut off. Very little bleeding followed the excision of these tumours. Introducing now a fore-finger into the bladder, I ascertained that more of the diseased structure remained behind than had been removed; and as many of the remaining tumours were attached to the bladder by a broad basis, it was deemed advisable to make no further attempts for their removal.

"Notwithstanding a powerful opiate was administered, the child continued to have

violent fits of vesical tenesmus after the operation, and could scarcely be prevented from placing himself in his usual posture, resting upon his knees and elbows to give full effect to these exertions. At the end of four hours I placed him again on the table, to ascertain whether these efforts had caused any fresh tumours to protrude. The wound was plugged up with a coagulum, which I removed, exposing a tumour as big as a nut, and of a purple colour, from either bruise of it or constriction of its neck; this I easily brought lower down with my fingers, and with scissors cut through the narrow neck by which it was attached to the bladder. I again introduced my forefinger into the bladder, so as to examine the whole of its cavity; no more tumours descended on the finger being withdrawn. Much of the diseased structure remained, so extensively connected with the inner surface of the bladder that I could not undertake to meddle with any part of it. . . . Opium, freely given, quieted, but did not prevent fits of straining from recurring every five or ten minutes; it was only by actual restraint that the child could be prevented from placing himself on his knees and elbows, as he had been accustomed: still nothing more protruded through the wound, which looked well, and gave passage to an ample quantity of urine. The perpetual straining efforts wore out the feeble powers of the little patient in forty-four hours.

“ On inspection of the body I found the peritoneum entire, and free from inflammation; the rectum was also uninjured. The ureters were much enlarged, and contorted; the pelvis of each kidney was so increased in size, that between one and two ounces of urine could be contained in it. I opened the bladder by a central incision in front, and found its muscular coat much thickened; at its fundus, there was a convex prominence covered by peritoneum, which I cut open and found to be a firm mass of thickened cellular substance, situated external to the muscular coat, and containing a small central cavity filled with pus. The fatal disease occupied the lining membrane of the bladder, which was loosely connected with the muscular coat, and very abundant, so as to fall into folds, also thicker than usual, and having a gelatinous appearance. The cavity of the bladder was still occupied by tumours growing from the lining membrane, and situated at the inferior part near its neck. One large tumour, with a broad basis, was firmer than the rest, and placed near the termination of the left ureter; this must have been the resisting body so generally felt on sounding. Several small detached tumours, from the size of a pea to that of a bean, were loose in the bladder. Towards the neck of the bladder the tumours had a different structure, presenting a wart-like surface; but all the tumours were covered with their proper membrane, continuous with the inner coat of the bladder, which was uninjured, except in three or four spots where I had cut off the tumours with scissors.

“ The neck of the bladder and prostatic portion of the urethra were much dilated, and the narrow basis, by which the tumours about the neck of the bladder hung, was sufficiently loose to allow them to descend into the prostatic and membranous parts of the urethra, which, no doubt, happened during life, causing the fulness of perineum, and accounting for the foremost of the tumours prolapsing through the wound as soon as I opened the urethra behind the bulb. The disease was strictly seated in the lining membrane of the bladder, none of which was in a healthy condition, being loose,

gelatinous, and thickened, in all parts where polypous tumours did not arise, from the termination of the ureters to the fundus."

Presented by J. G. Crosse, Esq.

2001. A vertical, antero-posterior section of a bladder, prostate gland, and other adjacent parts. A small growth of soft substance, bearing much general resemblance to those in the two preceding specimens, is attached by a narrow pedicle to the neck of the bladder immediately above the orifice of the urethra, over which it must have been forced whenever urine was expelled. Two small calculi are attached to the summit of the growth, apparently accumulated by incrustation. At the termination of the right ureter, a sac, an inch in diameter, is formed by the protrusion of the mucous membrane of the bladder. The muscular coat of the bladder is hypertrophied, but in other respects both it and the adjacent organs are healthy.

A kidney from the same patient is preserved in No. 1909.

Presented by Dr. Willis.

7 b. *Cancer of the Bladder.*

2002. A female bladder, the cavity of which is nearly filled with a medullary tumour, growing apparently with a broad base from the greater part of the surface of the mucous membrane. The tumour is nearly spherical, and about five inches in diameter. Its surface is smooth and slightly knobbed; a section of its posterior part shows that its interior is soft, spongy, and traversed by wavy, filamentous partitions, as if composed of many lobes. The walls of the bladder are thickened, and the surface of the mucous membrane is rough and flocculent. The vagina and uterus are flattened by the pressure of the tumour.

From the Museum of John Howship, Esq.

2003. A bladder, nearly the whole cavity of which is filled with a firm medullary tumour, like that last described, of a spheroidal shape, between four and

five inches in diameter, cracked and slightly knobbed on its exposed surface. The muscular coat of the bladder is thickened; the part of the mucous membrane which is not covered by the tumour appears healthy.

From an old man, in whom signs of the growth of the tumour had long existed.

A very hard tumour formed in the situation of the deep inguinal glands some weeks before death.

Presented by L. Foakes, Esq.

2004. A similar specimen. The tumour, which arises from the posterior wall of the bladder, appears to have been very vascular, and its anterior and lower part is soft and broken.

The patient, a powerful and apparently healthy man, fifty-nine years old, had signs of disease of the urinary organs for about six months, and had been repeatedly sounded in the suspicion that he had stone, when, three days before his death, he was admitted into St. Thomas's Hospital with supposed retention of urine. The catheter evacuated a fluid like a mixture of blood and mucus; its introduction produced extreme pain and no relief. His urine constantly dribbled from the urethra, and he suffered extremely with pain in and around his bladder.

Presented by Benjamin Travers, Jun., Esq.

2005. A bladder, with the prostate gland, and other adjacent parts. The posterior wall of the bladder has been removed to show two vascular, tufted, shreddy, and flocculent growths from the mucous membrane near the orifice of the right ureter, and one of much smaller size from the membrane an inch above the prostate. The larger growths are close together; they are of a spheroidal form, about three-quarters of an inch in diameter, and attached by narrow bases; the branching filaments and tufts of which they are chiefly composed, and which when recent were of a bright red colour, float free within the cavity of the bladder. Among the filaments some small portions of a soft, probably medullary, substance are here and there entangled. The rest of the mucous membrane is healthy; the muscular coat is a little hypertrophied; the prostate gland is healthy.

The patient was a painter, sixty-five years old, who had for sixteen years had lead-palsy. About five months before his death he had a constant desire to evacuate his bladder; he used to do so every half hour, and what was discharged had the appearance

of fluid blood, and on being left at rest coagulated in one mass. This attack lasted a month, and then passed off. He had before had several similar, but much slighter, affections of the same kind. About a fortnight before his death the same symptoms were renewed, and he died exhausted by the loss of blood and the increase of his paralytic affection.

The case is related and the preparation is engraved in Sir Everard Home's "Practical Observations on the Prostate Gland," London, 1818, vol. ii., p. 49; and pl. x., p. 301.

Presented by Sir Everard Home.

2006. A bladder and prostate gland, with two soft, spongy, and flocculent growths from the mucous membrane near the orifices of the ureters. They exactly resemble those last described, except in that a larger portion of them is composed of solid medullary substance, so that their surfaces alone have the tufted, flocculent character, and in the rest of their extent they more resemble the large and solid medullary tumours of the bladder already described.

"An Excrescent or Fungated Sore in the Bladder."

"About sixteen years ago a small quantity of blood came by the urethra; but that went off, and no more attention was paid to it. About six or seven years ago, as he was going a pretty quick journey from Italy to Paris, the bleeding returned, but more severe than the first, and lasted longer, but it went off as before.

"About three years ago he was attacked with the same complaint, but only in a small degree, with a tickling pain in the perineum. He took bark, steel, was cupped on the part, and leeches applied. The complaint went off as before, but it returned more and more frequent, although not with such violence. The pain, or uneasy sensation, would often appear to be in the anus.

"About two years ago these fits were often attended with straining frequently to make water, and mucus floating in the water when newly made; but these symptoms, like the former, would disappear. But they generally returned now with more violence, till at last they became very frequent and violent, and between the fits the complaint did not entirely disappear.

"About a year ago, at Bristol, he was taken with a violent bleeding from the urethra. A continual tickling pain was felt in perineo, often in the anus, sometimes in the glans penis, and frequent inclination to make water, attended with violent strainings, mucus floating in the water mixed with streaks of blood, and sometimes considerable bleedings with strong concretions mixed with the mucus, and at times attended with feverish complaints.

"From the blood's sometimes coming away at the last contraction of the bladder, in clear drops, with the tickling in the perineum, made me suspect that the disease was in the urethra, somewhere near the beginning. From all the symptoms taken together,

many suspected it to be the stone (although he never had the least complaint in his back, nor ever any sickness at stomach); therefore he was searched several times, but no stone was felt. But I was clear that the small concretions were formed in the bladder occasionally, and were only an effect of some other disease—not a cause; mucus in the bladder acting as an extraneous body, which destroys the power of suspension in the urine. Balsams, such as the tolu, copaiba, terebinth, chio, &c., were given, but to no effect. Bark, steel, &c., as well as tar and lime-water, proved all ineffectual.

“What was very singular, his being almost perfectly well at times; which made me suspect it arose entirely from irritation in those parts, not from a diseased state of them; as I could hardly suppose that any part so diseased as to produce such violent symptoms could get well in such short time, or, if it did not get well for the time, that it could be so easy as it was at times.

“In a fit of despair he put himself under Dominicetti, who, according to his usual method, steeped him twice, stoved him twice, and fumigated the perineum twice every day for three months, but was still liable to the same relapses. At last, one of these fits of irritation and fever carried him off.

“Some days before he died he was attacked with an hiccough, which was often attended with a throwing up every thing in the stomach, both of which proved very troublesome. Whilst in this last stage, the irritation went off entirely, and he retained his water, which was become very high coloured from the blood.

“Simple life seemed to decay fastest; for while he seemed sinking, and all the animal functions almost at an end, yet sensibility of body and clearness of mind still subsisted.”—*Hunterian MS. Cases in Surgery*, p. 129.

“*Dissection of the Rev. Mr. Vivian.*”

“On opening the body, the original disease seemed to be spongy bodies arising from the inner coat of the bladder, projecting into that cavity. These had a good deal the appearance of piles, and were almost the bigness of a small walnut each, with ragged surfaces; the coats of the bladder were thickened in the muscular coat, but not diseased, and some parts of the inner coat were hardened, exactly as if lunar caustic had been applied to it. The other parts were redder than common. The ureters were thickened very much in their coats, and bloody on their inner surfaces. The left kidney was become more irregular in its external figure than common. The capsula, or coat, more easily separated than in a sound state. The substance softer, yet tougher, than common, and in many places white. The pelvis had a slimy matter in it, such as often came away by the urine. The right kidney, to external appearance, was very large; but, on cutting into it, was found a good deal of grumous blood between its coat and substance, which had dilated the coat and compressed the kidney.

“This case shows how much we were mistaken. Some would have it to be the stone. I did not suppose it at all in the bladder, but in the beginning of the urethra, because often a drop or two of pure blood came away in straining; but the only way of accounting for this is, that those two bodies might be often almost squeezed into the urethra, and then the bleeding from them would be immediately squeezed into the

urethra. It shows that any dead part in the bladder is capable of decomposing the urine, and thereby form stony concretions, and that this gravel was an effect. It shows that a disease in the bladder is capable of producing a disease in the urethra, and also in the kidneys themselves.

“What was the disease? Was it cancerous? or was it of the pile kind? I should suppose the last; if so, why not try if sulphur will do as much in this place, as near the anus or about the verge of it.”—*Hunterian MS. Dissections of Morbid Bodies*, No. 158, p. 260.

2007. Part of a bladder, on the posterior and lower wall of which there is an extensive growth of, apparently, medullary substance. Part of this growth, covering the surface of the bladder in a circular area about three inches in diameter, is scarcely elevated above the level of the surrounding membrane; its exposed surface is cracked, sponge-like, and covered with fine, short, close-set shreds and flocculi. Near the neck of the bladder are two soft and partly flocculent tumours, resembling those last described, attached by narrow bases, and projecting like tufts into the cavity. The rest of the mucous membrane, and the muscular coat, of the bladder are thickened.

Presented by Sir Everard Home.

2008. A bladder, of which the mucous membrane, at the neck and for a considerable extent above and around it, is covered by a flat cancerous growth. The borders of this growth are deeply sinuous and elevated; in one situation it appears ulcerated; elsewhere its surface is nearly smooth, but fissured: its texture is soft and spongy. In other respects the bladder and the adjacent parts are healthy.

Presented by Sir William Blizard.

2009. Section of a bladder, prostate, and part of the urethra. The mucous membrane of the bladder is thickened, ulcerated, and over a large extent beset with irregular “fungous” growths, the free surfaces of which are covered with calculous matter. The muscular coat is thickened, and all the tissues appear condensed and indurated.

Presented by William Norris, Esq.

7 c. *Tubercle in the Bladder.*

2010. A bladder, prostate, and part of a penis, together with the left kidney and ureter. In the lower two-thirds of the kidney a great part of its substance has been destroyed by ulceration, in consequence of tuberculous disease, which has left several large cavities, lined with thick and coarsely granular false membrane. The interior of the pelvis and calyces is similarly ulcerated. In the upper third of the kidney are numerous small deposits of tuberculous matter, many of which are softened. The ureter is enlarged, but not elongated: its coats are nearly two lines thick, and its mucous membrane is ulcerated and granular. The mucous membrane of the bladder is extensively ulcerated. Around its lower third is one continuous ulcerated surface, exposing the muscular tissue. Above this are several superficial circular or oval ulcers, from half to three-quarters of an inch in diameter, which have only partially coalesced with the more diffuse ulceration. These ulcers have in some places exposed the muscular coat; in others they have penetrated deeper; in others there appear small portions of tuberculous matter imbedded in their surface. Near these ulcers there are a few others, very small and superficial. That part of the mucous membrane which is not ulcerated, and the muscular coat of the bladder, are healthy. Nearly the whole of the prostate has been destroyed by ulceration, and there are also tuberculous deposits and ulcers in the membranous part of the urethra.

Presented by R. A. Stafford, Esq.

8. *Bladders containing Calculi.*

2011. A bladder, with the prostate gland. The muscular coat of the bladder is thickened, and its fasciculi project within the cavity; but in other respects both it and the prostate are healthy. It contains an oval tuber-

culated calculus, measuring an inch in length, and half an inch in thickness. *From the Museum of Robert Liston, Esq.*

2012. A bladder, in which there rested, in a shallow depression above and behind the prostate gland, a large rough calculus, of an oval form, and measuring in its several diameters about an inch and three-quarters, an inch and a half, and an inch. The mucous membrane is thickened, indurated, and superficially ulcerated; it has also the appearance of having been very vascular. The muscular and cellular coats are thickened and indurated; and the peritoneum and other tissues around the bladder appear condensed and unnaturally adherent. The ureters are dilated and thickened; the bladder and prostate are of ordinary size.

From a man who committed suicide after long and unalleviated suffering from the stone, the presence of which had never been detected, though he was repeatedly sounded.

Presented by William Norris, Esq.

2013. A bladder, prostate gland, and adjacent parts. The bladder contains a very large rough calculus, which is lodged in a deep hollow, situated directly above and behind the prostate gland, and involving apparently some part of the prostatic portion of the urethra. The cavity of the bladder is contracted; its coats are thickened and indurated; its mucous membrane is especially thick, hard, rough, and granular, with thin deposits of calculous matter adhering to its projecting parts. The prostate is enlarged. *From the Museum of Robert Liston, Esq.*

2014. A section, giving a side view, of a bladder and prostate gland. The bladder contains two flat and smooth oval calculi, each measuring in their several diameters about two inches and a half, one inch and a half, and three-quarters of an inch. They rest in a large and deep hollow behind the prostate gland. The bladder is moderately distended. The muscular tissue is a little hypertrophied; the mucous membrane is slightly thickened, and, at the upper part of the bladder, is pushed out in several small sacculi. The prostate is enlarged, especially in that part which is in front of and

above the urethra, and which is nearly an inch deep, while that below the urethra does not measure more than half an inch. The prostatic part of the urethra is dilated, and presents an opening at its side which appears to communicate with a cavity within the gland.

From the Museum of Robert Liston, Esq.

2015. A bladder, containing a large calculus. The bladder is enlarged and remarkably elongated; its mucous membrane is ulcerated and shreddy; and the hypertrophied muscular fasciculi stand out in prominent ridges upon its surface, forming a kind of coarse network, through some of the meshes of which sacculi of the other coats had begun to form. The prostate gland is enlarged to nearly three times its natural size. The calculus appears to have been held above it in the elongated and contracted bladder.

Hunterian.

2016. A bladder, prostate gland, &c. The bladder has an elongated, cylindrical form, and appears composed of two cavities separated by a slight constriction at its middle. The uppermost of these cavities, which is above the orifices of the ureters, was filled by a large calculus. The muscular coat is hypertrophied, and the mucous membrane somewhat sacculated. The prostate gland is enlarged, especially in its anterior and upper part.

Presented by Sir Everard Home.

2017. A bladder and prostate gland. The bladder contains a large calculus, covered with phosphatic deposits. The muscular and mucous coats are thickened, and the latter is deeply corrugated and depressed in small pouches between the projecting fasciculi of the former. The prostate is much enlarged, especially in its lateral lobes, which project upwards into the bladder, and are connected posteriorly by a broad deep ridge. Behind and above the prostate, close to the right ureter, the cavity of a large abscess opens into the cavity of the bladder, and is exposed from behind. It appears to have been formed in the cellular tissue external to the bladder, between it and the rectum. The ureters are dilated.

The patient, a man sixty-four years old, had long had symptoms of stone, for which muriate of lime was given. He died of acute peritonitis.

From the Museum of Robert Liston, Esq.

2018. A cast from the dilated ureter, pelvis, and calyces of the patient whose case was last mentioned. The pelvis is three inches in width.

From the same Museum.

2019. Part of a bladder, with the prostate gland, &c. There are several small saccular extrusions of the mucous membrane, of which two contain calculi that exactly fill them without projecting into the bladder. The texture of the mucous and muscular coats of the bladder is healthy.

From the Museum of John Heaviside, Esq.

2020. A bladder, at the posterior part of which there are two sacculi, formed by partial dilatation of all the coats, and each containing a rough irregularly shaped calculus. The orifices by which the sacculi communicate with the cavity of the bladder are contracted. They are filled by portions of the calculi projecting into the bladder, but these are much smaller than the portions of the calculi which lie in the expanded parts of the sacculi; so that it would not be possible to pull the calculi into the bladder without either breaking them or tearing the orifices of the sacculi. The muscular coat of the bladder is half an inch thick; its cavity is contracted to an inch and a half in diameter; its mucous membrane is indurated and thickened; and the prostate gland is slightly enlarged. *Hunterian.*

2021. A bladder and prostate gland, with several calculi. The bladder is contracted; its coats are thickened and indurated. The mucous membrane is in parts superficially ulcerated and granular; and is protruded in many small sacculi between the bundles of muscular fibres. Some of these sacculi contain small white calculi, tightly imbedded in them; and loose in the bottle are several fragments of calculus, and one of larger size, from which portions of the outer layers have been broken off, appa-

rently after spontaneous separation within the bladder. The prostate gland is greatly enlarged.

The patient was eighty years old, and had long had signs of stone.

From the Museum of Robert Liston, Esq.

2022. A bladder, with the prostate gland, a portion of the penis, and other adjacent parts. The cavity of the bladder, which has been exposed by the removal of part of the posterior wall, is contracted and nearly filled by a large calculus, the external layers of which have split into numerous fragments. Some of these fragments lie loose in the bladder, some at the bottom of the bottle; some are lodged in sacculi of the bladder, and some impacted in the urethra. The walls of the bladder are thickened, and appear indurated; the prostate gland and vesiculæ seminales are enlarged.

The patient was about eighty years old. The separation of the calculus into its layers was spontaneous. The case is further detailed in Mr. Liston's "Elements of Surgery," p. 633, ed. 2.

From the Museum of Robert Liston, Esq.

2023. Section of a bladder and prostate gland. The coats of the bladder are thickened and hardened, and the several tissues composing them are confused. The mucous membrane is in several places pushed out between the muscular fasciculi, forming small sacs, in some of which calculi are tightly impacted. Some of these sacs, also, into which portions of whale-bone have been passed, are laid open from the exterior of the bladder, and display their lining of mucous membrane slightly ulcerated. The prostate is enlarged. Its middle lobe projects into the bladder; and its surface is ulcerated, and in some parts covered with calculous deposits. There is also a slight projection of the right lobe of the prostate into the urethra, making the canal tortuous. The ureter is dilated.

From the Museum of John Howship, Esq.

2024. A bladder, with the prostate gland, and other adjacent parts. The bladder is distended; its mucous membrane, thickened, granular, and superficially ulcerated, is beset with a vast number of small angular and

irregularly shaped white calculi, which are fixed in little depressions of its surface. They are most closely set at the lower and back part of the bladder, where many of them are also fixed to one another in a continuous incrustation by intermediate deposits of calculous matter. Several similar calculi adhere to the mucous membrane of the prostatic portion of the urethra, and many more, which are now scattered about, lay loose in the cavity of the bladder. The prostate gland is enlarged. There is a large quantity of adipose tissue around the bladder.

From an old man, who had signs of stone for a long time before his death.

From the Museum of Robert Liston, Esq.

2025. A bladder and prostate gland, together with the ureters and kidneys. The upper third of the bladder is deeply fasciculated, and appears contracted; it is separated by a broad and prominent muscular fasciculus from the lower two-thirds, the walls of which are dilated and not at all fasciculated. The lining membrane of the lower two-thirds is generally ulcerated, and is covered with a layer of lymph or tough mucus, in which numerous small white angular calculi are imbedded, and in some places form a continuous incrustation. In the upper third there are several small calculi in the pits between the projecting fasciculi of the muscular coat, but the mucous membrane appears healthy. The prostate gland is enlarged, and the lining membrane of the urethra within it is ulcerated and incrustated with calculous matter. The ureters, pelves, and calyces are enlarged. Much of the substance of the kidneys has disappeared, but what remains is healthy. *Hunterian.*

2026. A bladder, the cavity of which is very much contracted and nearly filled with calculi. One of these, of an oval form, and an inch and a half in its chief diameter, occupies almost all the neck of the bladder, and, with others of smaller size, appears to have blocked up the vesical orifice of the urethra. The muscular coat of the bladder is more than half an inch thick; the mucous membrane is thickened and deeply corrugated.

From the Museum of John Taunton, Esq.

2027. A bladder and penis, laid open from the posterior and lower part. The bladder contains two calculi of irregular shapes and very rough, and there are several calculi of the same kind, but smaller, in the prostatic and membranous parts of the urethra, both of which are dilated and ulcerated. The mucous membrane of the bladder is thickened; the muscular coat is, in a slight degree, hypertrophied. *Presented by Sir Everard Home.*

2028. A bladder and prostate gland. The bladder is dilated, and its coats are thin; its mucous membrane is superficially ulcerated in nearly every part, and rather deeply ulcerated at the neck and above the prostate, where there is a hollow, in which a rough calculus, more than an inch in diameter, is lying. The prostatic part of the urethra is dilated, and its surface is very uneven, as if a calculus had lain in it, or it had been the seat of abscess. Just behind the verumontanum a thin band of membrane extends across the urethra.

From the Museum of Robert Liston, Esq.

2029. A bladder, with a portion of the urethra and the adjacent parts, laid open from behind. The bladder is closely contracted around a large, rough, oval, and flat calculus, about an inch and a half in diameter: its walls are thickened, and its muscular coat much hypertrophied. A portion of purple glass is passed through the prostatic part of the urethra into the bladder, and marks also the situation at which this part of the urethra communicates with a large smoothly walled cavity just above the prostate, between the posterior and inferior wall of the bladder and the vesiculæ seminales. This cavity is laid open by an incision from behind between the vesiculæ seminales, and it communicates with the urethra alone; it appears by its pressure to have pushed the bladder upwards and forwards. The ureters are dilated, but the other adjacent parts appear healthy.

The patient was a labourer, fifty-five years old. He was admitted into St. George's Hospital with great pain in the loins and across the pubes, inability to retain his urine, but constant desire to pass more, and pain in attempting to do so, and other general signs of calculus. These symptoms had commenced seven years previously, and had

gradually grown worse. No stone could be detected in repeated examinations both with the sound and through the rectum. At length, the urine became purulent, and the patient was slowly exhausted.

Extensive suppuration of both kidneys was found. It is uncertain how the cavity behind the bladder and prostate was formed; but it is most probable that it was an abscess-cavity, and that in sounding for the stone the instrument had passed into it. There is, moreover, little doubt that this cavity, displacing the bladder, had prevented the stone from being felt through the rectum.

From the Museum of R. B. Walker, Esq.

2030. The urinary organs of a man fifty years old. The ureters, pelves, and calyces are dilated, especially on the left side, on which a part of the ureter is nearly an inch in diameter, and a great portion of the glandular substance of the kidney has been removed. A calculus is lodged in one of the dilated calyces of the left kidney; the right kidney is nearly healthy. The muscular coat of the bladder is hypertrophied. Its mucous membrane is thickened, and just above the orifices of the ureters there is a small deep cavity in which a calculus had long rested. The left ureter opens at the summit of a papilla-like eminence of mucous membrane half an inch high. The prostate gland and urethra are healthy.

The patient had a stone removed from the urethra five years before death, but always afterwards suffered extreme pain in the urinary organs, and incontinence of urine.

From the Museum of John Taunton, Esq.

9. *Bladders after the operations of Lithotomy and Lithotrity.*

2031. The bladder of a boy fourteen years old, who died soon after being cut for the stone. It is so contracted that its cavity is not more than an inch in diameter; its muscular coat is half an inch thick, and very strong; its mucous membrane is thickened. At the summit of the bladder there is a small papilla-like eminence of mucous membrane projecting downwards: it is indicated by a bristle; its nature is uncertain. The lateral section of the prostate is well shown; it is directed almost straight outwards.

Hunterian.

2032. The bladder, uterus, and rectum of a girl four years old, who was cut for stone shortly before death. Part of a large incision is shown extending through the neck, and into the adjacent left wall, of the bladder. The mucous membrane of the bladder is thickened and corrugated, and its internal surface is covered with a thin layer of lymph; the muscular coat, also, is much thickened. A considerable portion of the rectum is protruded. The kidney of the same child is preserved in No. 1940.

Hunterian.

2033. A bladder and prostate gland. The bladder is contracted, and all its coats are thickened. The prostate is enlarged to twice its ordinary bulk, the increase being equal in all its parts. A portion of wood is placed in the track of the wound made in the left side and lower part of the gland in the operation of lithotomy.

The patient, seventy years old, had long had signs of stone in the bladder, and for some time frequent retention of urine. He died twenty-two hours after the operation.

From the Museum of Robert Liston, Esq.

2034. The lower part of a bladder, from a man who was cut for stone shortly before death. The bladder is laid open from behind, and bristles are passed through the vasa deferentia. There is extensive and deep ulceration around the neck of the bladder and the other parts implicated in the operation.

Hunterian.

2035. A bladder, with the prostate gland and other adjacent parts. The coats of the bladder are thickened. The prostate gland is slightly enlarged, the verumontanum unusually prominent. A portion of whalebone is passed through a canal, about a line in diameter, which traverses the posterior and lower part of the prostate gland and the immediately adjacent part of the bladder. This passage was left after the healing of all the rest of the wound made in an operation for stone.

From the Museum of Robert Liston, Esq.

2036. A bladder, prostate gland, and part of the penis of an elderly gentleman,

who was cut for stone three weeks before death. Two calculi were removed, and a third of small size remains in the bladder. The walls of the bladder are increased to more than half an inch in thickness, chiefly by the hypertrophy of the muscular coat. The mucous membrane is deeply corrugated, but in other respects healthy. The prostate is enlarged to nearly three times its natural size. A portion of whalebone is placed in a narrow canal through the wall of the membranous part of the urethra remaining from the wound made in the operation; and an irregularity of the left side of the section made after death through the prostate gland, probably indicates the changes consequent in the wound through its substance.

Presented by Sir William Blizard.

2037. A bladder and penis, laid open from the left side, and part of a perineum. The urethra is of its natural size, but two fistulous passages (indicated by bristles) lead from it to the perineum. One of these commences directly in front of the prostate gland, beneath which it passes for an inch backwards; the other, beginning at the bulb of the urethra, communicates at once with a large smooth-walled cavity, which has a long oval opening in the perineum. There is a large and partially ulcerated protrusion of the wall of the bladder close by the right ureter, as if a calculus had lain there. It is probable that lithotomy was performed some time before death, and that the wound of the urethra only partially healed.

Hunterian.

2038. A bladder and prostate gland. The mucous membrane of the bladder is thickened, but in other respects that organ is healthy in texture. Its neck and the prostatic portion of the urethra are remarkably dilated; the latter is half an inch in diameter, and at its sides are two deep pits or grooves left after the wounds made in two operations of lithotomy.

The patient was a man fifty-eight years old. He had signs of disease of the kidneys for twenty years, and of stone in the bladder for a long time. He died two years after the second operation, and his kidneys were found atrophied and in part ulcerated, and many of the calyces contained calculi.

From the Museum of Robert Liston, Esq.

2039. A bladder and prostate gland. The bladder is laid open by a vertical section a little to the left of the middle line; portions of glass are placed in the ureters. The bladder is small; its muscular coat is thickened; and its mucous membrane is thick and flocculent. A large oval calculus, formed chiefly of the phosphates, and measuring nearly two inches and an inch in its two chief diameters, is tightly fixed in the prostatic portion of the urethra, and in the substance of the gland, which, as well as the neck of the bladder, is ulcerated around it. That part of the calculus which projects beyond the prostate, and which appears as if a portion had been broken from it, lay in the track of a wound left after an operation of lithotomy.

The patient was cut for stone when he was fifty years old; the wound did not heal; and two years afterwards he died with all the signs of a stone being still in the bladder.

From the Museum of Robert Liston, Esq.

2040. Section of a bladder, with the prostate gland, and part of the penis. In the bladder, just behind the prostate, there is a flat oval calculus, about an inch in length, from which the fragment lying near it was broken off with the percuter before the patient's death. The coats of the bladder appear to be healthy. The prostate is enlarged.

The patient died with an affection of the liver.

From the Museum of Robert Liston, Esq.

10. *Bladders Tapped for Retention of Urine.*

2041. A bladder, with part of a penis, the symphysis pubis, and a portion of the abdominal walls. A piece of glass is passed through a canal of dense tissue, extending from the integuments to the middle and lower part of the anterior wall of the bladder, which canal was made three years before death to relieve retention of urine. Both the orifices of the passage are nearly healed, and the tissue around them appears healthy. The muscular coat of the bladder is thickened but flaccid. The cause of the retention of the urine is shown in a very narrow stricture in front of the membranous part of the urethra, through which a bristle is passed. The

membranous and prostatic portions of the urethra, also, appear to have been ulcerated.

The patient was forty-six years old, and had the stricture for many years before the retention of urine occurred. After the bladder was tapped many attempts were made to cure the stricture, but unsuccessfully. The patient at last became melancholy, and hanged himself.

From the Museum of George Langstaff, Esq.

2042. A bladder and penis, with a portion of the abdominal walls, and other adjacent parts. The bladder and urethra are exposed by the removal of parts of their left walls. Many years before death the bladder was punctured above the pubes, to relieve retention of urine, the consequence of stricture. The fistulous passage through which the urine afterwards passed is marked by a bristle placed in it. It is a quarter of an inch in diameter, and has a smooth internal membrane continuous with that of the bladder; it extends from the fundus of the bladder straight upwards and forwards through the abdominal walls. The tissues around it are condensed; the layer of peritoneum passing from the wall of the abdomen to the fundus of the bladder is close above it, and a portion of omentum is adherent near its orifice. The bladder is small; its muscular coat is thick, but pale and weak. A sacculus of mucous membrane, an inch in diameter, is protruded from the posterior wall; and one of smaller size from the right side of the anterior wall of the bladder; bristles are placed in the orifices of both of them. There is a very narrow stricture of the membranous part of the urethra, through which a bristle is passed. The enlarged orifices of several urethral lacunæ are similarly marked.

From the Museum of R. B. Walker, Esq.

2043. A bladder, prostate gland, and part of the penis, with the symphysis pubis, and a portion of the abdominal walls. The bladder was punctured above the pubes nearly four years before death, for retention of urine. The track of the passage thus made from the linea alba to the middle of the anterior wall of the bladder is partially laid open from the left side; it is about four inches long, and its orifices and interior are smooth. The bladder and the greater part of the urethra are laid open from behind. The cavity of the bladder is contracted; the muscular coat is hypertro-

phied; the mucous membrane is corrugated and granular. The ureters are greatly dilated. The prostate gland is enlarged to nearly three times its ordinary size, and its texture is very compact; at the posterior and middle part it projects over the vesical orifice of the urethra. What is preserved of the urethra is healthy.

The patient was a gentleman seventy years old. For sixteen months he suffered with gradually increasing symptoms of enlargement of the prostate, and blood was occasionally passed with his urine. He was for a time relieved by local bleeding and medicines; but at length the difficulty of passing water increased till absolute retention ensued, and it was found necessary to puncture the bladder. After the operation the patient went on well, and kept a canula in his bladder for nearly six months, having returned in health to his business. With some difficulty an instrument was now passed through the urethra into the bladder (the only hindrance being the enlargement of the prostate), and the canula was withdrawn. The bladder, however, had lost its power, and for three years it was necessary to introduce the catheter twice a-day. At the end of this time he was attacked with pain in the kidneys, and signs of stone in the bladder; the aperture made by the trochar, which had been long closed, re-opened, and discharged urine mixed with pus; and at length the patient died exhausted.

After death one large and several small calculi, together with calculous matter mixed with mucus, were found in the bladder, and the ureters and pelves of the kidneys were full of pus.

From the Museum of George Langstaff, Esq.

2044. A bladder, with parts of the penis and rectum. There is a short but close stricture in the membranous part of the urethra, through which a portion of whalebone is passed. This produced retention of urine, for the relief of which the bladder was punctured from the rectum long before death. The canal thus made, which passes through the right vesicula seminalis, remains, but its orifices are not more than half a line in diameter; a portion of whalebone is placed in it. All the tissues adjacent to the opening in the bladder and rectum are healthy. The muscular coat of the bladder is somewhat hypertrophied, but in other respects that organ is healthy. The prostate gland is enlarged.

Presented by Sir Everard Home.

2045. A bladder, with a portion of the rectum. A quill is passed through an aperture of its own size leading from the bladder to the rectum, which it is probable was made with a trochar for the removal of the urine. The

mucous membrane of the rectum is healthy; that of the bladder is sacculated, and in some situations slightly ulcerated. The prostate is enlarged to nearly double its ordinary size. The ureters are dilated and thickened.

Specimens of Diseases of the Bladder in other parts of the Museum :—

Hypertrophy, 1, 2476, 2477, 2480, 2489, and others among the diseases of the Prostate and Urethra.

Wounds and other Injuries, 489, 490.

General or Partial Dilatation, 2476, 2478, 2481, 2512, and others in the series above referred to.

Thickening and Induration, 2482, 2499, 2501, 2504, 2509, 2517, 2546, 2574.

Ulceration, 2500, 2505, 2507, 2515, 2516, 2518, 2540, 2544, 2545, 2557, 2573.

Sloughing, 2539.

Polypus? 2560.

Cancerous Growths and Ulcers, 265, 1269, 1270, 1273, 1274.

Compression by Tumours, 1134.

Calculi, 2479, 2521, 2524, 2525, 2526.

SERIES XLI.—INJURIES AND DISEASES OF THE BRAIN.

1. *Injuries by Violence.*

2046. Portion of cerebrum, exhibiting rupture and ecchymosis of portions of its surface from concussion. The pia mater is torn more widely than the cerebral substance is. *From the Museum of Sir A. P. Cooper.*

2047. Portion of brain and dura mater, which were wounded by small fragments of the skull driven in by a pistol-ball. Some portions of the bone are still sticking in the brain, which is ulcerated around them. The dura mater around the wound is thickened and covered with lymph.

Presented by Sir Everard Home.

2048. Another portion of the same brain and dura mater, showing the effects of similar injuries, and a circle of granulations from the dura mater, which probably projected into a hole made with the trephine.

Presented by Sir Everard Home.

2049. A portion of the skull of the same patient. At the very edge of the wounded part, a spiculum of bone which was driven into the brain has firmly re-united, but in such a manner that it projects nearly half an inch downwards from the inner table. The adjacent part of the skull has new bone deposited on its inner surface.

The wound was received in a duel in India. The patient was sent to England, and the trepan was applied, but without any advantage.

Presented by Sir Everard Home.

2. *Effusion of Blood in the Brain: Apoplexy.*

2050. Part of the left hemisphere of a cerebrum, in the middle of which is a large apoplectic clot. There is an irregular aperture in the surface of the left corpus striatum, through which part of the blood was effused into the cavity of the ventricle. The substance of the brain around the clot is deeply discoloured with blood effused in small points and infiltrated into it, and so is the surface of the corpus striatum adjacent to the rupture through it.

From the Museum of John Howship, Esq.

2051. The upper part of the right hemisphere of a brain, in the substance of which there was an extensive effusion of blood. The blood, also, burst through the surface of the brain and its investing membranes, and a large quantity was collected in the arachnoid sac.

From the Museum of George Langstaff, Esq.

2052. Part of the clot of blood from the preceding case of apoplexy.

From the same Museum.

2053. The base of a brain, with the lateral ventricles exposed from above. Both the ventricles were distended with blood, which flowed into them through a rupture of the left middle cerebral artery, just below the left corpus striatum; portions of the coagula remain. The substance of the left corpus striatum, through which the blood passed, and all the adjacent

part of the brain, appear to have been extensively lacerated by the effusion of blood. A distinct small effusion in the posterior lobe of the right hemisphere is exposed on the lateral surface of the specimen.

The patient was an Irish maid-servant, twenty-five years old. She had usually good health, but was low-spirited, and subject to headaches. A week before she died, having appeared confused and unwell on all the previous day, she was heard to fall suddenly, and was directly afterwards found senseless on the floor. Next day she was bled. In the evening she was completely paralysed on the right side, and had imperfect power over the left extremities. She spoke once in answer to a question, but with this exception she appeared wholly insensible to what was said to her. She sometimes moaned as if in pain, and had occasional very slight convulsions. She was able to swallow fluids; but the fæces and urine were passed unconsciously. In this state she lived seven days from the first seizure.

At the examination after death the blood-vessels in the pia mater were found very full, and there were small effusions of blood in its tissue. The blood filled, not the lateral ventricles alone, but the third and fourth ventricles also.

From the Museum of John Howship, Esq.

2054. Portion of a brain, exhibiting an extensive effusion of blood in the right optic thalamus and corpus striatum. The surface of the optic thalamus is torn, and part of the blood which was effused from it into the right lateral ventricle hangs loosely attached to it.

From a woman seventy years old. She lived some days after the apoplectic seizure, but was completely paralytic on the left side, and had a remarkable squinting and protrusion of both eyes, with contraction of the pupils and intolerance of light.

Blood was effused on the surface of the cerebral hemispheres, and the ventricles were full of blood and bloody serum. The arteries at the base of the brain were diseased.

From the Museum of George Langstaff, Esq.

2055. Part of a brain, showing the left corpus striatum extensively lacerated by an effusion of blood into its substance and through its surface.

From the Museum of George Langstaff, Esq.

2056. Part of a brain, exhibiting large clots of blood in one of the lateral ventricles, effused, apparently, in consequence of rupture of the surface of the optic thalamus or corpus striatum.

From the Museum of Sir A. P. Cooper.

2057. Parts of a cerebellum and medulla oblongata, exhibiting a clot of blood in the cavity of the fourth ventricle.

From the Museum of Sir A. P. Cooper.

2058. A firm coagulum of blood, which was effused into the cavities of the third and fourth ventricles of the brain. *Hunterian.*

3. *Conditions of the Brain in Fever.*

2059. Portion of brain, the vessels of which are minutely injected with size and vermilion. Its vascularity appears to be increased.

From a young woman who died on the fifth day of typhus fever. She was furiously delirious, and had been bled freely.

From the Museum of George Langstaff, Esq.

2060. Another portion of the same brain. *From the same Museum.*

4. *Suppuration in the Brain.*

2061. Portion of cerebrum, the substance of which, in consequence probably of an injury of the head, is deeply and irregularly ulcerated, and at the borders of the ulceration appears infiltrated with blood and pus. The dura mater over the diseased part is, in a corresponding extent, thickened and covered with coarsely granulated and discoloured lymph.

Presented by Sir William Blizard.

2062. Section of the anterior part of a cerebrum, in the left hemisphere of which is the cavity of a large abscess. It has irregular and coarsely granulated walls, and opens anteriorly by an orifice, half an inch in diameter, through the surface of the brain and the adjacent and adherent dura mater and other membranes. Lymph is deposited on the external

surface of the dura mater around the aperture. The substance of the cerebrum immediately adjacent to the cavity of the abscess appears healthy. *Hunterian.*

2063. The central and upper part of the right hemisphere of a cerebrum, in which is the cavity of an abscess immediately beneath the pia mater. It has a wide opening externally, but this was made after death. The walls of the abscess are irregular, coarsely granulated, and covered, apparently, with lymph. The adjacent part of the brain is healthy.

From the Museum of John Howship, Esq.

2064. Part of the anterior and middle lobes of the left hemisphere of the same cerebrum. Near its lower part is a small circumscribed abscess, with a well-defined wall like a cyst. Its internal surface is nearly smooth; its walls are from half a line to a line in thickness, and have been in part separated from the adjacent substance of the brain, with which they appear to have been very intimately united. The dura mater is thickened, and firmly adherent to the surface of the brain over the abscess.

The patient was a girl twenty-four years old. She was healthy till nearly three years before her death, when she received a violent blow on the face, by which she was stunned, and her nasal bones were broken. From the time of the accident her lower jaw began slowly to close, and she was never after able to depress the lower jaw more than a quarter of an inch. In the first year after it she was for four months delirious, and two abscesses formed on the side of the face and throat. After the delirium ceased her left eye became inflamed and perished, though timely and actively treated. For more than six months previous to her death she suffered most acute pain of the head; in the last three months she was often incoherent and wandering in mind; and in the last fortnight lost all power of voluntary motion.

Besides the abscesses shown in the preparations, and some others of smaller size, the lateral ventricles of the brain were found distended with thick, foetid, greenish-yellow pus, and their internal surfaces were diseased. The cerebellum was sound. The dura mater was thickened, but not ulcerated. There was extensive ulceration of the inner table of the upper part of the skull; the specimen of which is preserved in No. 3109.

From the Museum of John Howship, Esq.

2065. Part of a skull, including the right temporal bone, with the portion of brain which rested upon it. There is a small ulcerated aperture on the

anterior surface of the petrous bone, through which a bristle is passed into the internal ear. The dura mater is reflected from the diseased bone, lymph is deposited on it, and there is an aperture in it corresponding to that in the bone. In the substance of the adjacent part of the brain there is a large and deep cavity with irregular broken walls, the consequence, apparently, of acute inflammation and suppuration supervening on disease of the internal ear.

2066. Part of the brain of a sheep, in which is a small circumscribed abscess, with irregular walls, just beneath the surface of the convolutions.

From the Museum of Sir A. P. Cooper.

2067. The lower part of the middle lobe of the right hemisphere of a cerebrum, in which the cyst of a chronic abscess is deeply imbedded. The cyst is spherical, and nearly two inches and a half in diameter. Its walls are half a line in thickness; externally they are closely connected with the brain, and internally are nearly smooth. Portions of the pus, which was scarcely fluid and of a pale greenish colour, remain within the cyst and loose in the spirit.

From a man forty-five years old, who was ill six weeks, and during the last month of his life had paralysis of the left side.

From the Museum of John Howship, Esq.

5. *Cancer in, or involving, the Brain.*

2068. A pons and medulla oblongata, with part of a tumour pressing on the former. The tumour is of a flattened oval form, about an inch in its chief diameter, and has a pale, dense, hard texture, like common hard cancer. It has pressed deeply into the anterior and upper part of the left side of the pons, leaving the whole of its right half and the posterior fourth of the left half free, but completely involving the origin of the left trifacial nerve. Beyond this part, the tumour extended laterally as far as

the foramen auditorium internum, and forwards over the surface of the sphenoid bone so as to cover the foramina for the passage of the three divisions of the trifacial nerve. Neither the medulla oblongata, nor the root of any of the nerves proceeding from it, is involved in the disease.

The patient, a lady, had complete insensibility of the left side of the face and head, with strabismus and double vision; but there was no imperfection in the movements of the face. The globe of the left eye was insensible to the touch, but vision was unimpaired, except that for some time before death colours could not be distinguished with that eye. No impressions were perceived when snuff or ammonia, or any other similar irritating substance, was applied to the left nostril, but the sense of odours was unimpaired. The left side of the tongue was insensible to impressions of both touch and taste.

The case is recorded in the "London Medical Gazette," vol. xiii., p. 163, London, 1834.

Presented by John Bishop, Esq.

2069. Section of the right hemisphere of a cerebrum, with three tumours, of which one is imbedded in its surface, and two are in its interior. The tumours are rounded; the largest, which is placed in the internal or median surface of the hemisphere, is nearly an inch in diameter, the others rather smaller. They are soft, granular, and apparently composed of medullary substance. The surface of one of them has blood effused upon it. The adjacent texture of the brain appears healthy.

The patient was sixty-seven years old, a very active and acute man, who was well acquainted with and taught several languages, and had often been employed during the late war in obtaining information on the Continent. He continued in complete possession of his mental faculties till within a day or two of his death, when he had some convulsive fits, and lost the use of his left side. His death appeared to be due to peritonitis, excited by a large tumour connected with the pancreas. The bones of the skull were very thin. There were other tumours of the same kind in the brain.

From the Museum of John Taunton, Esq.

2070. Portion of cerebrum, on the surface of which are several tumours from half an inch to an inch in diameter, composed of a firm, pale, and slightly vascular substance. They are situated beneath the pia mater, and are deeply imbedded in the brain, with which they are but slightly

connected, appearing to have been nearly insulated by suppuration around them.

The patient was a man sixty years old, who for several years was hemiplegic. About a year before his death he became idiotic, and for the last nine months of his life was subject to what appeared to be attacks of acute inflammation of the brain. In the last of these, which was attended with mania, he died comatose.

Pus was found in the pia mater, especially over the left cerebral hemisphere, and around all the tumours. Besides the tumours shown in the preparation, a cluster of the same kind protruded from the left corpus striatum into the lateral ventricle, and the ventricles contained a considerable quantity of purulent fluid.

From the Museum of George Langstaff, Esq.

2071. Portion of cerebrum, in the substance of which two tumours are imbedded close together. Each of them is spherical in its form, an inch in diameter, and apparently composed of a moderately firm, fibrous, medullary substance. They are loosely connected with the brain.

From the Museum of George Langstaff, Esq.

2072. Portions of the brain of a child, containing several masses of soft medullary matter, which either were very vascular or had blood effused in and around them. They are situated chiefly beneath the pia mater. There was medullary disease, also, of the inguinal glands and some other parts.

From the Museum of George Langstaff, Esq.

2073. Part of the dura mater of the child last mentioned. The longitudinal sinus is completely filled with a round, soft, red and pale coagulum of fibrine, with which medullary matter appeared to be mixed. Several of the veins opening into the sinus are similarly filled.

From the Museum of George Langstaff, Esq.

2074. The left hemisphere of a cerebellum, with the medulla oblongata, pons, and other adjacent parts. A tumour, which in its recent state was soft and pulpy, is situated upon the upper and inner part of the hemisphere of the cerebellum; it contains in its interior a large loose clot of blood. Another tumour of smaller size is seated over the tubercula quadrigemina; and in the inferior part of the same hemisphere of the cerebellum, is

a large cyst with a smooth internal surface, which contains part of a clot of blood, and was filled in the recent state with a thick gelatinous-looking fluid and blood.

From a girl fifteen years and a half old, who for more than eleven years had signs of chronic hydrocephalus. Her sight was lost, but her intellectual faculties were fairly developed; she menstruated regularly, and was corpulent. She died suddenly.

After death the head measured twenty-five inches in circumference, and sixteen inches from one meatus auditorius externus to the other. The pia mater was infiltrated and thickened, and more than three pints of fluid were removed from the lateral cerebral ventricles. The septum lucidum was torn, and all the parts adjacent to the effused fluid were softened.

From the Museum of George Langstaff, Esq.

2075. A cerebellum, with the pons, medulla oblongata, &c. A firm oval tumour, probably cancerous, measuring about two inches and an inch and a half in its chief diameters, is deeply imbedded in the upper part of the cerebellum. It lies directly beneath the pia mater, and is loosely connected with it and the other adjacent parts.

Presented by Copeland Hutchison, Esq.

2076. A cerebellum, in the lower part of the left lobe of which an irregular spheroidal tumour, an inch in diameter, and generally resembling the preceding, is deeply imbedded, pressing upon the lower margin of the pons, and all the nerves from the left side of the medulla oblongata.

2077. A tumour, composed of a firm, compact, and obscurely fibrous substance, much like that of which the two preceding tumours consist. It was removed from a cerebellum, with which its surface appears to have been but loosely connected. *From the Museum of George Langstaff, Esq.*

2078. Sections of a cerebrum, in which are several soft, distinctly circumscribed, and flocculent melanotic tumours, from one to eight lines in diameter. The adjacent texture of the brain appears healthy.

There were many other similar tumours in the same person.

Presented by Sir B. C. Brodie.

6. *Tubercle in the Brain.*

2079. Part of a brain, with a large mass of tuberculous matter in the right lobe of the cerebellum, and one of smaller size in the left middle lobe of the cerebrum. The pia mater covering the base of the brain is thickened. The tuber cinereum is remarkably expanded.

From a boy seven years old, who had signs of disease of the brain, with complete blindness, for five years. He died with an attack of acute inflammation supervening on the previous organic disease.

The pia mater was vascular and thickened, and there was pus in the arachnoid sac. Twelve ounces of fluid were in the cerebral ventricles. There was tuberculous disease of the lungs, liver, and mesenteric glands.

From the Museum of George Langstaff, Esq.

2080. A mass of tuberculous matter, from the right lobe of the cerebellum of a child two years old.

There was tuberculous disease, also, of the lungs, liver, spleen, mesenteric, lumbar, and bronchial glands. The head was enlarged and deformed. The cerebral ventricles contained four ounces of fluid.

From the Museum of George Langstaff, Esq.

2081. A similar, but smaller tumour, from the right optic thalamus of a child six years old.

There was tuberculous disease of the lungs and of the lumbar, mesenteric, and other lymphatic glands. The cerebral ventricles contained upwards of ten ounces of fluid.

From the Museum of George Langstaff, Esq.

2082. Part of the base of a brain, exhibiting a small mass of partially and centrally softened tuberculous matter in the pons Varolii.

From the Museum of George Langstaff, Esq.

2083. Part of a brain, exhibiting a large, probably tuberculous, abscess in the left lobe of the cerebellum. The cavity of the abscess has irregular

broken walls. The adjacent substance of the cerebellum appears to be disorganized, and the whole lobe is enlarged.

From a boy seven years old, who was delicate from birth. When five years old he had an attack of fever, with severe affection of the brain, after which his mental powers gradually diminished, and he became dull and heavy. He frequently complained of pain in the head, especially about the occiput; his head enlarged, and for three months before his death he was nearly blind. Three weeks before his death he had again an attack of acute disease of the brain.

Upwards of twelve ounces of fluid were found in the cerebral ventricles. There was tuberculous disease of the lungs, liver, spleen, intestines, and mesenteric glands.

From the Museum of George Langstaff, Esq.

7. Entozoa in the Brain.

2084. An acephalocyst hydatid, about three inches in diameter, from the human brain.

From the Museum of Joshua Brookes, Esq.

2085. The cyst from which the preceding hydatid was removed. Its walls are moderately tough, and half a line in thickness; its interior is smooth and polished; its exterior is covered with fine flocculi, like delicate false membrane, by which it was adherent to the substance of the brain.

From the Museum of Joshua Brookes, Esq.

2086. Portion of cerebrum, containing a cyst about two inches in diameter. The walls of the cyst are from half a line to a line in thickness, of compact texture, and closely united to the cerebral substance; its interior is smooth, and is lined by a very thin membrane, of which a part is reflected.

The nature and origin of the cyst are uncertain, but it is probable that the history of this preparation is referred to in a passage in the Lectures delivered, "chiefly from Mr. Hunter's Notes," by Sir Everard Home in 1794-5. "Hydatids form in the brain in the human subject. I never knew but one instance, but which is sufficient to show that they do form there. This occurred in a lady in London, who had violent and distressing headache, and this increased almost to madness. The pain came on periodically, so that the cause could not be made out, as the symptoms were not like

those of depressed brain. She died, and on examining the brain an hydatid was found, of a globular shape, and of the size of a common orange."—*MS. Notes of the Lectures, by Mr. Clift.*

Hunterian.

2087. Part of the brain of a sheep, in the substance of which there are a cavity containing an hydatid, and several smaller empty cavities. The texture of the brain adjacent to the cavities appears healthy. The vessels are injected. *Hunterian.*

2088. A vertical antero-posterior section of the brain of a sheep, exhibiting a cavity more than an inch in diameter between the cerebrum and cerebellum, in which an hydatid was contained. The wall of the cavity is formed by a very thin membrane; the adjacent parts of the brain are hollowed out and pressed aside, but their texture appears unaltered.

Hunterian.

2089. The brain of a sheep, with a large cyst in the right hemisphere of the cerebrum. The walls of the cyst, which contained an hydatid, are in part smooth and in part coarsely granulated; at its upper part the cerebral substance appears to have been completely removed, so that the cyst was here bounded by the pia mater alone. *Hunterian.*

2090. Part of the skull of a giddy sheep, in which two large holes have been made by absorption consequent on the pressure of hydatids. The dura mater is adherent to the pericranium, and they together completely close the holes. *Hunterian.*

8. *Diseases of the Brain of uncertain nature.*

2091. "A section of a cerebellum, to show an uncommon appearance in the middle of the medullary substance, marked by a bristle" (*Hunterian MS. Catalogue*).

2092. A portion of pia mater, the centre of which is indurated, and has osseous matter deposited in it.

"Apoplexy.

"Mr. William Sharp, engineer, aged about sixty-five years, strong and muscular, of a full habit, and short-necked, was seized about seven years ago with a fit, which produced a hemiplegia. Before this attack he was drowsy for some days, sometimes so giddy as to be obliged to hold by something, but did not lose his senses; but lost the use of his left side.

"In the beginning of the winter, 1782, he had a second attack. In this second attack he had a pain in the fore part of his head over the eyes, was drowsy from the Saturday till the Tuesday following, and when at dinner on Tuesday he often let the fork fall out of his hand, and would pick it up again, like Mr. Foote. When going up stairs to bed he could hardly walk, and was obliged to be supported, but did not lose his senses; was put to bed; and in the morning had lost his speech, and the use of the voluntary actions of the left side, but not of the involuntary.

"He did not lose the sensation of the skin, although he did not know when he made water or went to stool. Has a pain across the shoulders. The arm is worse than the leg; he can move the hip-joint a little, and has more sensation in the extremity. The muscles of the thigh have an involuntary action, for the extension will contract and straighten the leg, like the action arising from the stimulus of death, and it requires some force to bend it. Has a pricking pain in that extremity down to the toe; often it is pretty severe. The hand and foot a little œdematous."—*Hunterian MS. Cases in Surgery*, p. 58.

"The appearances on examining the Brain of Mr. Sharp, in the Minorities.

"On removing the dura mater, the brain was at once observed to be very flabby, for it hung backwards. On the right side, just above where the skull was sawed through, there appeared a bag of water, near three inches in diameter, which did not seem to be on the surface, but appeared to be sunk into the substance of the brain.

"This collection of water, although circumscribed as to extent, yet did not appear as if in a circumscribed bag, but rather appeared like œdema.

"I next cut through the corpus callosum into the right ventricle, and let out the water, which might be near two ounces. I then took out nearly the whole of that hemisphere, but in doing this the water immediately escaped, which proved that it was contained in large cells that communicated freely with one another. On examining this part I found a deep sulcus in the cerebrum, which went so deep as to have only a thin partition of medullary substance between it and the right ventricle, which partition was become much firmer than medullary substance in common, and it seemed to follow the track of the arteries that pass into this part of the brain between the anterior and middle lobes of the cerebrum.

"As this space in the brain extended outwards, it rather widened. Along that surface which I have called the septum between this cavity or chasm and the ventricle,

this membranous or cellular part seemed to be formed into a more solid mass, as if puckered into a kind of cicatrix.

“ The brain surrounding this cavity was rather of a yellowish-brown colour. These appearances were very similar to Mr. Home’s, but there appeared here more mischief as to the part of the brain in which it was, but less respecting the probable communication with the ventricles, in Mr. Home.

“ The other parts of the brain appeared to be otherwise sound than the softness of their texture. Every part had the same soft pulpiness that we find in the new-born subject.”—*Hunterian MS. Cases and Dissections*, No. 26.

Hunterian.

9. *Diseases of the Blood-vessels of the Brain.*

2093. The arteries of a brain, having their walls thickened, and containing numerous deposits of fatty matter. *Hunterian.*

2094. An anterior cerebral artery, of which a portion of the wall is dilated into a small elongated, conical, aneurismal sac. The part of the sac most distant from the artery is filled with firm coagulum. The rest of the artery, except the part close to the aneurism, appears healthy.

From a woman fifty-seven years old. The membranes of the brain were thickened and opaque, and a larger than usual quantity of fluid was found both in them and in the lateral ventricles.

The preparation is engraved in Mr. Hodgson’s Engravings of Diseases of the Arteries, pl. vii., fig. 2, 3.

From the Museum of George Langstaff, Esq.

2095. The intra-cranial portion of a right internal carotid artery, with its main branches. The trunk is completely blocked up by a long and firm pale yellowish clot. The arterial coats at the part which is thus obliterated are thickened, and have some morbid deposits between them; elsewhere, and in the branches, their texture appears healthy.

From a man fifty years old, who died with effusion of blood in one of the middle lobes of the cerebrum. A large quantity of fluid, also, was found in the membranes and the cavities of the ventricles; there was tuberculous disease of the lungs.

From the Museum of George Langstaff, Esq.

Specimens of Diseases of the Brain in other parts of the Museum:—

717, 718, 812, 2107, 2109, 2118, 2122, 2137, 2144, 2145, 2146, 2242, 2244, 2258.

SERIES XLII.—INJURIES AND DISEASES OF THE MEMBRANES
OF THE BRAIN.

1. *Injuries and their Consequences.*

2096. Part of the dura mater of a man who was accidentally shot through the head with an iron ramrod. The track of the wound is indicated by a bristle passed through the apertures.

"The Case of a Man being Shot through the Head with an Iron Ramrod.

"November 5th, 1783.—About half-past five in the evening Josh. Lengest, aged twenty-five years, was standing near a fire at Twickenham, when a musket was discharged at the distance of forty yards, in which happened to be the ramrod, which penetrated the posterior part of the right parietal bone, passing forwards obliquely through the brain, and came out on the opposite side through the squamous portion of the temporal bone, and through the skin just behind the external angle of the left eye.

"Upon receiving the injury he fell, and the rod was pulled out by a by-stander with some difficulty. He was brought to St. George's Hospital in a post-chaise, and on his way thither complained of being sick. He had then lost the use of his right side, and apparently of half his tongue; was perfectly sensible, but complained of some pain. His pulse, also, was rather full. He was bled, and had an opening clyster immediately.

"November 6th.—He had passed an uneasy night; was still sensible, but averse to speaking, probably because the least words were uttered with difficulty. His pulse was, in the morning, rather slow, but not full. He had three stools from the clyster. His urine came away involuntarily. The pupils of his eyes contracted on being exposed to the light.

"He was trepanned on the hind part of his head, and some pieces of bone were extracted from the brain. After the operation he lost about a pound of blood from the substance of the brain. His pulse sunk; he was very pale, appeared to be sensible, but spoke little. At eight o'clock in the evening his pulse was low, his breathing slow, and his inspirations deep. His countenance was pale, and he appeared very uneasy, continually moving his left side.

"November 7th.—After passing a very uneasy night, at seven in the morning he died, about two hours before which he moved both his right and left side much, as if in great pain. He appeared sensible, but was not capable of speaking.

"On opening the head, and examining the passage of the ramrod, it was found to have passed through the posterior and upper part of the cerebrum, through the falx, then through the left hemisphere, just over the lateral sinus, and came out between the anterior and middle lobes.

"Inflammation had begun, for the uniting medium was deposited."—*Hunterian MS. Cases and Dissections*, No. 29.

2097. Portion of dura mater, which was wounded by a small spiculum driven through it from the os frontis. Lymph is deposited on both surfaces of the dura mater around the wound; and a collection of pus had formed between it and the pia mater.

From the Museum of George Langstaff, Esq.

2098. Portion of dura mater, from a patient who died after being trepanned. The trepan cut almost a complete circle in the dura mater, and both around and within the wound the outer surface of the membrane is coated with lymph. On its inner surface, also, lymph is deposited in smaller quantity. There are small spicula of bone near the side of the longitudinal sinus.

Hunterian.

2099. Portion of dura mater, on the external surface of which lymph is abundantly deposited, especially on two circular spots over which the trepan was applied. Its inner surface is blood-stained.

Hunterian.

2100. Another portion of the same dura mater.

Hunterian.

2101. Portion of dura mater, on both surfaces of which lymph has been effused in the space exposed by the trepan, but not beyond it.

Hunterian.

2102. Portion of dura mater, in which there are large apertures in two places which were exposed by trepanning. The exposed parts are thickly covered with lymph; the apertures appear to have been made with a knife.

Hunterian.

2103. Portion of dura mater, on which, after the same operation, a much larger quantity of lymph, apparently mixed with blood, was effused on both surfaces. The circle over which the trepan was applied is here also marked by the larger effusion of lymph.

Hunterian.

2104. Part of a dura mater, to the inner surface of which a thick uneven layer of coagulated blood and lymph is adherent. The dura mater was wounded in trephining; the part over which the trephine was applied is indicated externally by a circular deposit of lymph, with an aperture in its centre. *From the Museum of Sir A. P. Cooper.*

2105. Part of a skull, from which a large portion was removed by several applications of the trephine. The exposed dura mater is nearly covered with granulations, and a thin layer of lymph is effused on its inner surface.

2106. Portion of the skull and dura mater of an ass, which had been trepanned. Granulations have grown from the exposed surface of the dura mater, and completely fill up the aperture in the skull. At one part the granulations from the dura mater protruding from the skull have coalesced with those from the wounded integuments. *Hunterian.*

2106A. The upper part of a dura mater, with three circular elevations of granulations grown up after trephining over the longitudinal sinus. Beneath one of them the sinus appears contracted nearly to obliteration.

2. Effusion of Blood in the Cerebral Membranes.

2107. The base of a brain, with the great arteries irregularly dilated, thickened, and made rigid by deposits of fatty and earthy matter in their coats. Blood is effused extensively in the pia mater.

From the Museum of George Langstaff, Esq.

2108. Portion of dura mater, on the inner surface of which a large quantity of blood is effused, coagulated, and become firmly adherent.

From a boy eight years old, whose right temporal and parietal bones were fractured by the kick of a horse. Fragments of the bone were driven through the dura mater into the brain. He lived ten hours after the injury.

From the Museum of George Langstaff, Esq.

2109. The upper part of a cerebral hemisphere, with its membranes. A considerable quantity of blood has been effused in the arachnoid sac, and a thin, firm, and nearly smooth layer of coagulum is adherent to the inner surface of the dura mater. The vessels on the surface of the brain are full of blood, and the substance of the brain itself appears to have contained more blood than is usual.

From a drunkard thirty years old, who had delirium tremens. It was succeeded by symptoms of typhus, in which his furious delirium continued; and he died a week from the commencement of the attack. Besides the coagulated blood shown in the preparation, there was a considerable quantity still fluid.

From the Museum of George Langstaff, Esq.

2110. Portion of dura mater, with a layer of blood, partly decolorized and organized, upon its inner surface. The layer is like one of moderately tough false membrane, pinkish rust-coloured, and intimately adherent to the internal surface of the dura mater.

The effusion of blood was the consequence of injury to the head, but it probably had, at first, the characters of the effusion shown in the last specimen, and may, therefore, be regarded as exhibiting the same changes as the blood may undergo when effused in spontaneous apoplexy of the cerebral membranes.

Hunterian.

2111. Portions of the upper part of the hemispheres of a cerebrum, with their investing membranes. The pia mater is generally thickened, indurated, and opaque. Between it and the dura mater, in the sac of the arachnoid, there is a thin, close-textured, white layer of false membrane, partly separated, on the right side, into two lamellæ. On the internal surface of the dura mater, partly decolorized coagula of blood are adherent in several places. It is probable that in this, also, as in the last-described specimen, the false membrane was formed from a layer of effused blood gradually decolorized and organized.

From a man seventy years old, who had been subject to severe attacks of gout.

From the Museum of George Langstaff, Esq.

2112. Portion of dura mater, beneath which blood has been effused, and was

enclosed in a sac, or double layer, of false membrane like that shown in the last specimen, and probably, like it, formed out of part of the effused blood. The effusion of blood has taken place over corresponding parts of both cerebral hemispheres. The false membrane on the right side is reflected with the pia mater; and that on the left is partly separated to show the effused blood. *Hunterian.*

2113. Another portion of the same dura mater, with blood coagulated upon it, and adhering to parts of both its surfaces.

The following is, most probably, an account of the first examination of these parts :—

“ The appearances upon opening Mr. Oswald.

“ On sawing through the skull, and then wounding the dura mater, a great deal of watery blood ran out at the groove. When the skull was removed, the dura mater appeared sound externally, but a good deal of blood oozed out of the vessels on its surface. The longitudinal sinus was full of blood. On raising the dura mater laterally towards the falx, we observed a great deal of extravasated blood, lying, to appearance, immediately between it and the pia mater, on the lateral and anterior parts of the two hemispheres on each side of the falx. On removing this blood, which was the coagulum of the whole extravasated blood, the watery part having been discharged, we found on each side a loose membrane covering the pia mater, similar in substance to the chorion of the foetus. One edge of this membrane attached itself all along the dura mater, where the veins of the pia mater enter this membrane. The posterior, outer, and anterior edge attached itself all round to the dura mater, where the upper part of the skull terminates in the basis. What is rather singular, there was a membrane very much of the same kind on both sides. The whole of the extravasated blood lying between the dura mater and this membrane, and by the edges of this membrane adhering all round to the dura mater, those two made a complete bag, or bags, for the blood, so that the blood was not diffused over the pia mater.

“ My idea of these appearances is this :—First, an inflammation had attacked the internal surface of the dura mater at these parts, which formed this coat or membrane upon its internal surface from an extravasation of the coagulable lymph, as we see often to be the case on all internal membranes that are inflamed. After this coat had been formed, an extravasation of blood came on the same surface of the dura mater, which removed the coat of coagulable lymph from its attachment to the dura mater in proportion to the quantity extravasated, so that the blood was always retained between the dura mater and this coat.

“ The upper, and especially the anterior, parts of the two hemispheres were very much compressed by this extravasated blood, so that the brain was much too small for the cavity of the skull. The pia mater seemed everywhere sound. On examining the

substance of the brain, I thought it was rather tougher than common, but not harder. There was more water in the lateral ventricles than common at his age. The septum lucidum was broader than usual, owing to the increase of water. It was torn in many places, and these had rounded edges, which showed the lacerations to have been of some standing, for no particular violence had been used in any part of the examination; what remained was very thin, but strong, and would not tear, as usual, upon raising the corpus callosum.

"Some small stony concretions on the upper part of the pineal gland. Some small hydatids in the plexus choroides. A small stone in the gall-bladder."—*Hunterian MS. : Dissections of Morbid Bodies*, p. 226.

3. *Effects of Inflammation of the Cerebral Membranes.*

2114. Portion of dura mater, from the left lobe of a cerebellum. It is generally thickened, and a layer of lymph adheres to a large portion of its inner surface. The left lateral sinus is laid open, and has lymph within it.

From the Museum of George Langstaff, Esq.

2115. Portion of dura mater, on the inner surface of which is a thin layer of false membrane, firm, continuous, uniform, and somewhat flocculent and reticular on its free surface.

From the Museum of Sir A. P. Cooper.

2116. Portion of the dura mater of a man who was many years deranged. Shreds of false membrane are attached to many parts of its internal surface, especially in the neighbourhood of the falx.

Presented by William Lawrence, Esq.

2117. A portion of cerebrum, with the membranes covering it. The dura mater is more than a line in thickness, and closely united with the pia mater. The inner surface of a separate piece of dura mater appears to be thickly covered with lymph over an imperfectly circumscribed space.

From the Museum of George Langstaff, Esq.

2118. Portions of brain and pia mater. The substance of the brain was, in the recent state, unusually firm; and the pia mater is thickened and opaque.

From the Museum of George Langstaff, Esq.

2119. Portion of pia mater, thickened, opaque, of a dull yellowish-white colour, and, in parts, of granular appearance.

From a patient sixty-six years old, who long had hemiplegia. All the pia mater was thus diseased, and lymph was effused in the arachnoid sac.

From the same Museum.

2120. A cerebellum, of which the pia mater is thickened and opaque.

From a lad who had disease of the internal ear.

From the same Museum.

4. *Tumours and other allied Morbid Growths in the Cerebral Membranes.*

a. *Cysts.*

2121. Portion of dura mater, with three thickly walled, but transparent, cysts, full of clear fluid, attached to one of the sides of the falx, and to the adjacent surface of the dura mater covering the cerebrum. The largest of the cysts is about three-quarters of an inch in diameter.

Presented by William Lawrence, Esq.

2122. The left hemisphere of a cerebrum, at the outer side of which, over the anterior and middle lobes, there is a cavity or sac in the pia mater, which was filled with a serous fluid. The cavity measures four inches from above downwards, two and a half from before backwards, and nearly two inches in depth. It appears to have been enclosed by pia mater, and to have no proper membranous walls; the brain beneath it is deeply pressed in, and its convolutions are expanded and flattened, but their tissue, as well as that of the pia mater which covers them, appears healthy; there is no

appearance of atrophy or of a cicatrix of the brain. (The smaller cavity behind the one just described was made after the removal of the brain.)

From a woman who died of typhus fever, without any peculiar cerebral symptoms.

Presented by Richard Owen, Esq.

4 b. *Osseous or Bone-like Growths in the Cerebral Membranes.*

2123. Portion of dura mater, to the outer surface of which, near the longitudinal sinus, a small plate of bone is loosely adherent by a thin layer of tissue like false membrane. *Hunterian.*

2124. Portions of dura mater and pia mater, between which thin cord-like adhesions have formed on corresponding parts on each side near the falx cerebri. Immediately beneath the adhesions thin fasciculated plates of bone are formed in the thickened tissue of the cerebral arachnoid membrane. *Hunterian.*

2125. Portion of pia mater, thickened and opaque, and having on its outer surface, imbedded in the arachnoid, a thin uneven plate of bone. Small granular masses of bone have also been formed in the substance of the pia mater, and in its fold-like prolongations between the convolutions of the brain. The (single) vertebral and basilar artery is thickened, and has earthy matter deposited in its coats.

"*Winter, 1764-5.*—I dissected an old man. He was pretty fat, and the muscles red. I found almost all the arteries in his body ossified; the internal carotid and basilar arteries were almost one bone. Those on the pia mater were ossified in a vast number of places. The tomentum cerebri was ossified in many places. There was but one vertebral artery in this subject. This man had had a bubonocoele, which had closed at the abdomen by a very thin, but pretty firm, union."—*Hunterian MS.: Dissections of Morbid Bodies*, p. 158, No. 93.

Hunterian.

2126. Portion of dura mater, with a large, flat, limpet-shaped mass of hard

bone, coarsely knotted and granulated, attached by a small part of one surface to the arachnoid surface of the falx cerebri.

The patient, a man sixty years old, had for several months before his death complained of pain in the head and giddiness. His mental powers had been considerable, and were highly educated; but they were much impaired by drunkenness; he died suddenly. The membranes near the morbid deposit appeared inflamed and thickened, and there was a large quantity of fluid in both the membranes and the ventricles of the brain.

From the Museum of George Langstaff, Esq.

2127. A similar specimen.

Hunterian.

2128. The falx cerebri of Mr. William Cruikshank, on each side of which, at its anterior part, there is a large, flat, limpet-shaped mass of bone.

Presented by Honoratus Leigh Thomas, Esq.

2129. A similar specimen.

The following account of the two preceding cases is from "The Hunterian Oration," delivered in 1827, by Mr. Thomas:—

"The immediate cause of Mr. Cruikshank's death was apoplexy, which he had always foretold would terminate his existence. He was led to prognosticate this event from the circumstance that whenever he stooped forward, or, in short, when from any cause the free return of the blood from the head was interrupted, he was conscious of a peculiar thrilling sensation in the superior surface of the left hemisphere of the brain; and at this point it was found, upon examination after death, the mischief had actually taken place. This portion of the brain had the appearance of having been torn, and the effusion of blood in the surrounding parts was very considerable. There were no other marks of disease within the cranium, excepting a deposit of osseous matter adhering to the falciform process of the dura mater.

"He also laboured under many other symptoms, denoting cerebral disturbance; and, as these bore so strong a resemblance to a similar case in a near relation of his own, I am induced to enumerate a few of the most important, and to elucidate the subject, as far as the evidence of two cases will admit, occurring at the same time, and which were repeatedly and most carefully investigated.

"As friends they were almost in the daily habits of communicating with each other, and their similar distressing sensations were, as may be imagined, the frequent topic of conversation. They were both men of lively imagination and quick parts; their habits of life had been so far similar, that the mind had been actively employed in both, though in very different situations.

"They were each subject to an entire loss of memory, which occasionally occurred

in the midst of the most animated conversation, as well as when the mind was in a state of quietude. This suspension of intellect was merely transient, and its restoration was equally sudden. The sense of smelling was also very obtuse; commonly the strongest volatiles would scarcely affect the organ, yet, whenever any circumstance occurred to excite painful emotions in the mind, they were liable to be assailed with, and suffered the most poignant distress from, the sensible impression of odours, which they invariably described as horribly offensive. Indeed, the pallid face and hurried state of the whole system very clearly denoted the intensity of their sufferings.

"They were subject to frequent and violent fits of sneezing, and Mr. Cruikshank often remarked that the organ of smell must have numerous unknown nerves in its composition to explain the complexity of his feelings.

"A very short time only intervened between the decease of these relatives; similar in their death, as in the precursive symptoms. Mr. Cruikshank was the survivor, and investigated with careful and deep attention the state of parts within the cranium. Here blood was found effused to a considerable extent in the left hemisphere, and a bony deposit was attached to the anterior portion of the falciform process.

"The resemblance in each case was very remarkable, but in neither did the most careful examination detect the slightest alteration in the natural and healthy appearance of the structure of the olfactory nerve."

2130. A portion of dura mater, with the falx cerebri. Several portions of bone, having an unusually fibrous or fasciculated and pointed form, are attached to the arachnoid surface of the dura mater, near the margins of the falx. *From the Museum of Sir A. P. Cooper.*

2131. A similar specimen, in which the bone forms a hard uneven mass, with pointed processes growing out from it. *From the Museum of Sir A. P. Cooper.*

2132. A similar specimen, dried. *Hunterian.*

4 c. *Fibrous Tumours of the Membranes of the Brain.*

2133. A portion of dura mater, on the internal surface of which there are several small fibrous tumours. The largest is nearly spherical, and half an inch in diameter; its surface is smooth, and its substance is very

firm, compact, and obscurely fibrous. The others are smaller, flat or lens-shaped, and project but little from the surface of the membrane.

From a lady who was accidentally killed.

Presented by Sir Everard Home.

4d. *Cancer of the Membranes of the Brain.*

2134. Portion of dura mater, on the inner surface of which there is a circular flattened tumour, nearly an inch in diameter, and half an inch in depth. It appears to be composed of a firm medullary substance, traversed by tough white fibres, which have a close reticular arrangement, and give it considerable compactness and toughness of texture.

Hunterian.

2135. Portion of dura mater, with sections of a firm medullary tumour, of an oval form, and nearly two inches in its chief diameter, which is attached to the lower margin of the falx cerebri. It has the same general characters as that last described, with an obscure appearance of fibres radiating towards its circumference.

Hunterian.

2136. Part of a dura mater, with a large carcinomatous tumour attached to the middle of the lower margin of the falx, and projecting on both sides of it. The tumour has a close resemblance to that last described. It is irregularly oval, and deeply nodulated; two inches in its chief diameter, and flattened laterally. Its substance is firm and compact; and its surface in parts closely adherent to the brain.

The patient, a man fifty-nine years old, had a tumour removed from the integuments over the angle of his jaw three years before his death. At that time he used to suffer from severe pain of the head; but this became less after the operation. In the next year he had severe and obstinate pain like sciatica, and after this, stunning pain of the head, paralysis of the left eye-lid, and impaired vision. He became gradually emaciated, and had tremblings of the limbs; but his mental faculties were only disturbed by occasional delirium towards the close of life. In the last three days he was comatose.

From the Museum of John Howship, Esq.

2137. Part of the brain of the same patient. Its substance is very extensively destroyed, as if by ulceration, in the parts which were adjacent to the tumour, and the internal walls of the lateral ventricles are broken through. A small tumour, of the same kind as that last described, is imbedded in the lower part of the left middle lobe of the cerebrum; it adhered to the dura mater, and had produced absorption of the corresponding part of the sphenoid bone.

From the Museum of John Howship, Esq.

2138. Portions of skull and of dura mater, from a lady who died with cancer. On the inner surface of the dura mater, near the falx, there are two small, round, smooth tumours, composed of a firm pale substance. On its external surface there is a large flat growth of apparently similar substance, nearly two inches in breadth, and about a line in thickness. The internal surface of the skull, corresponding with this last growth, is roughened, and exhibits numerous deep impressions, in which the growth lay imbedded; and on its external surface, through nearly the same extent, there is a similar change, in consequence of a growth of the same kind on the internal surface of the pericranium.

The patient had hard cancer of both breasts. The left breast became thus diseased about two years and a half before her death; the right breast about a year before. While the disease in both breasts seemed making progress, they "suddenly grew easier, and she was attacked with violent headaches, and, as these increased in degree, the breasts became less in size and much unloaded of their general swelling, though the principal scirrhus tumours still remained in them. The pains in the head became extremely violent, and a tumour appeared in the cranium. She fell into a comatose state and died."

From a paper in the Minutes of the Board of Curators, presented with the specimen, by William Long, Esq.

2139. Portion of dura mater, on the outer surface of which there is an extensive thin growth of a substance, apparently similar to that on the outer surface of the dura mater in the last preparation, but, at first sight, looking like a layer of granulations. On the inner surface, also, there is a similar, but much smaller, growth, and the corresponding parts of the pia mater and brain are adherent.

Hunterian.

2140. Portion of dura mater, on the outer surface of which there are several large, irregular, nodulated, and flattened masses of an obscurely fibrous and probably cancerous substance. Similar, but smaller, masses have been also formed upon its inner surface. *Hunterian.*

2141. Portion of dura mater, from the anterior part of the right cerebral hemisphere, on the inner surface of which there is a mass of firm nodulated substance, two and a half inches in diameter, and, in parts, half an inch in depth. The inferior surface of the growth, which appears similar to those last described, is covered by the pia mater, which it has pressed inwards upon the brain; the dura mater to which it is attached is not altered in texture, but appears to have been firmly adherent to the skull.

From a middle-aged man, whose intellect was deranged for a long time before his death. He often complained of severe pain in the head near the diseased part, and died suddenly. His other organs were healthy.

From the Museum of George Langstaff, Esq.

4 e. *Tumours of Uncertain Nature in the Membranes of the Brain.*

2142. The base of a skull, in which a tumour of a nearly oval form, two and a half inches in its longitudinal, and one and a half in its transverse diameter, and an inch in depth, is attached by a narrow base to the dura mater covering the posterior and inner part of the right petrous bone. The tumour is composed of a firm, pale, "caseous" substance, and is invested with a tough thin membrane. Looking vertically upon it, it completely conceals the foramen magnum, and fills nearly half the right posterior fossa of the base of the skull. The bone beneath, and for a considerable distance in front of it, is superficially ulcerated.

The patient was a woman thirty-two years old when she was admitted into the workhouse of St. Leonard's, Shoreditch. Four years previously she had received a severe blow behind the right ear, which stunned her for several minutes, and from this time she had never been free from uneasy sensations about the head, and occasionally severe headache, which was relieved by nothing but bloodletting. She became also depressed in spirits, and sometimes had sudden attacks of giddiness, in which she was

obliged to hold on something lest she should fall. These symptoms increased, and at length she felt occasional weakness and numbness of the right arm and leg, which, after some time becoming constant, she was unable to help herself, and was brought to the workhouse. At this time the loss of voluntary power over the right leg and arm was almost complete. She complained, also, of numbness of that side of the body, but more particularly of numbness of the right side of the face, which she would often rub with great violence with her left hand. The mouth was drawn to the left side, and the speech was slightly impaired. The right eye was motionless, and it appeared smaller and more deeply sunk in the orbit than the left; its pupil was dilated and scarcely affected by light, and the right upper eyelid was lower than the left. By the loss of the consentaneous movements of the eyes her sight was affected, so that, except when looking straight forwards at a distant object, her vision was confused, and she had acquired the habit of closing the right eye with her left hand when she wished to see anything distinctly. Her mental faculties were little, if at all, impaired. For a time local bleeding and counter-irritation seemed to be beneficial, but after ten weeks' residence in the workhouse the patient was seized with a severe epileptic paroxysm, became quite insensible, and was violently convulsed on the left side. After being freely bled she recovered from this state, but had now completely lost both sight and hearing, and was more entirely paralyzed on the right side. Her mental faculties, however, still remained good. A fortnight afterwards she had a second epileptic seizure, which was fatal.

In the examination after death, fluid was found in all the tissue of the pia mater, and its vessels were nearly empty. The substance of the brain was pale; its ventricles contained between six and seven ounces of fluid. The olfactory and optic nerves, and all those on the left side of the brain, appeared healthy; but the third and all the following nerves of the right side had a dusky red colour, from fullness of the vessels of their neurilemma. The right side of the tentorium cerebelli was much elevated. The tumour was very deeply imbedded in, but not adherent to, the right lobe of the cerebellum; it was loosely attached to the bone and dura mater, and pressed considerably upon the right side of the pons and medulla oblongata, the adjacent substance of which, as well as of the cerebellum, had a dusky red hue. The trunk of the facial and auditory nerves of the left side could not be found; they were more than any others implicated by the tumour.

Presented by J. W. H. Parkinson, Esq.

2143. A portion of pia mater, on the internal surface of which is attached a broad flat mass of firm and pale substance, of which it is difficult to say whether it be indurated brain or a morbid growth. On the corresponding external surface there are numerous small white growths, like the warty vegetations which often form on the margins of the aortic valves.

The patient, a woman seventy-four years old, was hemiplegic for many years. A few days before her death she became suddenly and deeply comatose. A large quantity of fluid was found both in the cerebral ventricles and in the tissue of the pia mater; the latter, also, was generally thickened, and had many groups of small growths on different parts of its surface. The arteries of the brain were thickened and rigid, and its substance was unusually firm.

From the Museum of George Langstaff, Esq.

SERIES XLII.—Appendix A. DISEASES OF THE VENTRICLES OF THE BRAIN.

2144. Part of a brain, including the greater portion of the cerebral hemispheres and the septum lucidum, from a child who died with hydrocephalus.

“ A child, when about three months old, had an evident enlargement take place in the size of its head, which continued increasing for three years, when it seemed to become stationary, after which it became more and more ossified till six years old, when the skull, except for a considerable irregular space at the fontanelle, and a small place between the ossa frontis, was in a great measure made up of bone: at which time it died.

“ It seemed to have its senses tolerably well for the first three years, after which it became less sensible, did not see at all, heard sounds, and seemed to know what it did, till a very little time before its death.

“ The child was three feet three inches long; round the head was twenty-seven inches and a half; over the head, from ear to ear, eighteen inches. It had cut all its teeth. The body was exceedingly emaciated; the breadth of the head was exactly the same as the shoulders.

“ Upon sawing the skull the water was evacuated, which, when collected, measured six pints and a half, alehouse measure. The ventricles were excessively enlarged, their lining was either become tough and ligamentous, or rendered so by an exudation of coagulable lymph, and the brain covering them was very thin, and in some places only a membrane, and there the dura and pia mater adhered together. The convolutions of the brain and pia mater seemed to be opened out, and the processes of the ventricles were continued on to the pia mater. This fissure between the two hemispheres was also opened out, by the falx at that part being almost wanting, and the corpus callosum being pushed up to the skull. On the right side, on which the child principally lay, there was no substance of brain between the ventricles and skull; only a membrane; but on the left side nearly, in some places, half an inch thick, and both medullary and cortical with the natural appearance.

“ The septum lucidum was elongated into a broad membrane, and was separated into two lamellæ by the water in the third ventricle pushing up between the two sides

of the body and crura of the fornix, and dividing it as well as the septum. The lamellæ were not perfect, having several holes in them, making a communication with the cavity between them and the lateral ventricles.

"The corpora striata and thalami nervorum opticorum appeared very small, and to have lost their natural texture, becoming tough and ligamentous, as also their union, which, being elongated, looked like a broad flat ligament. The commissures had nearly their natural appearance, as also the infundibulum, where it goes down to the pituitary gland, but above that part was considerably enlarged. The pituitary gland flat, but natural. There was no substance of brain over the sella turcica, only a membrane in appearance.

"The fourth ventricle was natural, but lined with a layer of coagulable lymph. The first pair of nerves tough, yellow, and small, instead of being made up of medullary substance. The second pair, dark coloured, thin, and membranous, without the least medullary pulp. The other nerves [had] nothing particular in their appearance. Cerebellum tolerably natural; the pia mater little vascular, or more gelatinous than membranous, and yellow. The whole brain weighed thirty-six ounces and a quarter. The medulla spinalis yellow."—*Hunterian MS.: Cases and Dissections*, No. 9.

Hunterian.

2145. A brain, in the lateral ventricles of which there were between five and six pints of fluid. The cerebrum is enlarged to nearly a yard in circumference. Its convolutions are flattened, but both their tissue and that of the pia mater covering them appear healthy. The corpus callosum, raised upwards so as to be nearly on a level with the upper surfaces of the cerebral hemispheres, has been divided longitudinally to expose the cavities of the ventricles.

From the Museum of John Howship, Esq.

2146. The brain of a child, who died seven days after birth. It was expanded by the accumulation of nearly two pints of fluid in the ventricles. Its convolutions are small, closely compact, and rather flattened. The lining of the lateral ventricles appears indurated, and separable in a distinct layer from the adjacent substance.

The child had also spina bifida in the lumbar and sacral regions. All its tissues were exceedingly œdematous, so that its limbs could hardly be moved, and it showed scarcely any other sign of life than an occasional opening of its mouth.

From the Museum of George Langstaff, Esq.

SERIES XLII.—Appendix B. DISEASES OF THE CHOROID PLEXUSES.

2147. A choroid plexus, to which is attached a small spherical cyst filled with a soft yellowish substance mixed with granules of earthy matter.

Presented by William Norris, Esq.

2148. Specimens of choroid plexuses, on which there are several small firm tumours and transparent cysts.

From the Museum of George Langstaff, Esq.

2149. Two choroid plexuses, in each of which there is a similar firm spheroidal tumour, or cyst, filled by solid matter, half an inch in diameter.

From the Museum of George Langstaff, Esq.

2150. A similar specimen.

From the same Museum.

2151. The choroid plexuses of a man twenty-five years old, in each of which there is a similar tumour, of a pale yellow colour, soft, and about a quarter of an inch in diameter.

They did not produce any sign of disease.

Presented by Joseph Swan, Esq.

2152. A choroid plexus, in which there is a small firm tumour, like that last described.

Hunterian.

2153. A choroid plexus, dried, in which there are numerous minute deposits of earthy matter.

From an old man, in whom the large arteries of the brain were generally ossified.

From the Museum of George Langstaff, Esq.

Specimens of Diseases of the Membranes of the Brain in other parts of the Museum :—

Inflammation of the Dura Mater, 77, 794, 2047-8, 2061-2-4-5.

Tumours connected with the Dura Mater, 794, 833-4, 845, 2073, 2075.

Cysts in the Choroid Plexuses, 143, 144.

Hypertrophy and Thickening of the Skull connected with Disease of the Brain or its Membranes, 379, 380.

Enlargement of the Skull with Hydrocephalus, 3506 to 3517.

Thinning of the Skull connected with Hydatids or other Growths, 382.

SERIES XLIII.—INJURIES AND DISEASES OF THE SPINAL
CORD AND ITS MEMBRANES.

2154. Part of the cervical portion of a spinal cord. Blood was effused in large quantity in the tissue covering the posterior part of the dura mater.

“The effusion was the consequence of a subluxation of the third cervical vertebra. The man had almost complete paralysis of all the voluntary parts below the neck, having only a small degree of tremulous motion in one arm; and the fæces and urine passed involuntarily. The actions of the vital organs were perfect. In this state the patient lived six weeks.”—*Hunterian MS. Catalogue.*

Hunterian.

2155. “A portion of the medulla spinalis, which had been compressed.”
(*Hunterian MS. Catalogue.*)

2156. A portion of spinal cord, compressed, near the cauda equina.

Hunterian.

2157. Part of the upper dorsal portion of a spinal cord, crushed in a case of fracture and dislocation of the second dorsal vertebra. At the crushed part the cord is completely divided, its substance appearing as if it had pressed downwards, for the part below the division is unnaturally large.

The patient was a man thirty years old. The injury was received three weeks before death. All the body below the seat of injury was paralysed, the urine was

retained, and the fæces passed involuntarily. There was much difficulty of breathing, and some vomiting; and these "symptoms continued till within two or three days of his death, with little variation, except that the vomiting became almost continual and very distressing, and his lower extremities quite cold and purple."

He had no pain in either the chest or abdomen.

After death "both lungs appeared diseased, in some parts as if thickened by inflammation and coagulated blood that had been effused into their substance." Bloody serum was effused in both pleural cavities, and there were signs of recent pericarditis. A great quantity of sero-purulent fluid was found in the abdomen; the peritoneal coat of the intestines was inflamed, and adhesions were formed between their convolutions. The sigmoid flexure of the colon was adherent to the bladder, and an abscess had formed between them, the ulceration nearly extending into both the bladder and the intestine.

The case is further related by Mr. Swan in his "Treatise on Diseases and Injuries of the Nerves," p. 220, London, 1834.

Presented by Joseph Swan, Esq.

2158. "A portion of medulla spinalis, in which the natural structure is indistinct." (*Hunterian MS. Catalogue.*) The cord has been unfolded in the way in which this can be readily done when the grey matter has been softened. *Hunterian.*

2159. The spinal cord of a child eight months old. The arachnoid membrane covering the posterior part of the cord is thickened and opaque, and has lymph thinly deposited on it, from the superior dorsal region to the cauda equina.

The child was attacked three weeks before death with vomiting and fever, and a few days afterwards had complete and rigid opisthotonos. He appeared insensible, the pupils were dilated, and there were frequent convulsive movements of all the muscles of the body, and especially of those of the face. These signs continued to the time of death.

An unnatural quantity of fluid was found in the cerebral ventricles, and the anterior fontanelle was too wide open. The substance of the brain appeared healthy. There is a further account of the case by Mr. Swan in his "Treatise on Diseases and Injuries of the Nerves," p. 213.

Presented by Joseph Swan, Esq.

Specimens of Injuries and Diseases of the Spinal Cord in other parts of the Museum:—

Injuries by Violence, 977-8-9, 985-6.

Condition in Curved Spine, 989, 990.

SERIES XLIV.—INJURIES AND DISEASES OF THE NERVES.

1. *Atrophy.*

2160. Parts of the optic nerves and tracts, with their commissure, from a person who had amaurosis of the right eye. The right optic nerve and the tract of the same side are smaller than those of the opposite side.

Hunterian.

2161. Sections of an optic nerve, from a person who had been blind forty years, exhibiting a diminution of the size of the nerve, with thickening of its sheath, so that on an external view the nerve appears of ordinary size. The eye is preserved, No. 2232. *Presented by John Quekett, Esq.*

2162. Two pneumogastric nerves, with their branches to the œsophagus, bronchi, and cardiac portion of the stomach. "On tracing," says Mr. Swan, "the par vagum from the middle of the neck, each nerve was flabby and much smaller than natural, and felt like a nerve removed from a putrid body after being soaked in water. The branches distributed to the lungs appeared as usual, as well as the continuations of the nerves, nearly as far as the termination of the œsophagus, where they were found redder and thicker than usual, and had not a healthy appearance. The left nerve was smaller than the right."

The history of the patient from whom the specimen was taken is detailed by Mr. Swan in his "Treatise on Diseases and Injuries of the Nerves," London, 1834, p. 170. The symptoms throughout the later periods of his disease were such as led to the suspicion of disease of the pneumogastric nerves, and were very like those observed in animals in which those nerves have been divided; such, for example, as craving for food, and the want of a sensation of fullness after eating very largely, difficulty of breathing increased in paroxysms, and, when extreme, accompanied by a whistling noise, as if the glottis were contracted; while at the same time there were no signs of disease of the heart or lungs, and these organs, after death, were found healthy.

Presented by Joseph Swan, Esq.

2. *Injuries and Healing of Nerves.*

2163. Part of the sciatic nerve of an old man, some of the filaments of which were lacerated and detached in a fracture of the upper part of the femur. At this part it was enlarged, and surrounded with coagulated blood. A coagulum, which adhered with peculiar firmness to the lacerated part, is preserved.

There is an engraving of this preparation in Mr. Swan's "Treatise" (pl. 1), wherein also there is an account of the case at p. 106. The patient complained of much more pain than is usual in fractures of the femur.

Presented by Joseph Swan, Esq.

2164. Parts of the carotid artery and pneumogastric nerve of a horse, which were both included in a ligature during an operation for the removal of a large tumour from the neck.

Mr. Hunter's account of the case is added to the description of the tumour, No. 291.

Hunterian.

2165. Portion of a nerve from the stump of a thigh after amputation, exhibiting a bulb-like enlargement of its cut extremity.

Hunterian.

2166. Section of another nerve, from the same stump. Most of the bundles of nervous fibres appear to cease abruptly at the commencement of the bulb-like enlargement; one can be traced for a short distance into its substance. The section of the enlargement itself exhibits a uniform, firm, and compact texture, like that of a cicatrix of the integuments.

Hunterian.

2167. The other section of the nerve last described.

Hunterian.

2168. Another nerve, from the same stump, in which several bundles of nervous fibres have been traced by dissection, diverging at the lower end of the nerve, and passing for a short distance into the bulb-like enlargement.

Hunterian.

2169. Portion of the sciatic nerve of a dog, which was divided seven days before death. "Part of the wound of the skin had healed by the first intention; the remainder continued open, and was filling up by granulations. The wound in the muscles was perfectly healed. The extremities of the divided portions of nerve were separated two and a half twelfths of an inch, and were both much enlarged. On the posterior part of the nerve, or that which lies nearest the bone, the space was filled up, and was white and transparent. On the anterior part it was quite uneven, and appeared as if healing by granulations; but there was no discharge of pus. The cellular membrane about the nerve was thickened to some distance."

From Mr. Swan's "Treatise on Diseases and Injuries of the Nerves," p. 190, London, 1834.

2170. The left leg of a rabbit, from which half an inch of the sciatic nerve was cut out four months before death. "The extremities of the divided portions were separated from each other eight-twelfths of an inch. There appeared several small branches arising from the superior portion, but there were three very remarkable; one was continued down into the nerve passing to the outside of the heel, which in this case was larger than ordinary; the other two (which are here shown in the posterior median line of the limb) appeared to be newly-formed nerves; one went from the superior portion to the popliteal nerve, the other went from the same place to that which corresponds with the fibular nerve in the human subject. The integuments of the heel were in an ulcerated state, and part of the os calcis was dead; but these diseased appearances had not, I think, increased in the last two months. The rabbit was certainly much improved in the use of the limb, which was, however, very far from being perfect."

From Mr. Swan's "Treatise" already quoted, p. 192. There is an engraving of this preparation in the same, pl. vii.

2171. The muscles and other parts on the outer side of a knee, together with the peroneal nerve, and some of its branches. A portion of the peroneal

nerve, an inch in length, was removed from the part at which it lies, near the tendon of the biceps flexor cruris muscle. In describing the appearances shown in this preparation, which is taken from the limb amputated three months after the operation on the nerve, Mr. Swan says, "The peroneal nerve was enlarged, and at the place where it had been divided was much thickened, and one new branch went from this part to the anterior tibial nerve. The junction of this branch with the anterior tibial was at the inner side of the nerve, and, from the manner in which it is situated, I think it not improbable that some other branches, forming a medium of communication between the divided portions of nerve, might have been destroyed in the dissection. New branches went from the same portion of the divided nerve to the dorsal branch, and to the surrounding parts. Both the anterior tibial nerve and the dorsal branch were larger than in their natural state. The new branches that went to the dorsal branch and the surrounding parts were flatter than nerves of the same size usually are; but, so far as I can judge, they were new nerves."

The operation on the nerve was performed for the relief of the sufferings produced by a large and very painful and bleeding ulcer on the front of the leg of a man forty-eight years old. Paroxysms of pain used to come on with violent stabs like spasms, which extended up the outside of the leg to the ham, and thence to the back; and in these paroxysms the limb would frequently be moved involuntarily. Pressure on the peroneal nerve aggravated the pain. After the operation the patient never had any of the violent pain or spasms of the limb, and was much more comfortable; but he still, at times, suffered pain from the connection of the saphenus nerve with the ulcer. The necrosis of the tibia, however, with which the ulcer was connected, made progress, and the general health became more affected; the limb was therefore amputated.

The case is further related by Mr. Swan in his "Treatise," &c., p. 77; and there is an engraving of this preparation in the same work, in pl. vi. Specimens of the diseased tibia are preserved in Nos. 752, 753.

2172. Part of a nerve, from a horse's leg. A portion of the nerve was cut out eleven months before death, but the functions of the nerve were in some measure restored, probably by the production of new nervous filaments in the large bulb-like substance, which formed the bond of union between its cut extremities. The surface of the section of this cicatrix presents numerous irregular white streaks in a compact pale brownish substance,

and no boundary line can be traced between it and the parts of the original nerve between which it is formed.

2173. Another nerve, from the same leg. It was divided at the same time, and is similarly healed.

2174. A nerve, from another leg of the same horse. After a portion had been at the same time removed from this nerve, its divided extremities, like those of the others, were united by a similar but smaller bulb-like cicatrix, through the medium of which its functions were also in some measure restored.

2175. Another nerve, from the same leg, similarly treated, and similarly healed. Of both these nerves the trunks above the cicatrix are smaller than the corresponding parts of the nerves of the other leg.

The horse had been lame for two years, at the end of which time a portion of each of the nerves going to both feet was cut out. After this he went very well for six months, when he again became lame, and continued so five months. Then, as he appeared to suffer great pain, he was killed. One of the legs, in which the nerves and their bond of union were largest (and from which Nos. 2172 and 2173 were taken), was much swollen, especially at the foot, where matter was discharged by several sinuses leading to a diseased coffin-bone. In the other leg there did not appear to be much disease.

The case is related by Mr. Swan in his "Treatise on Diseases and Injuries of the Nerves," p. 209, London, 1834.

3. *Effects of Inflammation of Nerves; enlargement, induration, &c.*

2176. Section of the radius of an ass, fractured obliquely near its upper extremity. The fractured portions are displaced laterally, but are firmly connected by the thickened periosteum, and by a thin layer of fibrous tissue which intervenes between their adjacent surfaces. The cancellous tissue at the extremity of each portion is filled with compact osseous substance, which has coalesced with the wall. The radial nerve and its branches are enlarged.

2177. A hand and part of a fore-arm, with the nerves on the anterior aspect displayed. The median nerve is enlarged, especially in the situation of its passage under the annular ligament, where also its connections with the sheaths of the tendons were thickened.

The patient, a man twenty-two years old, "seven years before the removal of the hand, was holding a horse, with the halter tight round his hand, when, the horse running back, the wrist was injured, and became immediately bent. The part was violently pulled after the accident, and thereby further injured. He had great pain in the wrist and palm of the hand ever after, and a slight pain at the back of the hand. The skin at the back of the hand was injured, and was continually ulcerating. The thumb and three fingers were always bent towards the wrist, and could be extended only in a very small degree; and the sense of touch was lost. As the hand was useless, and the source of much inconvenience, it was amputated, and the part soon healed."

On dissection no other alteration was found in the carpal joints than such as would result from their being constantly bent; they did not appear to have suffered any serious injury. The muscles on the anterior part of the fore-arm had contracted a permanent shortening.

The case is related in Mr. Swan's "Treatise," p. 60; and there is an engraving of the Diseased Nerve in pl. iii. in the same work.

The eight preceding specimens were presented by Joseph Swan, Esq.

2178. Sections of an ischiatic nerve, which was pressed on by a large tumour. Mr. Hunter says of it, "It was denuded for more than four inches, where it became of a bluish black; but where it was in contact with the living parts, which were become inflamed, there it was also become inflamed and thickened, but this thickening was owing to the cellular membrane being loaded with coagulable lymph."

The histories of this and the following preparation are added to the description of No. 106, vol. i., p. 43.

2179. A longitudinal section of a posterior tibial nerve, diseased like the preceding. *Hunterian.*

2180. The other section of the same nerve. *Hunterian.*

2181. Portion of the long cutaneous branch of the peroneal nerve, involved in

an ulcer of the surrounding parts, and itself much changed in structure where it is in contact with the ulcer. Part of it is turned downwards, and its fasciculi appear unnaturally separated. Above and below the part adjacent to the ulcer the trunk of the nerve is enlarged.

From a woman forty-three years old, whose leg was amputated on account of an extremely painful ulcer, with a fungus growing from it, which had existed on the lower and outer part of the leg between two and three years. The anterior tibial nerve was connected with the fungus, and the dorsal branch of the peroneal nerve gave many filaments to its base, which were very much enlarged in consequence of the irritation.

The case is more fully related by Mr. Swan in his "Treatise," p. 73; and there are engravings of the parts in the same work, plates iv. and v.

Presented by Joseph Swan, Esq.

2182. Portion of skin from a leg, on which there is an extensive superficial ulcer. It was extremely painful, and two cutaneous nerves, much enlarged, are traced in the cellular tissue beneath it. Some of the papillæ of the skin, near the margin of the ulcer, are very large.

From the Museum of Robert Liston, Esq.

4. *Partial, or gangliform, enlargement of Nerves.*

2183. Part of a left sciatic nerve unravelled, and exhibiting a great number of oval enlargements, like ganglia, from a quarter of an inch to nearly an inch in length, and from one to three lines in diameter, on various parts of its fasciculi. In the sections of some of these enlargements they appear to be formed of a dense and somewhat fibrous texture, like the bulbous enlargements of divided nerves. The trunk of the nerve, before it was unravelled, was very large; its neurilemma was dense, and the fibro-cellular tissue connecting its fasciculi was hardened and confused, so that their separation was extremely difficult. Examination with the microscope showed that each enlargement depends, not on a tumour imbedded among the filaments, but on the development of a large quantity of fine fibro-cellular tissue among them; so that each filament appears enclosed in well-formed fibro-cellular tissue.

The history of the case is added to the description of No. 302, vol. i., p. 139. The nerves of the integuments and muscles of the thigh presented many swellings similar to these, but smaller.

The patient died shortly after the publication of the first volume of this Catalogue, where it is said that "Recently a tumour has appeared within the abdomen, on the right iliac and lumbar region." This tumour enlarged, and he died exhausted with it and others of the same kind developed on the intestines and other parts; all of which had the same general appearance as that preserved in No. 302.

From the Museum of George Langstaff, Esq.

2184. Part of the ulnar nerve, with the tumour seated on it, which was removed from the patient whose case was last referred to. The tumour is oval, nearly an inch in length, and composed of homogeneous, pale, firm texture. It appears to be imbedded in a large, and probably unnaturally enlarged, branch of the nerve, having nervous fibres expanded around it, and being enclosed in a tough capsule like a distended neurilemma, which can be easily reflected from it. In the trunk of the ulnar nerve, at a short distance from this tumour, is one of much smaller size, but similar in texture, loosely imbedded among the nervous fibres, and causing an apparent local enlargement of the nerve, like some of the numerous enlargements in the preceding specimen.

Presented by William Lawrence, Esq.

2185. A specimen of numerous elongated oval enlargements of portions of the fasciculi of a sciatic nerve, exactly like that shown in No. 2183.

This specimen was taken from a limb in which there was long-standing suppurative disease of the synovial membrane and cartilages of the knee-joint.

5. Tumours in or involving Nerves.

2186. Section of a tumour, enclosed in the sheath of the radial nerve of a lady twenty years old. The surface of the tumour is smooth, its form is nearly oval, and it measures an inch and a half in its chief diameter. Its

substance is dense, compact, and obscurely fibrous; the neurilemma invests it closely; and the fasciculi of the nerve are expanded round it.

Hunterian.

2187. The other section of the same tumour and nerve.

The case was published by Sir Everard Home in the "Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge," vol. ii., p. 154. "A lady, twenty years of age, had a tumour on the outside of the biceps muscle of the right arm, just below the middle. It was of the size of a small pullet's egg, of an elliptical form, and moveable in the surrounding parts, but principally in a lateral direction. It was extremely painful when anything pressed against it, which made her very careful in defending it from external accident. It had been several years in arriving at this size, but was now increasing more rapidly, which induced her to submit to have it removed. The operation was performed by Mr. Hunter, in which I assisted him. In the operation, handling the tumour, or moving it from its place, gave the most excruciating pain. When the tumour was fully exposed, it had a smooth shining external surface, and terminated at its upper and lower ends in a strong white cord, which proved to be the musculo-cutaneous nerve. Upon cutting into the tumour, it was discovered to be enclosed in the nerve. This discovery was not made till the tumour had been everywhere laterally dissected from the surrounding parts. It was, therefore, thought prudent to remove the whole by dividing the nerve at the two ends of the tumour. The artery belonging to the nerve bled so freely, that it became necessary to apply a ligature on both the cut ends of the nerve, as the artery itself could not be got at. An attempt was made to heal the wound by the first intention, which did not succeed; but it got well, as soon as wounds of that size usually do, by suppuration and granulation. The patient lost the use of her forefinger and thumb, and there was a numbness in all the parts supplied by that nerve. The skin which covered them was unusually rough and dry, and the cuticle came off in small scales. Before the operation, the pain was not confined to the tumour, but extended to all these parts. On examining the tumour, it was found that three inches in length of the nerve had been removed, that it was divided into two portions, each of them very much flattened, and passing over two opposite sides of the tumour. There was also a nervous expansion, not thicker than a common membrane, which completely invested the whole of the tumour; and when that was divided, it could be readily separated everywhere except at the extremities, where the connection was somewhat stronger.

"When the tumour was divided, and the cut surface accurately examined, it had the appearance, in the centre, of serpentine nervous fibres, running in the course of the nerve. These were separated from each other, and the interstices filled up with the substance of the tumour; but that part of the tumour which was exterior to these fibres had something of a radiated structure."

Hunterian.

2188. Section of a tumour, removed from the interior of one of the nerves of an axillary plexus, together with a portion of the neurilemma by which it was surrounded. The tumour is of a flattened oval form, and nearly three inches in length; it is composed of pale, uniformly compact, and very firm substance, with an appearance of white longitudinal fibres running through its axis, and undulating towards its circumference.

Presented by Sir Everard Home.

2189. A part of the nerve, from within which the preceding tumour was removed. The cavity in which the tumour was enclosed is diminished in size; its internal surface is wrinkled, and rough with deposits of lymph (it was full of coagulated blood); its walls are from half a line to a line in thickness, and are formed of a compact tissue, in which are imbedded the nervous fasciculi expanded around the tumour. The greater part of these fasciculi were collected together behind the tumour. Another branch of the axillary plexus is adherent to the exterior of the cavity.

The case is recorded by Sir Everard Home in the "Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge," vol. ii., p. 157. The patient was a Frenchman, thirty-five years old. The tumour had existed two years; it was situated in the middle of the axilla; became prominent when the arm was raised, and had some limited mobility in the lateral direction; and severe darting pain was felt in the fingers, and was much increased by pressure upon the tumour. In the operation for removing the tumour (after various means had been used without avail to diminish the sufferings it produced), the axillary vein was found stretched over its anterior surface. This being held aside, the tumour was exposed, and, being seen to terminate below in a white cord, which produced a sensation of overstretching of the arm when it was pulled, it was supposed to be seated in a nerve. Part of its external covering was therefore dissected off, and it was scooped out with the fingers. Immediately after the operation the patient felt relieved: next day he was free from pain and could move his fingers without uneasiness; and he went on well till the fourth day, when he lost his appetite, had an unusual heat in his skin, and his pulse became quick. Next day these signs were increased, and he became depressed in spirits; and on the day after, he died.

A similar, but smaller, tumour was found after death in another of the nerves of the brachial plexus. All the other parts of the body were healthy.

Presented by Sir Everard Home.

2190. Portion of an ulnar nerve, with a hard round tumour enclosed within the neurilemma, and expanding the nervous fasciculi upon its surface.

The patient was a man seventy-three years old. The tumour had been observed twelve months, on the inner side of the triceps humeri muscle, near the axilla, and had produced considerable darting pain in the wrist. In the morning after the removal of the tumour, a carbuncle was observed to be forming on the back of the wrist, where the darting pain had been very severe on the previous night, and the ring and little fingers were numb. The carbuncle made progress, and the general health was much disturbed; but, after ten days, the case assumed a favourable aspect. On the twelfth day, however, erysipelas appeared on the back, and thence passed rapidly to several other parts: then inflammation attacked the pharynx; after this was subdued, abscesses formed in the arm from which the tumour was removed; and thus, at length, the patient sank.

Presented by Sir William Blizard.

2191. Sections of a tumour, on the exterior of which the fasciculi of the posterior tibial nerve are expanded. It probably grew within the sheath of the nerve. The tumour has a somewhat oval shape, with a smooth surface, and measures four inches and three inches in its two chief diameters. It is composed of a firm, probably medullary substance, hard at its central and deepest parts, but softened and broken down near its surface, where there are two irregular rough-walled cavities. It is invested with a tough thick capsule, a part of which has been removed so as to expose the fasciculi of the nerve.

From the Museum of Robert Liston, Esq.

2192. The anterior crural nerve of the limb from which the tumour last described was removed. Its whole trunk is enlarged, and an oval tumour is imbedded in it, which measures three inches in length, has a smooth regular surface, and is composed of a very firm, compact, pale, obscurely fibrous, and somewhat glistening substance. The fasciculi of the nerve are expanded all round the tumour, but most of them are collected in two sets on opposite sides of it. Some other parts of the trunk of the nerve appear knotted, as if containing smaller tumours.

The patient was a middle-aged man. The tumour removed from the ham had existed seven years, and was supposed to have originated in a violent sprain. The patient recovered soon after the operation, but about six months afterwards returned

with another tumour in the same situation, and enlargement of the inguinal glands. This second tumour in the ham ulcerated, and destroyed life by hemorrhage. This nerve, with the tumour in it, was removed after death.

From the Museum of Robert Liston, Esq.

Specimens of Diseases of the Nerves in other parts of the Museum :—

105-6, 717, 779, 1170, 1681, 2243, 2244, 2250, 2254, 2255, 2258, 2261,
2814, 2815, 2819, 2820, 2824, 2825, 2826, 2827.

SERIES XLV.—DISEASES OF THE NOSE.

IN this Series are included only the specimens of disease affecting especially the Textures peculiar to the Nose. The diseases of its bones and integuments are illustrated in the Series appropriated to the pathology of those tissues.

1. *Syphilitic Ulceration.*

2193. Section of a skull, exhibiting the effects of syphilitic disease of the nose.

The greater part of the septum has been exfoliated, and portions of the perpendicular plate of the ethmoid bone and of the hard palate are exposed by the ulceration of their mucous membrane, necrosed and nearly separated. Over the middle of the inferior turbinated bone there is an appearance of a superficial cicatrix of the mucous membrane.

Hunterian.

2194. Part of a head, in which the whole alveolar process of the upper jaw, nearly all the septum of the nose, the nasal processes and margins of the superior maxillary bones, the anterior and inner margins of the orbits, and great part of the nasal bones, have been destroyed by syphilitic disease. In the palate the remaining parts are healed, but two large apertures are left at its anterior part. Higher up, the disease appears to

have made progress till the time of death, and the remains of the nasal bones are rough and necrosed. *Hunterian.*

2195. The septum of a nose, through the anterior and lower part of which there is a large, oval, smooth-edged aperture, which remained after the healing of a syphilitic ulcer. The external form of the nose does not appear to have been altered. *Hunterian.*

2. *Glanders.*

2196. Part of the septum of the nose of a horse, exhibiting the ulcers of glanders in various stages. Some of them have the form of groups of minute, superficial, elongated, and round ulcers, irregularly arranged, and with healthy interspaces; in others, such groups appear to have coalesced, producing oval and circular ulcers with defined margins, and extending more deeply into the mucous membrane; others are much larger and deeper, exposing the surface of the cartilage, and having abrupt jagged margins. Some of these last have, also, at their centres extended into the substance of the cartilage, making deep pits in it, or penetrating it, and exposing the mucous membrane on its other side. Where such penetration has taken place, growths like granulations have formed from the under surface of the mucous membrane covering the opposite side of the septum, and have protruded through the holes, so as to look like islands of granulations in the centres of the large ulcers. At all parts the mucous membrane intervening between the ulcers is smooth, and appears healthy. *Hunterian.*

2197. One of the turbinated bones of a horse, with the mucous membrane covering it similarly, but less extensively, diseased. *Hunterian.*

2198. Part of the septum of the nose of a horse, with several ulcers of glanders, and cicatrices of many more. The remaining ulcers have not the same form as those in the last specimens; but, where they still

present their primary form, are circular, with round elevated borders, depressed bases, and, in some instances, slight elevations in the centres of their bases. They are also regular in size, about two lines in diameter. The cicatrices are very large, and present deeply puckered radiating lines. *Hunterian.*

3. *Polypi and other Tumours of the Nose.*

2199. Section of a boy's head, displaying the left nasal fossa, from which a polypus was removed. The blood-vessels are minutely injected. In the place where the polypus grew, near the posterior aperture of the nasal fossa, there is a round and deep hollow, bounded externally by the expanded wall of the nose, and anteriorly by a prominent fold of mucous membrane, which stands vertically across the floor of the nostril. The inferior spongy bone has been pushed out of its place, and its posterior half is not traceable. On the lower margin of its anterior half, a small soft polypus is attached by a slender pedicle, and covered with a very vascular prolongation of the mucous membrane. A similar, but smaller, polypus is attached, above that just described, to the lower and anterior margin of the middle spongy bone. The cells of the ethmoid bone appear to be completely filled with a firm, elastic, pale, and semi-transparent substance like foetal cartilage; a mass of which projects forwards in a round tumour into the upper part of the nasal fossa. The section of this growth, which is shown in the preparation, closely resembles one of a cartilaginous tumour. *Hunterian.*

2200. Part of a head, exhibiting a small soft gelatinous polypus, attached by a pedicle to the mucous membrane lining the outer wall of the right antrum. *Hunterian.*

2201. Part of a head, exhibiting a view of the nasal fossæ from below, with a large gelatinous polypus, attached to the lower part of the left inferior spongy bone, and extending through the whole length of the floor of the

nostril, and through the posterior nares. It has exactly adapted its form to that of the parts around it. *Presented by Joseph Swan, Esq.*

2202. Soft gelatinous polypi, from a nose. Three or four separate polypi, connected with each other at their attachment to the mucous membrane, appear to have been extracted at the same time without breaking their connections. *Hunterian.*

2203. A round gelatinous polypus, extracted from a nose. Its upper narrower part is probably that by which it was attached. *Hunterian.*

2204. A similar specimen. Close to the pedicle by which this polypus was attached another is fixed to it by a very slender stem. *Hunterian.*

2205. A large flat, lobulated, gelatinous polypus, removed from a nose. About the borders of its smaller lobes it still shows some of the transparency which probably the whole of it possessed when recent; the rest of it, like the preceding specimens, has been made opaque by the action of the spirit. Between two bristles there is a thin long scale of bone, to which the polypus adhered, and which was pulled off with it. Above this there is a large smooth-walled cavity in the middle of the substance of the polypus. *From the Museum of Sir A. P. Cooper.*

2206. A similar specimen. It is very deeply lobed, and appears to have been torn in the extraction. *From the same Museum.*

2207. A small flat gelatinous polypus, with a portion of a spongy bone, to which its pedicle is attached, and which was extracted with it. *From the same Museum.*

2208. Several similar specimens, from different persons, showing some of the various forms which polypi of this kind may assume, and the various modes in which they are attached to the spongy bones. *From the same Museum.*

2209. Part of a large firm polypus, from a nose.

From the Museum of Sir A. P. Cooper.

2210. Part of a large soft and minutely lobulated, polypoid, malignant growth, removed from the posterior nares.

It was pushed from its attachment with the fingers, and extracted through the mouth.

From the Museum of Robert Liston, Esq.

2210A. The left side of a head, with a large malignant polypus of the nasal cavities, and other similar tumours, attached to adjacent parts. All the tumours appear to be pale, soft, but compact and smooth on their cut surfaces; they are in no part ulcerated. The nasal cavities on both sides are filled, the septum is bent outwards by the portion on its left side, and a large lobulated mass, adhering to its right side, and to the basilar process of the occipital bone, fills the right nasal cavities and the sphenoidal sinuses, and projects backwards into the pharynx. Another large tumour, continuous with that in the sphenoidal sinuses, rises through the bone and dura mater under the anterior lobe of the left hemisphere of the cerebrum; other small tumours of the same kind are attached to the adjacent parts of the dura mater. Other tumours, again, or parts of those which are seen within the nose, have protruded the eye, everted the lower eyelid, and formed an enormous swelling in the temporal and spheeno-maxillary fossæ. The frontal sinuses and the antrum are free from the disease, but the latter is much compressed.

The patient was a man twenty years old. Eight years before his death he first had signs of a cold, which continued and increased for two years. Three years after it began, a polypus appeared in the nose, and an imperfect attempt was made to extract it. After this the disease shown in the preparation gradually made progress. He had scarcely any signs of cerebral affection from the tumour within the skull.

From the Museum of John Taunton, Esq.

Other specimens of Diseases involving the Nose:—

1048-9, 1052.

SERIES XLVI.—DISEASES OF THE EAR.

2211. Portion of a temporal bone, in which the mastoid cells, tympanum, and some of the other parts of the internal ear, were filled with thick, purulent, and serofulous matter. A large portion of bone, including a part of one of the semicircular canals, lies loose in a cavity in the petrous bone, and is indicated by a bristle.

From a man who was extremely deaf.

Presented by Sir William Blizard.

2212. Polypi, from the meatus auditorius externus. They are soft and yellowish; one of them is smooth, and was attached by a narrow pedicle; the other is regularly and minutely lobulated on its surface.

Presented by Sir William Blizard.

2213. A large lobular polypus, from the meatus auditorius externus. It is soft, yellowish, and semi-transparent, like the gelatinous polypi from the nose. Part of it was torn in the extraction.

Presented by Sir William Blizard.

2214. Part of the pinna of the ear of an old woman, with a small, firm, fibrous tumour in it.

From the Museum of George Langstaff, Esq.

2215. Part of a temporal bone, in which there was disease of the internal ear and the adjacent tissues. On the attached surface of the dura mater, covering the diseased part of the petrous bone, there is a small irregular growth, which has the consistence and general appearance of a fibrinous coagulum. It is firmly fixed to the dura mater, with which it has been reflected from the diseased bone.

The patient, a girl eighteen years old, had long had profuse purulent discharge from the ear. On its sudden cessation, violent headache and delirium ensued, which were speedily followed by coma and death.

From the Museum of Robert Liston, Esq.

2216. Portion of a skull, with the cavities of the internal ear displayed, and other adjacent parts. The tissues of the internal ear are extensively destroyed by ulceration, and part of the surface of the petrous bone is ulcerated. From this part the dura mater has been reflected, and with it two large growths of the same kind as that last described, but connected with its free surface, not, as in that case, with the surface attached to the bone. The tumours are each about an inch in its chief diameter, but very irregular in their form.

From a man forty-seven years old, who was subject to severe and almost constant headache for two or three years. For some days before his death the pain became most intense, and was accompanied by great constitutional excitement.

From the Museum of Robert Liston, Esq.

2217. A similar specimen, except that the dura mater beneath the growth is so thin and soft that it cannot be detached from the petrous bone; and the growth appears, therefore, to be in part fixed to the bone itself. The growth is irregular in form, and upwards of an inch in diameter.

The patient was a middle-aged woman, who long laboured under obscure symptoms of disease in the head, with occasional purulent discharge from the ear.

From the Museum of Robert Liston, Esq.

Other Specimens of Disease in, or connected with, the Ear:—

71, 717, 718.

SERIES XLVII.—INJURIES AND DISEASES OF THE EYE.

1. *Diseases of the Conjunctiva.*

2218. The eye of a child six weeks old, exhibiting some of the effects of purulent ophthalmia. The palpebral conjunctiva is thickened and granular; its papillæ are much enlarged. There is a large oval aperture,

with smooth margins, in the cornea. The pigment of the choroid has no dark colour.

The child died with convulsions and other signs of cerebral disease during the progress of the ophthalmia.

From the Museum of George Langstaff, Esq.

2219. Sections of the eye and eyelids of an ox. The whole of the conjunctiva is covered with a thick layer of a warty substance, which has many of the characters of the epithelial cancerous growths of the skin. The external surface of the eyelids was covered for some distance by a similar growth, and it extends to the surface of the cornea. The growth during life was very vascular, and bled freely; it formed a mass protruding five or six inches from the face. The eye itself appears healthy, but the optic nerve is elongated.

From the Museum of George Langstaff, Esq.

2220. The anterior part of an eye, with a large and broad wart-like growth covering the whole of the cornea and the adjacent part of the sclerotica. Probably, like the preceding, it proceeded from the conjunctiva.

The patient recovered after the removal of the disease.

From the Museum of Sir A. P. Cooper.

2. Diseases of the Cornea and Sclerotica.

2221. An eye, in which there are ulcers of the cornea, and adhesions of the anterior surface of the iris. There appear to have been several small, round, penetrating ulcers of the cornea, which have coalesced; one of them has perforated it. *From the Museum of George Langstaff, Esq.*

2222. The eye of an ox, having the cornea thickened, opaque, superficially ulcerated, and irregularly staphylomatous. The lens is opaque, deformed, and shrivelled. Part of the iris is adherent to the cornea.

Hunterian.

2223. The eyes of a boy sixteen years old. The scleroticæ are twice as thick as is natural, contracted and puckered. The corneæ are so thickened, indurated, and opaque, that they can hardly be distinguished from the scleroticæ. In one eye, the choroid appears natural; in the other, it is shrivelled up. The retinae are very thin and filmy. Earthy matter is deposited in each lens.

The eyes had been destroyed in early life by small-pox, and became staphylomatous. For two years before his death he was subject to severe pains in his head, and fluid collected in the eyes till they became extremely prominent. The corneæ were punctured, and the globes soon contracted to their present size. He died with typhus fever.

From the Museum of George Langstaff, Esq.

3. Diseases of the Iris.

2224. An eye, in which there are opacity of the cornea and close adhesion of part of the iris to its posterior surface.

From the Museum of George Langstaff, Esq.

2225. Portion of an eye, in which the cornea is thickened and opaque, and the lower part of the iris is closely adherent to its posterior surface.

From the Museum of Sir A. P. Cooper.

4. Diseases of the Choroid Membrane.

2226. Part of an eye. The choroid membrane contains several small thin plates of bone at its posterior part. The lens is absorbed, and its capsule ossified. The pigment of the choroid is decolorized.

From a man who was completely blinded by lightning forty years before death.

Presented by Dr. Goodfellow.

5. *Diseases of the Retina.*

2227. Part of an eye, exhibiting an irregular thickening and brownish opacity of the retina. *From the Museum of George Langstaff, Esq.*

2228. An eye, in which fluid collected between the retina and the choroid membrane, and the retina collapsed, or was pressed into the form of a flattened cord, which is seen passing from the entrance of the optic nerve, and expanding on an opaque granular tissue on the posterior part of the capsule of the lens.

"A Case of a Dropsy of the Eye, where the Water was found between the Choroid Coat and the Retina.

"I find on enquiring that he lost the sight of the diseased eye eight years ago, without his having either pain, inflammation, or any other cause of complaint, except a dimness in the appearance of objects. This last gradually increased for two years, at the end of which the eye became totally blind, and so remained till the time of his death. The dimness first came on after his having an intermittent fever, which continued a considerable length of time, notwithstanding the use of a considerable quantity of Peruvian bark, and of many other medicines.

"I am, dear Sir, your obedient servant,

"JAMES WARE."

"The eye looked fair, excepting the appearance of a cataract; also, there was no motion in the pupil, and which was rather small. The eye was of its natural size, and, on opening it, viz. in dividing the sclerotic and choroid coats transversely, I found them distended, but not more than natural; and, on wounding the choroid coat, out flowed a very yellow-coloured water; and, continuing this incision all round, so as to divide it entirely, I found the retina collapsed into a white cord, passing directly through the centre of the eye, from its entrance to the anterior part, where it was attached to the crystalline humour and posterior surface of the iris, so [that] the water had separated the choroid coat from the retina; and, in proportion as the water had increased, the vitreous humour had decreased, or had been absorbed.

"We may consider this in another view; that the vitreous humour had lost its construction and become a fluid, and the retina had burst, and the water getting on its outside it collapsed. We can hardly suppose that the retina was first absorbed, and, as it was absorbed, the dropsy increased, or was a cause of the dropsy; but we can easily conceive the dropsy the cause of the absorption of the retina."—*Hunterian MS. Cases and Dissections*, No. 81.

2229. A similar specimen, described as "dropsy of the eye on the outside of the retina; the retina collapsed." *Hunterian.*

2230. The eye of a blind man, in which large plates of earthy matter, or bone, are formed in the retina, and on its inner surface. The sclerotica and choroid membrane appear healthy. *Hunterian.*

2231. An eye, in which the retina is collapsed to a smaller than its natural size, but retains its natural form, and has thin plates of bone imbedded in it. Its whole substance is thickened and opaque, and anteriorly it is continuous with what appears to be that portion of the hyaloid membrane which lies in contact with the posterior layer of the capsule of the lens, and which, like itself, is thickened and opaque. A tough white cord, a line in thickness, extends from the situation of the entrance of the optic nerve, straight through the middle of the space enclosed by the diseased retina, and, enlarging as it goes on, is attached to the thickened hyaloid membrane in front. It has the situation and relations of the canal of the arteria centralis retinae. *From the Museum of John Heaviside, Esq.*

6. *Diseases of the Vitreous Humour.*

2232. An eye, in which the vitreous humour has collapsed, and forms, with the thickened hyaloid membrane, a flat mass of opaque soft tissue at the back of the lens. The centre of this mass is connected by a slender cord, formed probably by the thickened canal of the arteria centralis retinae, to the point of entrance of the optic nerve. The choroid, with its blood-vessels injected, appears healthy; the retina, of which a part only remains hanging loosely in front of the choroid, was entire, but fluid had collected between it and the collapsed vitreous humour. The lens was opaque.

From a man who had been blind forty years.

Presented by John Quekett, Esq.

7. *Diseases of the Lens and its Capsule.*

2233. A cataract, extracted by Baron Wenzel.

"It was removed from the left eye of a clergyman of Exeter, aged seventy-eight, who had cataracts in both eyes, during a state of great inflammation and irritability of the organ. Mr. Hunter declined operating till the inflammation could be subdued. The Baron saw no objection, and operated. The patient became totally blind in that eye. The intention of recording the case, Mr. Hunter observed, was to show, as far as one case could show, that we should not couch in cataract where there are disadvantages that we may reasonably suppose recoverable, of which inflammation is one. Where there are disadvantages that are not to be overcome by time and art (as probably small adhesions), and we may suppose a chance of doing good by the operation, then waiting answers no good purpose."—*Mr. Clift's Notes.*

Hunterian.

2234. Two hard cataracts, removed from a lady's eyes.

Hunterian.

2235. Parts of an eye, dried. The lens, converted in a mass of white, compact, earthy substance, nearly retains its natural size and form. Some irregular portions of earthy substance, also, extend from it into the vitreous humour.

Presented by James Wardrop, Esq.

2236. The eye of a deer, from which Mr. Hunter extracted the lens.

Hunterian.

2237. The other eye of the same deer, in which, after the extraction of the lens, the retina collapsed, as in Nos. 2228, 2229.

Hunterian.

2237A. An eye, from which the cornea has been removed to show the consequences of an operation by which the lens was extracted many years before death. The pupil is closed with membrane, which has a dark brown colour, like the adjacent iris; and a thick, opaque, white portion of lymph adheres to the front of the iris, at the lower part of the anterior chamber.

Presented by Dr. Goodfellow.

8. *Diseases of the whole globe of the Eye.*

2238. An eye, collapsed and atrophied after suppuration and rupture of the globe. A portion of the upper eyelid is adherent to the front of the contracted sclerotica.

" A Case where there appeared to be an immediate translation of a Disease to another part, producing there different effects to those where it originally was.

" Rachel Young, aged sixty-four, for the first forty years of her life was a healthy, strong woman. At that period the catamenia left her, and she became much the invalid by the attack of frequent giddiness of the head; rheumatic pains seized the joints of her body every succeeding year, and were, in common, increased upon the advance of spring and autumn; particularly remarking that she became more corpulent (though under these afflictions) than she had ever been previous to the attack.

" The common resource to remove these evils she had recourse to, and took a variety of remedies prescribed by many medical gentlemen in vain, in consequence of which she ceased from their use, having recourse only to some simple domestic opening medicines, to prevent the fullness of habit, by which she became much easier.

" On the 6th of April, 1781, a pain seized her right shoulder, and continued more troublesome than it had been for many years; it remained in the same place for two days, then suddenly, and with astonishing quickness, darted into the very body of the right eye, which became so violent in twenty-four hours that she was frequently delirious. About the twelfth hour after the first attack of pain in the eye, she had the assistance of bleedings from the arm and temples by the lancet, and by leeches from the upper part of the head; a blister was applied between her shoulders; and fomentations and poultices, of the emollient and sedative kind, were externally applied, and opiates, in proportion to the pain, internally taken; together with gentle sudorifics, in order to promote perspiration, and lessen heat.

" The pain continued but with little intermission till the 9th. The eye then appeared (as well as every other part within the orbit) to be so extended, that the space was no longer sufficient to contain it; and on the 11th the whole swelling was pushed out considerably from the socket, and then she became somewhat easier. The pupil of the eye was very large and open: the humours were thickened; and a large fungous excrescence grew from the inside of both the upper and lower eyelids, discharging from its surface a great quantity of a greyish fluid.

" In this state the patient's pulse was so singular as to give but little information as to her strength, sometimes quick, sometimes slow; sometimes small, quick, and weak, and at others full, regular, and strong; heat of the body but little, and having but a small degree of thirst.

" The day following, upon removing the dressings cautiously, there appeared

plainly to be an abscess formed in the cavity of the eye, and had opened its way through the cornea, and matter was discharging from it; and, in consequence thereof, the general symptoms were lessened, and the swelling and inflammation abated. The parts each succeeding day became smaller and smaller, and the discharge daily lessened, till the eye seemed shrunk away and the parts entirely collapsed. The upper eyelid fell down over the cavity, resting upon the lower, and completely covered the remains of the disease.

" During this period she was supported, and, with the assistance of bark, gentle exercise, and free air, she was perfectly recovered of her health; and, till May, 1782, she was able to walk several miles a-day, and go about her former accustomed domestic avocations, when she became subject to frequent long, deep, and unaccountable respirations; was considerably weaker in her limbs, though her aspect at that time was good. These continued for a fortnight. On the 15th of the same month, not coming down to breakfast as usual, the servant was sent up, when she found her without motion and speechless in bed.

" The medical aid of Dr. Pitcairn was called in, and the disease by him was called palsy; and, from her then apparent situation, it seemed as if the attack bore more the resemblance of apoplexy than palsy. In the space of twenty-four hours, the means made use of so far recovered her that she gained the use of the left side; the limbs of the right continued for near a week unable to do their office, during which time she recovered her faculty of discovering objects, distinguishing them particularly; and had a thorough knowledge of questions put to her; but her articulation continued so bad, that her answers could only be known by the joint signs she made use of, at the same time plainly showing a judgment wonderful under such an affliction.

" By the repeated use of electricity, the right arm and leg were so strengthened and animated that, in about a month, she was able to walk about and enjoy fresh air. From the first seizure she had two attacks again of the disease, but so weak as only to confine her for a day or two.

" On the 8th of this month (July, 1782) she was found in a similar situation as on the first seizure, and expired in a few hours.

" Upon examination of her brain after death, the following were the appearances:— On dividing the scalp, &c., the blood which came from the divided vessels was fluid; nor had it the least disposition to coagulate after being exposed some time.

" The dura mater adhered so firmly to the skull, as made it almost impossible to separate them. The pia mater, on the upper part of the cerebrum, was loaded with a transparent fluid. The substance of the brain seemed not quite so firm in texture as in common, and there seemed a greater quantity of fluid in the left ventricle than what is natural, which was tinged with a mixture of whitish matter; and, on the anterior part of the ventricle, the brain appeared not so firm, but rather as if mashed. All the other parts appeared quite sound.

" The parts about the eye were consolidated by inflammation, and the remaining part of the sclerotic coat that was left was united to the eyelid all round, so that there appeared but one half of the globe of the eye left.

“ Was this a translation of the disease? Did the eye sympathize with the shoulder, and take on the whole action? Or was there a constitutional disposition to produce action somewhere, and, after wandering about, it at last fell upon the eye, producing inflammation, although it had not produced this mode of action anywhere else? And did the same constitutional affection recur, and afterwards fall upon the brain?”—
Hunterian MS. Cases and Dissections, No. 83.

2239. An eye, extirpated after twenty-two years' disease, from a man sixty-five years old. All its tissues appear thickened, indurated, opaque, and consolidated. The place of the vitreous humour is occupied by a mass of whitish substance. The papillæ of the conjunctiva are enlarged.

The patient received a kick from a horse on the supra-orbital region, which destroyed the vision in the corresponding eye. From that time he had frequent attacks of pain in the eye; and, twelve years afterwards, fistulous openings formed in several places around the eyeball, from which a constant discharge issued. After this had continued for ten years, and his health had begun to fail through the irritation and discharge, and occasional hemorrhage, the eye was extirpated; and, on examining the orbit, it was found that the whole of the orbital plate of the frontal bone had been destroyed, so that the finger could rest on the dura mater beneath the anterior cerebral lobe. The patient completely recovered, and lived long after the operation.

From the Museum of Robert Liston, Esq.

9. *Cancer of the Eye.*

2240. An antero-posterior section of the left eye, extirpated from a child three years old. The sclerotica is complete, but distended; the cornea is thickened and opaque. The whole globe is filled with a soft cancerous substance. At the posterior part of the globe (the upper part as the preparation is placed), the morbid substance appears loose and finely spongy, with an obscurely fibrous texture, and forms a distinct globular mass, which is separated by a narrow space from the morbid substance which fills the anterior part of the globe. In the space by which they are separated, is seen the section of the choroid pushed forward by the posterior growth. In front of the choroid, and between it and the sclerotica, the morbid substance fills all the rest of the globe, and has pressed the lens and iris flat against the cornea, which, though soft, is compact; and the surface of its section is uniform and smooth. *Hunterian,*

2241. The other half of the same eye. The morbid substance, with which the anterior part of the globe was filled, has been removed, exposing more clearly the choroid separated from the sclerotica by the posterior morbid growth, and showing the rest of this growth attached to the posterior part of the sclerotica. *Hunterian.*

2242. The right eye of the same child, with the optic nerves, their commissure and origins, and a morbid growth that filled the orbit from which the left eye was removed.

The history of the patient from whom these specimens were taken is given at great length in "The Case of a Diseased Eye," by Mr. Hayes, Surgeon: in the "Medical Observations and Inquiries, by a Society of Physicians in London," vol. iii., p. 120, London, 1767; and the account of the examination after death, made by Mr. Hunter, will best explain this last preparation. "We found more water in the left ventricle than in the right; on raising the anterior lobes of the cerebrum, the right appeared quite sound, but the left was red, and some extravasated blood lay on the orbital process of that side. We then cut off the right lobe, and laid bare the optic nerve of that side, which we found in all appearance perfectly sound; but the left lobe, which was found diseased in its substance, adhered to the optic nerve, internal carotid artery, infundibulum, and the glandula pituitaria, so that we were not able to distinguish any separation of these parts. We therefore took out all these parts, with the optic nerves, the right eye, and the tumour in the orbit of the left side, whole and joined together. Mr. Hunter then inverted them, and examined the optic nerves on their under surfaces; that on the right seemed perfectly sound through its whole length, but on the left, what was the optic nerve, could not be distinguished from the substance of the anterior lobe and glandula pituitaria which adhere there. He then cut into the tumour, that had lain in the orbital foramen, to see if he could trace it on to the brain, but he could not find any appearance of a nerve; he afterwards began at the union of the optic nerves, to try if it could be traced from thence to the foramen, but it could hardly be said that there was any continuation of it from this part.

"We observed, that the disease in the nerve had proceeded no further towards the brain than the union of the two nerves; but it had gone so close to that union as to appear just as if no nerve had ever been given off at that part; both nerves seemed sound before, and at, their union. The thalami were likewise sound. The tumour, which was in the left orbit, had an external covering everywhere, of about one-eighth of an inch thick, and within that was a brownish substance, that seemed to have no direction of fibres, and appeared as if glandular; yet it was not so smooth or solid in texture, but more spongy or loose. Mr. Hunter observed, that he had always found this sort of texture in scirrhus testicles, breasts, &c., when not of the gristly kind, such as often arise in wens, white swellings, or from the remains of inflammation.

"The optic nerve of the right eye seemed quite sound through its whole length;

the eyeball, when cleared of the muscles, cellular membrane, &c., had just the common appearance. Mr. Hunter took off the upper part of the sclerotica, choroides, and retina, with as much of the vitreous humour as was contained in this section, and, by that means, exposed the cavity of the eye.

"We found the coats and retina perfectly sound, and the crystalline humour, in its place, firm and transparent; but in the place of part of the vitreous humour was a whitish curdly substance, which lay in the posterior and outer part of the cavity, and had pushed the vitreous, that remained, to the anterior and inner part of it. Whether this whitish curdly substance had been formed on the outside of the vitreous humour, and had pushed it to the inside, or whether this substance was produced in the humour itself, which was wasted in proportion as that matter was formed, is not very easily determined; but the latter seems most probable, for it appeared as if the vitreous humour was continued into this substance, or, as it were, entangled in it. This substance was as much detached from the retina as the vitreous is in common."

The disease had been in progress about three years. The child appeared healthy; but, when she was fifteen months old, her parents observed something unusual in the appearance of the left eye, it looked glass-like, and this increased till they "could see to the bottom" of the globe. After this had been noticed for ten months, an attack of acute inflammation of the eye occurred, and, when this ceased, the sight, which had gradually become less, was completely gone, and the eye had lost all its natural external appearance, as well as the peculiar aspect which it had before. It now very slowly enlarged, having previously been rather smaller than the other eye, and, passing its natural size, became very prominent and painful. Mr. Hunter, who was now consulted, recommended that the contents of the globe should be discharged; but, on attempting this, they were found to be solid, and the eye was therefore extirpated. The child, whose general health was excellent, quickly recovered from the operation, after which cicuta was administered.

Nearly three months before the extirpation of the left eye, the parents of the child observed in the right eye the same appearance which the left had presented at the commencement of its disease. When looked at obliquely from the nose towards its outer angle, it seemed to have lost the deep black appearance, and to have "acquired a more clear, bright look, something resembling the cat's eye in the dark." Within three months after the operation, the disease in the right eye had so advanced that vision was almost completely lost, and a loose spongy growth had sprung up from the bottom of the left orbit, and appeared to increase more rapidly after it was necessary to discontinue the use of the cicuta. From this time the disease in both parts made speedy progress, attended by extreme pain, occasional convulsions, and paralysis of the lower extremities; but the intellect remained unimpaired till death.

2243. A right eye, considerably enlarged by the growth of a soft spongy mass, originally of a brownish colour, which fills the whole cavity of the globe, and at one part (near the left border of the upper section) causes a broad

protrusion of the sclerotica. A bristle is placed in the sheath of the optic nerve, which is diminished in size, and, directly after the removal of the eye, had a dusky brown colour. *Hunterian.*

2244. Part of the base of the brain, with the optic nerves, of the woman from whom the eye last described was extirpated.

" Cancer.

" Mary Cornish, aged fifty-three, came to St. George's Hospital with a diseased eye. The whole globe of it was exceedingly enlarged, and seemed to protrude beyond the orbit; the colour was of a Modena red, or rather brownish, and every external part was so confused that it could, but for its situation, scarcely be thought an eye. On consultation by some of the surgeons it was deemed cancerous, as she had constantly violent pains in it. As there appeared no disease in the surrounding parts, but was freely detached from the orbit, and, whether cancerous or not, it seemed evidently one of those diseases where medicine could be of no service, it was thought right that it should be removed. Accordingly, at noon, on Monday, November 5, 1781, the operation was performed, immediately after which she took forty drops of laudanum. She remained very quiet and easy till the evening, when a hæmorrhage came on, by which she lost perhaps thirty ounces of blood, but which was suppressed by a compress and a roller moderately tight. At nine she had an opiate with thirty drops of laudanum, which was continued till Thursday, during all which time she remained pretty well: she now complained of pain in her head; and an erysipelatous inflammation had begun to take place, which by the evening had diffused itself over the whole face and neck on that side.

" I ordered one scruple of bark, with eight drops of laudanum, to be taken every two hours, and the parts to be fomented. Friday, the pain in her head grew worse. Saturday, she was dressed; no particular appearance in the orbit; delirium came on. She was now ordered an additional quantity of opium, which seemed to quiet her. Sunday and Monday, delirious at intervals, and exceedingly peevish.

" Monday night, her opiate was omitted. Tuesday morning, very much worse, with a frequent, but not very hard, pulse. I now gave her eighty drops of laudanum, which composed her till about four o'clock in the afternoon, when she became exceedingly violent, imagining that every one who came near intended to murder her, and would not swallow any thing that was offered her. In the evening a blister was applied between the shoulders, and mustard poultices to her feet. Wednesday morning, still very violent; in the evening, much quieter, which did not appear to arise from the disease growing better, but from her strength being less. She continued in this state till midnight, when she died.

" *On examination* of the brain after death, the optic nerve of the diseased side (from the foramen opticum to where both form a ganglion, but no further) was much degenerated, being scarcely above half the size of the other. The colour,

instead of a beautiful white, was become of a dusky brown, with a kind of semi-transparency, which certainly was not in consequence of the operation, as that portion of the nerve which was attached to the eye when extirpated was in a similar state exactly. No other appearance of disease whatever was found either in the brain or elsewhere, from the most accurate examination.

"Quere, Was this diseased nerve capable of conveying sensation?"—*Hunterian MS. Cases in Surgery*, p. 144.

2245. Sections of an eye, of which the lower half of the globe is filled with a soft and well-defined medullary tumour, firmly fixed by a broad base to the sclerotica. The substance of the tumour is generally pale, but is in some parts darkened by an admixture of blood. The retina is raised by the growth of the tumour, and the iris is pressed into close contact with the cornea. Below and at a short distance from the outer edge of the cornea, the morbid growth protrudes through the sclerotica, and formed during life a conical projection beneath the conjunctiva, which was covered with hard yellow crusts.

The patient was fifty-eight years old. The disease had existed two years, having commenced with dimness of vision and frequent lancinating pains. Four months before the eye was extirpated, the tumour was first observed like a deep-seated opacity in the posterior part of the eye. The patient lived two years after the operation, and died with pericarditis, but had no return of the disease.

From the Museum of Robert Liston, Esq.

2246. Section of an eye, of which the globe is filled with a mass of soft, brain-like medullary substance. The greater part of the sclerotica is entire, and may be traced bounding the posterior half of the morbid growth, which in front has made its way through the globe, and protruded from the orbit with a rough granulated surface. The section of the medullary substance has a uniform and smooth surface; it appears to have been white, or very pale, but marked with blotches of vascularity, or of effused blood.

Presented by G. J. Guthrie, Esq.

2247. Sections of an eye, of which the globe is elongated and distended by a large lobed mass of pale medullary cancer, composed of numerous round portions, surrounded by thin cellular partitions. At the upper part of

the preparation is the conjunctiva, through which a considerable portion of the morbid substance has protruded, and forms a flocculent fungous growth.

Presented by Sir Everard Home.

2248. An antero-posterior section of an eye, together with a portion of the posterior and outer wall of the orbit. The whole globe of the eye is distended, so that its several parts cannot be discerned, by a white brain-like medullary growth, which in some parts appears softened, and in some blood-stained. The growth formed a large mass, projecting between the extended eyelids, and protruding through a part of the front of the globe. A similar morbid substance, growing outside the globe and optic nerve, occupies the posterior part of the orbit; but none extends to the interior of the skull.

Presented by Edwin Canton, Esq.

2249. The other section of the same eye, and of the tumour within it.

Presented by Edwin Canton, Esq.

2250. A left eye (bisected in the antero-posterior direction), with part of the base of the brain of a boy seven years old. Scarcely any of the parts of the eye can be discovered; for nearly the whole orbit, as well as the eyeball, was filled with soft and pale brain-like medullary substance, which, after making its way through the cornea, everted and protruded through the eyelids. At the upper part of the preparation a portion of eyelid is shown, with the conjunctiva stretched over the protruding mass. Traces of the sections of the optic nerve, filled with the same substance, may also be seen; and two of the recti muscles, not involved in the mass, are shown. The parts preserved from the base of the brain are softened and flocculent; they appeared, when first examined, to be all infiltrated with medullary matter, some of which is seen in connection with the left optic tract.

The disease was not observed till a few weeks before death. Shortly after the discovery of blindness on the diseased side, the growth protruded, delirium and fever ensued; and three weeks afterwards the child died. Similar medullary disease was found in some of the ribs, and in the lymphatic glands of the anterior mediastinum.

From the Museum of George Langstaff, Esq.

2251. The eye of a man, fifty years old, affected with medullary cancer. None of the natural textures of the eyeball can be discerned; but the optic nerve, entering the morbid substance behind, and the conjunctiva, stretched over it in front, show the relative position of the parts. The morbid mass is uniform, soft, pale, and grumous on its cut surfaces. It projects in front in several distinct large lobes, or knobs, beneath the conjunctiva, through one of which a section has been made.

From the Museum of George Langstaff, Esq.

2252. A large medullary cancer, which commenced its growth in the eye, and protrudes from the orbit in a great spheroidal mass, everting the eyelids, and unfolding the conjunctiva. None of the textures of the eye can be discerned.

From the Museum of John Heaviside, Esq.

9 a. *Melanosis of the Eye.*

2253. An eye, of which the globe is nearly full of a soft, dark, and probably melanotic, cancerous substance.

Hunterian.

2254. Section of an eye, the posterior part of which is filled with a growth of medullary substance, variously shaded with melanotic matter. The greater portion of the morbid substance is in a compact mass, the cut surface of which is smooth, though cracked; but at the upper part it appears to have been formed in a cyst, of which only a small part is filled with it. The lens and iris are pushed nearly into contact with the cornea. The lens was opaque; its capsule is thickened; the sclerotica also is thickened, and there is no trace of retina or vitreous humour. The optic nerve appeared shrunk and flattened.

The patient was a man fifty-two years old. The disease had existed two years, and had never been very painful. The eyeball protruded, and the conjunctiva appeared studded with black points. In the extirpation of the eye several small melanotic tumours were found imbedded in the tissues around the globe. The patient recovered from the operation.

From the Museum of Robert Liston, Esq.

2255. An antero-posterior section of an eye, the globe of which is filled and surrounded with a medullary and melanotic growth. Slight traces only of the eye can be discerned; but, by following the section of the optic nerve, the outline of the sclerotica may be traced in the midst of the morbid mass, compressed by that which is on its exterior, and probably, also, contracted through former inflammation and shrinking of the globe. Nothing can be seen of the iris, cornea, or any of the interior parts of the eye. The greater part of the morbid growth is compact, uniform, and of a pale white colour, like the medullary substance of a firm brain. But in various parts melanotic matter is deposited in it, dotting and streaking it with shades of grey and black, and in a few places forming small deep-black masses. The optic nerve is small, and has melanotic matter within it.

The patient was a woman fifty years old when the eye was extirpated. Seven years before, she lost the sight of this eye from inflammation. Three months before the operation, she felt a heaviness and sleepiness, with a sensation of weight in the eyebrow and pain in the cheek. The eyeball soon after protruded, and appeared nodulated, with large tortuous vessels running over its surface. The conjunctiva of the lower part of the bulb and of the lower eyelid became chemotic, but there was not much pain in the eye. A fortnight after the extirpation of the eye, a small melanotic tumour was found above the umbilicus, which was removed. But other similar tumours formed in various parts of the body; and, about five months after the operation, the patient died with cerebral affection, consequent on the growth of a large medullary tumour in the right hemisphere of the cerebrum.

From the Museum of R. B. Walker, Esq.

2256. Section of an eye, of which the globe, somewhat collapsed, is filled with a medullary growth, shaded in various degrees, and in parts made uniformly deep-black, with melanotic matter. Besides filling the globe of the eye, the growth protrudes through the lower part of the sclerotica, and forms an oval mass, mottled black, grey, and white, below the globe, as large as that within it. The globe is so filled that none of its natural contents can be discerned, except the lens, which is pushed upwards and forwards, and is opaque and mis-shapen. [As the eye is now placed, the direction of its axis is obliquely from above downwards, and from right to left.]

Presented by G. J. Guthrie, Esq.

2257. The other section of the same eye and tumour.

Presented by G. J. Guthrie, Esq.

2258. The contents of an orbit, and part of the base of a brain, from a case of melanosis of the eye. No trace of the structures of the eye can be discerned, except the sclerotica, which is irregularly distended with a deep-black soft substance. This, after filling and distending the globe, grew through its anterior part, and protruded in a great mass from the orbit, partly covered with the conjunctiva, and partly projecting through it. A similar black substance extends within the dilated sheath of the optic nerve into the skull, and there forms an irregular knobbed tumour, nearly two inches in diameter, which lies beneath the anterior lobe of the cerebrum, and is partly imbedded in it.

From a woman forty-five years old. Her general health was not much affected till a few weeks before death, when symptoms of cerebral disease ensued; and she died comatose about eighteen months after the first appearance of the disease.

Two melanotic tumours were found in the liver (preserved in No. 1411), and a tumour in the left parotid gland.

From the Museum of George Langstaff, Esq.

2259. An eye, from a horse, extirpated after death. The whole globe is filled with melanotic substance, which also protrudes through the front of the globe, everting the conjunctiva and the eyelids, and forming outside the orbit a large black and grey mass, with irregular cells, and softened melanotic substance in its interior.

From the Museum of John Heaviside, Esq.

10. *Tumours in the Orbit.*

2260. A tumour, removed from an orbit: it is suspended by the lacrymal gland, which was removed at the same time. The tumour is of an irregular oval form, and measures an inch and a quarter in its chief diameter. It appears firm, pale, and obscurely fibrous; near one surface of it is a small mass of coagulated blood, now decolorized.

The patient was a man twenty-six years old. The tumour displaced the eye, and destroyed vision ; but, after its removal, the eyeball regained its natural position, and vision was restored.

From the Museum of Robert Liston, Esq.

2261. Section of an eye, with part of a tumour surrounding it. The tumour appears to have filled the orbit : it completely encloses the eye and optic nerve, and extends forwards nearly as far as the reflection of the conjunctiva ; at one situation, near the optic nerve, it has pressed in a part of the sclerotica and the other coats of the eye. Its texture is pale, dense, and obscurely fibrous. The optic nerve, laid open in its whole course through the tumour, is filled by a compact yellowish substance, and has lost all trace of nervous structure. The eye itself appears healthy.

From the Museum of Robert Liston, Esq.

11. *Diseases of uncertain nature in the Eye.*

2262. "A diseased eye and eyelid" (*Hunterian MS. Catalogue*). The specimen consists of a large piece of thick membrane, smooth and polished behind, and with its internal surface resembling conjunctiva. Behind this and fixed to it are parts of a small eyeball. The eyeball has been opened from behind ; an optic nerve, sclerotica, and retina are shown in front ; it is completely covered by the membrane just mentioned, and there is no appearance of cornea, iris, or, at this part, of any eyelids ; but, half an inch from the ball of the eye, there is a narrow slit in the membrane, like an aperture between eyelids imperfectly formed.

Nothing is known of this singular preparation beyond what is quoted from the MS. Catalogue. Probably it was a congenital malformation.

SERIES XLVII.—Subseries A. DISEASES OF THE APPENDAGES OF THE EYE.

2263. A very small cyst, filled with yellowish granular sebaceous matter, and some hair.

It was removed from under the skin of the eyebrow. It was connected by cellular tissue with the skin, and had no communication with the hair-bulbs of the brow. See "An Account of a Particular Change of Structure in the Human Ovarium, by Matthew Baillie, M.D.," in the "London Medical Journal," vol. x., p. 329, 1789.

2264. An upper eyelid, with a small globular subcutaneous cyst.

From Bellingham, the murderer of the Hon. Spencer Percival.

From the Museum of George Langstaff, Esq.

2265. A similar cyst, three-quarters of an inch in diameter, from an eyelid.

Hunterian.

2266. A cyst, removed from an upper eyelid. The greater part of its contents, which consisted of a substance like soft cheese, have been removed. Its internal surface is remarkably sacculated and reticular with minute ridges or folds.

Hunterian.

Specimens of Diseases of the Eye or Eyelids in other parts of the Museum:—

181, 255, 2210A.

It is most probable that the following case is that of the specimen No. 181 just referred to. It is contained in a manuscript volume of "Cases in Medicine, and Cases in Surgery," by Sir Everard Home:—

"An Encysted Tumour of Oil in the Orbit.

"A young gentleman had a small tumour appearing in the upper and under part of the orbit, which at first was no larger than a pea, but increased in size, becoming more oval, and extending towards the nose. It was situated between the bony orbit and the upper eyelid, which it had pressed down, keeping that eye half shut, but unattended by pain, except when engaged in reading by candle-light there was an uneasiness and throbbing in the eye.

"The tumour evidently contained a fluid, was not attached firmly to the inner side of the orbit, but seemed formed in the cellular membrane; upon opening it, the contents were pure oil, perfectly clear and sweet, burnt with a very clear light, and did not mix with aqueous fluids, and, when exposed to cold, became as solid as the human fat.

"This appears, therefore, an encysted fatty tumour, differing from fatty tumours in general; there being no cellular membrane formed, only the oil deposited."

SERIES XLVIII.—DISEASES OF THE EXTERNAL INTEGUMENTS, THE SKIN, AND ITS APPENDAGES.

1. *Œdema.*

2267. Section of the foot of a man, whose lower extremity was amputated at the hip joint, in consequence of extensive necrosis of the femur. The integuments are much thickened by *œdema*, and are at the same time indurated, so that they present the characters of what has been called "solid *œdema*." The bones, muscles, and other tissues are soft and greasy. *From the Museum of Robert Liston, Esq.*

2. *Elephantiasis.*

2268. A transverse section of a leg affected with elephantiasis. The integuments are nearly an inch in thickness, and are very firm. On their cut surface they appear composed of a tough, white, fibro-cellular tissue, forming thick bands and laminæ, which enclose areolæ resembling those of the deep layers of coarse skin, and filled with masses of a deep-yellow, transparent, jelly-like, and probably fatty substance. The surface of the skin is dark, hard, and very coarsely wrinkled and granular. The cuticle is not of unusual thickness. The bones and muscles appear healthy.

Hunterian,

2269. Another section of the same leg, taken from its lower part, and including the lower end of the tibia, the articular surface of which is healthy.

Hunterian.

2270. The foot and ankle of the same person. The whole integument is similarly diseased, but its surface is paler and smoother than in the preceding specimens.

Hunterian.

3. Ulceration.

2271. The scalp of a gentleman, who had extensive necrosis from syphilitic disease of the skull. It has been destroyed by ulceration over all the parts at which the skull was diseased. One aperture, on the forehead, formed by the coalescence of three of smaller size, is seven inches in width. The skull is preserved in No. 3130.

Presented by Sir Patrick Macgregor.

2272. The lower part of a face, in which nearly all the skin around the mouth, and the lower parts of the alæ and septum of the nose, have been destroyed by ulceration, apparently of the kind named "herpes exedens nasi." The form of the ulcer is symmetrical; its margin is abrupt and uneven, but not thickened or elevated; its base is nearly level, and bears no trace of granulations; but both it and all the adjacent parts appear, by the minute injection of the vessels, to be very vascular. The ulceration has extended a little to the inner surface of the upper lip; all the labial glands are large.

From the Museum of R. B. Walker, Esq.

4. Small-Pox.

2273. The foot of a child, with the eruption of small-pox in an early stage, before the formation of pustules.

Hunterian.

2274. Portion of skin, with numerous pustules of small-pox. They show distinctly the circular outline, the smoothly raised and rounded margin, and the flattened upper surface with the central depression, characteristic of the variolous pustule. *Hunterian.*

2275. A similar specimen. *Hunterian.*

2276. Part of the face of a child, on which small-pox pustules have burst and ulcerated, leaving shallow pits in the skin. *Hunterian.*

2277. A portion of skin, from a patient with small-pox, dried after minute injection of the blood-vessels. Patches of unnatural vascularity are seen where the pustules were situated.

From the Museum of John Taunton, Esq.

2277A. The cuticle from the sole of the foot of a person who had small-pox, showing the epidermal portions of numerous pustules.

Presented by S. R. Pittard, Esq.

5. Warts.

2278. A large spheroidal, warty, cutaneous growth, deeply lobed and nodulated, removed from the external labia of a woman. It was fixed by a very small pedicle. *Hunterian.*

2279. Sections of a similar growth, displaying a pale compact base, composed of tissue, like that of the denser layers of the skin, and bearing on its surface bunches and groups of warty nodules fixed by narrow pedicles.

Hunterian.

2280. Sections of a wart-like growth from the skin. The greater part of it is composed of tough tissue like that of skin; it is attached by a narrow pedicle, and covered with long and slender thorn-like, sharp processes of

the same tissue, which radiate in all directions, and are invested with a thick dark cuticle. *Hunterian.*

2281. Section of a similar, but much larger, growth, probably not from the human subject. It measures two inches in diameter, and had apparently a broad base; the spines covering its surface are from one to three lines in length. They are, for the most part, grouped; and they taper from broad and, in some instances, suddenly expanded bases. *Hunterian.*

2282. Section of a similar growth, from the leg of a dog. Some of the spines on its surface are half an inch in length, and many of them are united in groups. *Hunterian.*

6. *Cutaneous and Adipose Growths; including Hypertrophies of the Skin.*

2283. An enlarged prepuce, removed by operation. It forms a solid, irregular, oval mass, about three inches in diameter, dense, pale, and compact, and apparently composed of fibro-cellular tissue like that of loose skin, unmixed with fat. *Hunterian.*

2284. The enlarged end of a nose, removed by operation. It is a large knobbed and wrinkled mass, apparently formed by an excessive growth of firm and compact skin. *Presented by Sir William Blizard.*

2285. A similar specimen of smaller size, and exhibiting on its surface the orifices of numerous large sebaceous glands, from some of which secretion is protruding.

The patient was nearly eighty years old. About twelve hours after the removal of this part, hemorrhage suddenly ensued, "which reduced the powers beyond recovery."

Presented by Sir William Blizard.

2286. A lobulated growth of skin, like the preceding. *Hunterian.*

2287. A small cutaneous tumour, removed, with a portion of the adjacent skin on which it grew, from the back of a thigh. It has an oval outline, is somewhat flattened, and is attached by a small short pedicle; it appears to be composed of fibro-cellular tissue, like that of skin; and its surface, which is nodulated and granular, is covered with healthy epidermis.

From the Museum of Sir A. P. Cooper.

2288. A similar cutaneous or fatty growth, attached by a very slender pedicle to the skin of a man's arm.

Hunterian.

2289. A similar specimen.

Hunterian.

2290. A deeply lobed growth, which was attached by a narrow pedicle to a breast. It has the same general structure as the last three preceding specimens.

Hunterian.

7. Sebaceous and other Cysts in the Skin.

2291. Portion of skin, with a small thick-walled cyst just beneath its surface. A bristle is passed through a small opening in the skin into the cavity of the cyst, showing the probability that the cyst is formed by the enlargement of a hair follicle.

From the Museum of Sir A. P. Cooper.

2292. A cyst, from the skin of a scalp. Half of its cavity has been emptied, the other half is filled with a laminated sebaceous substance. Its walls are nearly a line in thickness, uniform and smooth.

From the Museum of Sir A. P. Cooper.

2293. A similar cyst, from a scalp. Suppuration had been excited in it. Its contents have been removed, and small masses and flakes of a soft granular, sebaceous substance are attached to its inner surface.

From the Museum of Sir A. P. Cooper.

2294. A similar cyst, removed from below the chin of a young woman. It has been opened and emptied. *Hunterian.*

2295. A small globular, cutaneous cyst, with the skin covering its anterior half. *Hunterian.*

2296. A small oval, thick-walled cyst, from a scalp. Half of it has been emptied, the other half is filled with a dense and regularly laminated, sebaceous, or almost horny, substance. *Hunterian.*

2297. A cyst, of nearly globular form, and four inches in diameter, removed, with part of the skin over it, from the scalp of an old lady. The walls of the cyst are thick and very tough; its contents were a thin dirty fluid, mixed with flakes of a curd-like substance, and a quantity of sebaceous matter mingled with earthy particles, some of which remain attached in irregular plates and masses to its internal surface.

The cyst had been growing for many years. Several smaller ones were removed at the same time.

From the Museum of Robert Liston, Esq.

2298. Portion of skin, with a very thin membranous cyst, attached to its under surface.

From the Museum of Sir A. P. Cooper.

2299. Sebaceous matter, with hair, from a cyst on the face. The hairs are all exactly like eyelashes, which have naturally fallen off, slender and sharply pointed at both ends.

From the Museum of Sir A. P. Cooper.

8. *Horn-like Growths from the Skin.*

2300. Two "horns, supposed to be excrescences formed on the human head" (*Minutes of the Board of Curators, July 30, 1806*). They are of an irregular conical form, and slightly curved. One of them is three inches and a half in length, the other one and three-quarters; each of them

measures one inch and a quarter in diameter at its base. Sections having been made of the smaller horn, it is shown to be composed of a conical mass of bone, invested with a layer of semi-transparent, brownish, horny substance, from one line and a half to three lines in thickness. The bone, which has no appearance of having been connected with any part of the skeleton, has the ordinary characters, both general and microscopic, of healthy, compact human bone. At one side, near the base, there is a narrow space between the bone and the horny substance, in which some portions of human hair are imbedded, and appeared to have been growing. The larger horn appears to be similarly composed.

From the Leverian Museum.

9. *Cancer of the Skin.*

2301. Part of an upper lip, on which there is a large circular, elevated, warty, and probably epithelial cancer of the skin. Its surface is slightly ulcerated.

The disease had existed for two years; the patient recovered after its removal.

From the Museum of George Langstaff, Esq.

2302. Portion of skin, from the front of a leg, in which there is an ulcer exactly like that last described, elevated with thickened vertical or overhanging borders, a sinuous margin, and a warty, fissured surface.

From the Museum of George Langstaff, Esq.

2303. Portion of the skin of a thigh, in which there are several small medullary tumours. They are oval in form, various in size; their texture is uniform, pale, soft, and almost pulpy; their cut surface is smooth; they are imbedded in the superficial part of the skin, and project but little from its surface.

Presented by Sir William Blizard.

2304. Section of a tumour, and of the skin in which it appears to have grown. The tumour is composed of a soft, cracked, brownish, mottled, and

apparently very vascular medullary substance; a portion of it protrudes through an ulcerated aperture in the surface of the skin.

From the Museum of Sir A. P. Cooper.

10. *Confervoid Growths on the Skin.*

2305. A dace (*Cyprinus Leuciscus*), the surface of the body of which is nearly covered with a species of Mycoderm. *Hunterian.*

11. *Gouty and other Unorganized Deposits in the Skin.*

2306. Section of the integuments of a heel, a mass of which was removed as a tumour from a gouty gentleman. The enlargement appears to have been produced solely by the abundant deposit of white chalky matter in the fat of the deep layers of skin. The mass thus formed is an inch in thickness; its section presents still the lines of division of the lobules of the fat: at the back of the heel there is an ulcer leading down to the surface of the morbid deposit. *Presented by Sir Everard Home.*

2307. Portion of the integuments of a toe, dried, with a large quantity of gouty deposit imbedded in them, as in the preceding specimen.

From the Museum of John Heaviside, Esq.

SERIES XLVIII.—Appendix A. DISEASES OF THE EPIDERMIS.

1. *Pityriasis.*

2308. A portion of skin, from a head thickly covered with scales of epidermis accumulated in Pityriasis or dandruff.

From the Museum of Sir A. P. Cooper.

- 2308A. Portion of skin, from a leg affected with ichthyosis simplex. Small round or polygonal nodules of diseased cuticle, very closely arranged, form a kind of tessellated incrustation on the surface. The subjacent cutis, exposed by the removal of some nodules, is hard, rough, and covered with a thin layer of cuticle.

Presented by J. R. Diamond, Esq.

2. Corns.

2309. Part of a foot, from the sole of which a portion of the epidermis has been reflected, to show, on its cut edge, a section of a corn, or circumscribed thickening of its substance. The corn presents on its lowest surface a thin layer of pale epidermis, like that which forms the deepest layer of the healthy epidermis, but depressed towards the cutis; above this are a succession of layers very compact, dark, and horn-like, yet exhibiting traces of the vertical lines produced by the ducts of the perspiratory glands passing through them; over these, and nearly on a level with the surface of the surrounding healthy epidermis, is another thin pale layer; and lastly, on the surface of this an accumulation of apparently half-detached scales. The great toe is turned outwards, and part of its nail rests in a depression on the back of the second toe. *Hunterian.**

2310. A similar preparation, most probably from the same patient. The depression in the cutis, in which the corn was imbedded, is shown. The positions of the great toe and its nail are the same as in the last specimen. *Hunterian.*

2311. Section of the sole of a foot, with a very small corn formed by a circumscribed mass of hard epidermis, which is imbedded in the surrounding healthy epidermis, but exhibits a line of separation all round it. *Hunterian.*

* See a quotation from Mr. Hunter's Lectures on this subject in vol. i., p. 4.

2312. A toe, from which part of the cuticle has been reflected with a corn, which was situated on the dorsal surface of its first articulation. The corn consists of a circular slight thickening and induration of the cuticle, in the centre of which there is a small and very hard mass, separated from the rest by a narrow groove, and projecting inwards. The depression of the skin, in which the corn was imbedded, is shown, and presents an exact mould of its form. *Hunterian.*

2313. The cuticle of a toe, separated with a corn, and inverted. A short dark process of horn-like substance projects outwards from the middle of the corn. *Hunterian.*

2314. The toe of a fowl, with a corn upon its margin. *Hunterian.*

2315. A toe, on the back of which there is a corn over the first articulation, and beneath the corn a small bursa. The corn is reflected with the cuticle, and the bursa is shown by a lateral section. *Hunterian.*

SERIES XLVIII.—Appendix B. DISEASES OF THE HAIR.

2316. A great quantity of hair, matted with the moist and greasy secretions of the scalp into a large and nearly solid heavy mass (*Plica Polonica*).

2317. A similar specimen. About the surface of the mass some locks of hair remain loosely, if at all, matted together; and in these the hairs appear more glistening, and covered with more secretion, than in the healthy state.

Appendix C. DISEASES OF THE NAILS AND THEIR MATRICES.

2318. The end of a toe, with the nail, two inches long, curved downwards like a claw, and formed of a great number of super-imposed and compactly

united layers, each of which has in its turn been pushed forwards by those growing beneath it. *Presented by Sir William Blizard.*

2319. Several similar nails, from persons who had never cut them. They are of various size and thickness; all tend towards the curved claw-like form, and are laminated, with the most superficial laminae somewhat incurved at their margins, so as to enclose the deeper ones.

From the Museum of John Heaviside, Esq.

2320. The end of a finger, in which, coincidently with a morbid growth of the nail, the matrix of the nail has become narrow and unnaturally convex, with a ridge passing along the middle of it. *Hunterian.*

2321. The cuticle and nail, from the finger last described. The form of the nail corresponds with that of its matrix. *Hunterian.*

2322. A preparation similar to the two preceding; but the nail and its matrix are still more deformed; and on the end of the latter there is a short blunted process, which was ensheathed in ill-formed nail-like substance beneath the free portion of the proper nail.

Presented by William Lawrence, Esq.

2323. A great toe, on which there is a large ulcer of all that part to which the nail was attached, and of its borders for some distance round. The ulceration presented the characters of the disease termed onychia maligna; it resisted all treatment, and the toe was therefore amputated.

From the Museum of Robert Liston, Esq.

Specimens of Diseases of the Skin and Integuments in other parts of the Museum:—

Effects of Foreign Bodies, 59, 60.

Healing of Ulcers and Injuries, 15, 21 to 26, 28 to 40, 2813 to 2817.

Simple Ulceration, 15, 21 to 26, 125 to 129, 582, 675, 761.

Ulceration over Abscesses, and with Fistulae, 115, 116, 120, 1259 to 1262, 2553 to 2560.

Syphilitic Ulceration, 2591, 2594 to 2605.

Sloughing, 130 to 142.

Cutaneous and Adipose Growths, 2466, 2467, 2468.

Cysts containing Epidermis, Fat, Hair, &c., 155 to 163.

Cancerous Warts and Tumours, 231, 241, 247, 248, 275, 276, 2469, 2470.

Cancerous Ulceration, 232, 232A, 247, 248, 2611, 2612, 2613.

Corns, 4.

Diseases of Bone connected secondarily with Ulcers of the Integuments,
581, 583, 584, 585, and others referred to in vol. ii. p. 97.

Diseases of Bone connected secondarily with Phlegmonous Erysipelas,
711, 712.

SERIES XLIX.—DISEASES OF THE TESTICLE AND ITS COVERINGS.

Subseries A. DISEASES OF THE MEMBRANES OF THE TESTICLE.

1. *Hydrocele of the Tunica Vaginalis.*

2324. A testicle, with its tunica vaginalis, exhibiting the enlargement and distension of the latter, constituting simple hydrocele. It shows, also, the kind of recess, half-partitioned from the main cavity, which the distended sac forms by the side of the epididymis. *Hunterian.*

2325. A scrotum, with the testicles of a man who had double hydrocele of the tunicae vaginales. The general form of the swelling from hydrocele is well shown; and the distended tunicae vaginales are seen rising up and becoming smaller in front of the spermatic cords, the component parts of which are separated.

2326. A testicle, with its tunica vaginalis. The sac of the latter was distended in a large hydrocele; it is thickened, opaque, and tough; and its serous surfaces have lost their smoothness. The testicle is situated near the junction of the lower and middle thirds of the posterior wall of the sac,

and lies somewhat obliquely. There are two small pedunculated bodies on the upper part of the epididymis. *Hunterian.*

2327. A testicle, with the sac of the tunica vaginalis distended in a very large hydrocele. The tunic is but little thickened, and its internal surface is smooth and polished. The testicle is situated in nearly the same part of the sac as in the last specimen, but is placed vertically. There are two small cysts, containing a partly coagulated fluid, in the wall of the sac just above the testicle. The recess by the side of the epididymis is nearly effaced by the great enlargement of the sac. *Hunterian.*

2328. A testicle, with its tunica vaginalis, which was the seat of an hydrocele of moderate size. The cellular tissue around the tunica vaginalis is dissected from it in a smooth layer, and looks like a second closed sac surrounding the sac of the hydrocele, connected to it at its posterior part, but at all other parts having a smooth and free internal surface in contact with the outer surface of the tunica vaginalis. *Hunterian.*

2329. A testicle, with a hydrocele of moderate size. The blood-vessels are minutely injected, the interior of the testicle has been removed, and the tunica vaginalis and tunica albuginea are dried, with their cavities distended. The testicle is at the lower and posterior part of the sac. The vas deferens is shown ascending tortuously half an inch from the epididymis.

2330. A similar preparation. The vas deferens and epididymis, injected with mercury, are spread out at some distance from the testicle.

2331. A similar preparation. The hydrocele is smaller, and a layer of cellular tissue has been reflected, like a second concentric sac, from the outer surface of the tunica vaginalis.

2332. A similar specimen, with a very small hydrocele. The cremaster muscle and its connecting cellular tissue are displayed above the sac of the hydrocele.

2333. A similar preparation. The sac of the hydrocele is more than usually elongated, and exactly pyriform. The testicle is situated at the middle of the posterior wall of the sac. The vas deferens and part of the epididymis are injected with mercury. They take their natural course in relation to the testicle.

2334. A similar preparation, with an elongated and very narrow sac. The testicle occupies the same relative position.

The six preceding preparations are from the Museum of Sir A. P. Cooper.

1 a. *Varieties and Complications of Hydrocele of the Tunica Vaginalis.**

2335. A testicle, with hydroceles, the spermatic cord, and the sac of an old inguinal hernia. There are two distinct sacs connected with the testicle, both of which were alike the seats of hydrocele. The larger and posterior sac is not different from that of an ordinary hydrocele of the tunica vaginalis. It would contain about six ounces of fluid, and the testicle is at the lower part of its posterior wall. The smaller anterior sac is situated in front of the lower part of the other: it would hold between three and four ounces of fluid, and in structure also exactly resembles a distended tunica vaginalis. Its walls are tough, and about a quarter of a line in thickness; the partition between it and the posterior sac is complete, smoothly covered with serous membrane on both sides, and from a quarter to half a line in thickness.

The hernial sac is situated just above the hydroceles. It is wrinkled, and bears marks of recent inflammation, the patient, a man seventy years old, having died soon after an operation for strangulated hernia. The hydrocele had existed twenty-five years. To account for its appearing double, it may be supposed, either, that a layer of false membrane had divided an originally single sac, and had gradually become thicker and firmer; or, which is the more probable, that the anterior cavity is that of

* Some specimens of Partial Hydrocele, or collections of fluid in cavities left after the partial obliteration of the sac of the tunica vaginalis, are placed among the effects of Inflammation of the Tunica Vaginalis.

a sac which, like an encysted hydrocele of the spermatic cord, formed outside the original hydrocele, and became in course of time more closely connected with it.

From the Museum of R. B. Walker, Esq.

2336. An hydrocele, distended and dried after the injection of some varicose spermatic veins, which lie in a cluster on its upper part. The testicle is at the middle of the posterior wall of the sac. The vas deferens and part of the epididymis are injected with mercury.

From the Museum of Sir A. P. Cooper.

2337. A testicle, with parts of two large sacs attached to its posterior part, dried after the injection of the spermatic vessels. The tunica vaginalis was the seat of a small hydrocele, and the spermatic veins, in a varicose condition, formed a small tumour behind the testicle. Attached to the back of the tunica vaginalis is a large membranous cyst, between three and four inches in diameter, which was filled with fluid, and was described as encysted hydrocele. And directly above this, and behind the spermatic vessels, which are attached, far apart from each other, to its anterior wall, is part of the sac of a large inguinal hernia.

From the Museum of Sir A. P. Cooper.

1 b. *Effects of Operations for the Cure of Hydrocele.*

THE following is from a letter, in the handwriting of Mr. Hunter, in the possession of Mr. Thomas M. Stone, the Assistant-Librarian of the College. The manuscript is superscribed :—

“ To Count Bruhl, Dover Street.

“ Mr. Hunter's compliments to Count Bruhl. He has drawn out a short sketch of the different cures for the hydrocele, which he hopes will be perfectly understood by the surgeons in Germany.

“ Leicester Square, Saturday Evening.

“ An hydrocele is perhaps one of the most innocent diseases that can afflict a human body ; or, more properly speaking, is an effect of one of the most innocent causes. It is productive of no evil ; it can only be an inconvenience, and that inconvenience can only arise from size.

“ There is a relief called the palliative cure, which cannot be called a cure, only a temporary

relief, as it commonly occurs again: this is simply letting the water out; for the sac which contains the water is the same as before.

"To perform a cure would be to hinder the accumulation of the water, but as we are not in possession of such powers, we are obliged to have recourse to the next best method, which is an obliteration of the sac which contained the water. To effect this, more methods probably have been proposed and put into practice than in any other disease in surgery. There are two ways in which this effect may be produced: one, and the most simple, is to produce such inflammation on the sac as will make the sides of the sac adhere to each other; and if this adhesion is complete, then no hydrocele can ever take place in this part afterwards. Another mode is to expose the sac in such manner as to bring on suppuration: this is a more severe method than the above, because the inflammation must exceed the adhering stage, and it is more tedious; because suppuration must go on till the whole sac is consolidated by granulation.

"To produce the first method, it was proposed by the first *Monro* of *Edinburgh* to make a puncture with a trochar into the bag of water, and let it out; then to inject by the same trochar some wine to excite inflammation, and to let this wine out: then inflammation commences, and the sides of the sac adhere. If it was certain that this effect would always be produced, and that every part of the surface of the sac and testicle would adhere, then no more is necessary; but I am told, that these adhesions are not always perfect, which subjects the person to a relapse, and which has taken place, and it is probable that this was the reason of its being laid aside. *Mr. Earle* has again taken it up, and from his account it would appear to succeed as well as we could wish, but I have been informed that it does not always succeed; and that there are cases where, from experience, it does not, which I can easily conceive. To produce adhesions of the sac by means of suppuration and granulation, four methods have been recommended: one, the most simple in the operation, was to make a small opening and let out the water, then into this opening put a tent, or a little lint; this excited inflammation over the whole sac, and the whole sac suppurated, and the whole was obliterated. To produce the same effect, one recommended a caustic to be applied, about the size of a sixpence, and either to cut through the eschar, or let it slough off; another method was to pass through the sac a seton, which was an old practice revived by *Mr. Pott*; and the fourth was to open the sac from one end to the other, which is the most severe operation of the whole.

"Every one of these modes produced the same effect; and the same quantity of inflammation, suppuration, &c., succeeded; the only difference was in the operation itself; but none of these four methods were at all times perfect, the disease recurred again in some of all of them. An accident happened to a patient of mine at *St. George's Hospital*, which gave me an opportunity of finding out the cause of those relapses, which was, that the sac had not wholly inflamed and suppurated; therefore, to effect an universal suppuration over the whole surface of the sac, I have taken care that no two parts of the sac shall come in contact till it has suppurated; and to effect this, I put into the opening made into the sac (which is about two inches long) some flour, which I spread all over the inside with my finger, and then a little lint on the cut edges of the wound, and a poultice over the whole, then allow suppuration to take place, and the whole heals. If this flour is well introduced through the whole sac, every part must suppurate, and every part must unite, which makes the complete cure.

"In whatever way the cure is effected, there is no danger."

2338. A testicle, with its coverings, and the spermatic cord. The tunica vaginalis was the seat of hydrocele, the cure of which was attempted by the application of a caustic. The sloughing extended through the tunica vaginalis, in which there is an aperture about a quarter of an inch in diameter. The testicle and epididymis are enlarged, and there are flakes of lymph upon their surfaces. At the upper part of the spermatic cord is the sac of an inguinal hernia. *Presented by Sir William Blizard.*

2339. Two testicles, from the same person. Both the tunicae vaginales were affected with hydrocele, and both are thickened. On the right side there is a large thickly-walled cyst immediately above the tunica vaginalis. On the left side, a thin layer of false membrane extends across the sac in front of the testicle, to which, as well as to the walls of the sac, it is closely adherent. Above the tunica vaginalis, on this side, an oval cyst, about an inch long, and possessing a distinct membranous wall with a polished lining, is placed in the front of the spermatic cord.

The patient, an old man, had long had double hydrocele. In the operation for the radical cure by injection of the sacs, part of the injected fluid escaped into the cellular tissue, and produced such severe irritation, both local and constitutional, as destroyed life.

From the Museum of Robert Liston, Esq.

2340. A testicle, with the sac of the tunica vaginalis distended by a small hydrocele. The testicle is wasted; it is situated at the middle of the posterior wall of the sac, and from its anterior part a band of adhesion extends to the adjacent surface of the sac of the hydrocele, probably to the part at which, in tapping, a puncture had been made. The rest of the surfaces of the tunica vaginalis appears healthy.

From the Museum of Sir A. P. Cooper.

2341. A testicle, with part of the scrotum, after an operation for hydrocele. The skin is closely adherent to the exterior of the tunica vaginalis, at the part where the puncture was made; and the surfaces of the tunica vaginalis are adherent. *Hunterian.*

2342. A testicle, on which the opposite surfaces of the tunica vaginalis became completely and closely adherent after the injection of an hydrocele.

From the Museum of John Taunton, Esq.

2. *Hæmatocele of the Tunica Vaginalis.*

2343. A testicle, of which both the tunica vaginalis and tunica albuginea are considerably thickened and indurated. The sac of the tunica vaginalis is filled with masses of coagulated blood. The testicle is healthy, but compressed.

" Hæmatocele of the Tunica Vaginalis.

" In December last, 1781, Mr. Bennet first felt an uneasy sensation in the scrotum. On his examining it, he perceived the left testicle swelled, with a small degree of hardness to the touch. He instantly took the alarm, and applied to a surgeon, who told him the disease was an hydrocele, or dropsy of the parts; to let it alone for some little time, when it would be necessary to perform an operation, which would effectually cure him.

" From that time to the beginning of March, 1782, the swelling gradually increased; the pain becoming now acute, and the hardness increasing. About this period Mr. Farquhar and Dr. Saunders first saw him; they were of opinion the disease was complicate, and by no means clear; therefore desired him to do nothing for a fortnight or three weeks, and then to come to them again.

" In the mean time he was persuaded by his friends to apply to a surgeon of their recommendation, who was noted for curing people in this manner. He was led to believe he would cure him directly, and with little pain; this induced Mr. Bennet to allow two or three punctures to be made in the usual manner for the palliative cure of the hydrocele, the surgeon assuring him this was the disease.

" On finding the failure of the good effects promised, he again applied to Mr. Farquhar, but with the inflammation, pain, and swelling much increased; indeed, so much so, as to confine him to his room. The rapid violence of the symptoms he attributed to the late efforts to relieve him.

" About this time, Mr. Hunter was called in, and it was thought advisable to open the tumour, to find out the real nature of the disease, and then to act accordingly. This was done, and, on examining the substance of the tumour, it appeared at first composed of a thick coat, and within that a grumous and gelatinous substance. From the appearances it was thought advisable to remove the whole, which was done.

" The tumour had communicated its diseased disposition to the skin, for it was adhering to it all round the fore part; some of this skin was removed with the tumour, but I apprehend not enough. On examining the tumour, it was found to consist of a

thickened tunica vaginalis, filled with a pretty firm coagulated blood, which in some parts had lost its red parts; the whole appearing mottled. The testicle was entire in the posterior part, only appeared to be squeezed into a smaller size than natural from the pressure of the substance which was in the tunica vaginalis."—*Hunterian MS. Cases in Surgery*, p. 706.

2344. A testicle, with its coverings. The tunica vaginalis and the tissues around it are thickened, consolidated, and indurated; they together form a laminated sac, with walls half an inch thick. The cavity of the tunica vaginalis is filled with firm masses of reddened fibrine and some branching portions of lymph. *Presented by Sir William Blizard.*

2345. A testicle, with the greater part of the spermatic cord. The tunica vaginalis is thickened, indurated, and consolidated with the surrounding tissues, as in the preceding specimens of hæmatocele; it is lined with a thick, uneven, granular layer of fibrine, or decolorized blood. The testicle is at the lower part of the sac. Above the tunica vaginalis there is a part of the sac of an inguinal hernia. *Hunterian.*

2346. A testicle, with the tunica vaginalis, which was the seat of a large hæmatocele. The tunica vaginalis is thickened and indurated; and its cavity, which contained a large quantity of coagulated blood and lymph, is traversed by several broad bands of delicate false membrane, one of which forms an almost complete horizontal partition across it. The testicle is reduced in size; it is placed transversely at the upper and back part of the distended tunica vaginalis, above the horizontal partition just mentioned.

From a man seventy years old, who died with rupture of the bladder, in consequence of enlargement of the prostate.

From the Museum of George Langstaff, Esq.

2347. A testicle, with parts of its coverings and of the scrotum. The tunica vaginalis was the seat of a large hæmatocele. It is much thickened; its external surface has coalesced with the surrounding thickened and indurated tissues, forming a great laminated sac, with walls from one to

three quarters of an inch thick; and its internal surface is covered with flakes and irregular masses of fibrine, and clots of blood. The testicle, of which a section is shown at the anterior and lower part of the preparation, is enlarged and indurated. *Presented by Sir William Blizard.*

2348. Section of the "testicle of a man, extracted at St. George's Hospital by Mr. Gunning. The tunica vaginalis being filled with a fluid, it was supposed to be an hydrocele, but proved to be a very bloody serum. The body of the testicle and tunica vaginalis were furred over with red coagulated blood, which proved to be very vascular when injected. The coagulated blood is turned down in two places." (*Hunterian MS. Catalogue.*) The testicle is enlarged, and at its upper and posterior part are two circumscribed deposits of a soft pale yellow substance like tubercle, and described by Mr. Hunter as "scrofulous increase." The tissues external to the tunica vaginalis are greatly thickened, indurated, and increased in vascularity.

2349. The other section of the same testicle. The colour of the injection is altered by the action of the fluid in which it has been immersed. A portion of the tunica vaginalis is preserved in No. 76. *Hunterian.*

2350. A testicle, with its tunica vaginalis, which was the seat of a large hæmatocele. The tunica vaginalis is thickened and unnaturally vascular, and lymph is deposited in flakes on its inner surface and on the exterior of the testicle. Around the lower part of the distended sac of the hæmatocele, there is a second sac, with a smooth and free internal surface, in contact with the outer surface of the tunica vaginalis. The origin of the second sac is uncertain; but, probably, it was formed by fluid either escaping or being injected into the cellular tissue around the tunica vaginalis. *Hunterian.*

3. *Effects of Inflammation of the Membranes of the Testicle.*

2351. A testicle, reduced in size, with complete adhesion of the opposite surfaces of the tunica vaginalis by false membrane formed between them.

Hunterian.

2352. A testicle, of unnaturally small size. The lower half of the cavity of the tunica vaginalis is obliterated by the adhesion and intimate union of its opposite surfaces. The rest of the membrane is thickened. A small pedunculated body is attached to the front and upper part of the epididymis, which is indurated, and has an uneven surface. *Hunterian.*

2353. A testicle, with the opposite surfaces of the tunica vaginalis closely adherent at every part, except in a small extent anteriorly.

2354. A testicle, from which the glandular substance has been removed by dissection. It appears to have been enlarged, and the posterior parts of the surfaces of the tunica vaginalis are adherent. The part of the sac which remains unobliterated in front is distended and laid open. Immediately above the testicle, and in front of the spermatic cord, there is a cyst, with very thin membranous walls, smooth on its inner surface, and about an inch in diameter.

2355. A testicle, on the lower part of which the surfaces of the tunica vaginalis are closely adherent. The rest of the sac of the tunica vaginalis was distended in a small partial hydrocele. There is also a small separate cyst upon the upper part of the epididymis.

2356. A testicle, on the lower half of which the opposite surfaces of the tunica vaginalis are closely adherent. The rest of the cavity was distended in a partial hydrocele, and contains a small thin flake of lymph.

2357. A testicle, on the lower part of which the surfaces of the tunica vaginalis are closely adherent. At the upper part the sac is in some places distended, and in others its surfaces are united by adhesions, so that it must have formed a kind of multilocular hydrocele.

The five preceding preparations are from the Museum of Sir A. P. Cooper.

2358. Section of a testicle, and of several cysts connected with it. The cysts are three in number; the largest is above, and in front of the testicle; the others are behind and below it. The opposite surfaces of the tunica vaginalis are closely adherent over all the front of the testicle, and where they are not adherent they are continuous with the walls of the cysts; so that it is most probable that those which appear like distinct serous cysts are portions of the cavity of the tunica vaginalis, which became distended with fluid after the rest of the cavity had been obliterated by adhesion. *Hunterian.*

2359. A testicle, with two large oval membranous cysts, which, after the injection of the spermatic artery, veins, and vas deferens, have been emptied, distended, and dried. One of the cysts, about an inch in diameter, is in front of the body of the testicle, and in close contact with its anterior surface. The testicle has been opened through the posterior part of this cyst, and its interior has been removed. The other cyst is above the testicle; it is nearly two inches in diameter, and communicates with the preceding by a small oval aperture at its lower part. The cavity of the tunica vaginalis is not shown; and it is probable that, like those in the preceding preparation, these, which appear like new-formed cysts, are portions of the cavity of the tunica vaginalis remaining unobliterated when the rest was closed.

From the Museum of Sir A. P. Cooper.

2360. A similar specimen. Each of the cysts is in this case nearly two inches in diameter; one covers the whole front of the testicle, the other is situated above it and in front of the cord. They do not communicate

with each other, but the upper one is somewhat sacculated at its lower part.

From the Museum of Sir A. P. Cooper.

2361. A similar specimen; the arteries are injected, and the parts are not completely dried. The testicle, of which the texture appears consolidated, has been laid open from behind. The characters of the cysts, and their relations to each other and to the testicle, are as in the preceding specimen. They also communicate by a small oval aperture.

From the Museum of Sir A. P. Cooper.

2362. Portion of a tunica vaginalis, thickened, and having two small plates of bone in it.

Hunterian.

2363. Part of a tunica albuginea, with its vessels injected and dried, exhibiting an irregular granulated mass of osseous or earthy substance formed in it, and projecting from both its surfaces.

The specimen is figured in Sir A. P. Cooper's "Observations on the Structure and Diseases of the Testis," pt. 2, pl. xiii., fig. 3.

From the Museum of Sir A. P. Cooper.

2364. A specimen, similarly prepared, and exhibiting several minute deposits of osseous or earthy substance in the tunica albuginea.

From the Museum of Sir A. P. Cooper.

4. *Cysts in the Membranes of the Testicle.*

2365. Section of a testicle, on the front surface of which there is an oval smooth-walled cyst, an inch in diameter, and seated, apparently, in the substance of the tunica albuginea, or between it and the tunica vaginalis immediately investing it. The parietal layer of the tunica vaginalis is adherent to the lower part of the testicle, but is free opposite the cyst, and is there turned back. The cyst has a smooth lining membrane; externally it is bounded by a tough layer of tissue as thick as the tunica

albuginea, and, apparently, at the upper part continuous with it; and, on its internal surface, the cyst is separated from the proper substance of the testicle by another layer of tough tissue, rather more than a line in thickness. The substance of the testicle appears healthy.

The preparation is figured and described in "A Practical Treatise on the Diseases of the Testis, and of the Spermatic Cord and Scrotum," by T. B. Curling, London, 1843, p. 189.

Presented by T. B. Curling, Esq.

2366. A testicle, with a cyst (perhaps of the same kind as that last described) at its upper and anterior part. The parts have been injected, emptied, distended, and dried; the tunica vaginalis, distended by the growth of the cyst, is also displayed. The cyst is spherical, and upwards of an inch in diameter.

From the Museum of Sir A. P. Cooper.


5. *Loose Bodies in the Cavity of the Tunica Vaginalis.**

2367. Four small oval masses, composed chiefly of earthy matter, which were loose in the cavity of a tunica vaginalis.

From the Museum of Sir A. P. Cooper.

2368. A globule of earthy matter, from the cavity of a tunica vaginalis.

"November, 1757.—There was an old man dissected at our house. On taking out the lungs, I found a large piece of bone lying across the ribs of the right side, just at their angle, before the sixth, seventh, and eighth ribs. The lungs of that side adhered everywhere, and the piece of bone seemed to adhere more firmly to the lungs than the ribs; however, when I separated it from the lungs, they were found perfect at that part; and, when separated from the ribs, they just appeared as when the pleura is taken off; the same with regard to the intercostal muscles.

"This piece of bone is above three inches long, and above one broad; and is something of this shape,  with the crooked point turned out from the spine.

* In connection with these specimens, to which they are probably nearly related, those of Pendulous Growths on the Epididymis may be referred to, in Nos. 2442 to 2450.

" This appeared to me to be an ossification of the pleura ; besides this, almost all the vertebræ of the spine were anchylosed ; likewise the bones of the pelvis.

" On cutting into the tunica vaginalis, I found two small stony concretions lying loose ; from the outer surface of one of them I could take a pretty thick covering, like the hull of a soft pea, somewhat gelatinous, transparent, and pretty firm. After I had taken off this, it looked like a bit of stone ; I steeped it in acid, and when the acid had gone a little way deep there remained something like the former substance surrounding the remaining bone in the middle, as before.

" Quere, How were these formed ? for they were loose. They must have been adhering at first ; then were detached by some accident : something like the bone in the knee of some people, viz., Scott, in my Surgery Observations (Monro, on [in?] Medical Essays)."—*Hunterian MS. : Dissections of Morbid Bodies.*

2369. Small portions of cartilaginous substance, removed, probably, from the cavity of the tunica vaginalis.

2370. Similar specimens.

SERIES XLIX.—Subseries B. DISEASES OF THE TESTICLE.

1. Atrophy.

2371. A testicle, which, either in consequence of atrophy, or, more probably, from originally defective development, is not more than half an inch in length. Its tubular texture is indistinct, and is indicated only by the appearance of the cords which pass transversely across the substance within the tunica albuginea.

2372. An hydrocele, of about four inches in its chief diameter. The testicle is situated just below the middle of the posterior wall, and is reduced by atrophy to about one third of its ordinary size.

2373. A testicle, with the vas deferens and vesicula seminalis of the same side, dried. The testicle was atrophied. The vesicula seminalis is of usual, or more than usual, size.

2374. The left testicle of an adult, reduced by atrophy to a small elongated body, together with the vasa deferentia, vesiculæ seminales, and prostate gland. The left vesicula seminalis is of its natural size, the right is not more than half as large. Bristles are placed in the ejaculatory ducts.

The preparation is figured in Sir A. P. Cooper's "Observations on the Structure and Diseases of the Testis," London, 1830, part 1, pl. x., fig. 2.

2. *Induration and other Effects of Inflammation of the Testicle.*

2375. Section of a testicle, in which a great part of the tubular structure is replaced by a dense fibrous-looking tissue, probably lymph effused in acute inflammation of the substance of the testicle, and subsequently organized. The tunica vaginalis is thickened and indurated, and, except at the upper part, its opposite surfaces are closely adherent. There is a small cyst in the situation of the upper part of the epididymis. The blood-vessels are minutely injected.

2376. A testicle, in which the tubular substance is similarly, but more extensively, diseased. The fibrous cords which traverse the cavity of the tunica albuginea (the *septa testis* of Sir A. Cooper) are thickened. The opposite surfaces of the tunica vaginalis are adherent, thickened, indurated, and consolidated with the surrounding tissues.

2377. A similar specimen, cut vertically and from behind forwards through the epididymis.

The nine preceding specimens are from the Museum of Sir A. P. Cooper.

2378. A testicle, reduced in size. Its substance is indurated, and a mass of bone is adherent to the inner surface of the tunica albuginea. This was probably formed by the ossification of new tissue, like that shown in the preceding specimen. *Hunterian.*

3. *Protrusion of the Testicle through its Ulcerated Coverings (Fungus Testis),*

2379. Section of a testicle, with a part of the scrotum. The testicle and epididymis are enlarged; the substance of the former is consolidated, and its anterior part, covered with granulations, is protruded through an ulcerated opening in the scrotum. All the coverings of the testicle are consolidated about the opening in the scrotum. Before the extirpation of the testicle, the protruding mass had been superficially removed.

From the Museum of Robert Liston, Esq.

2380. A testicle, with a part of the scrotum. The structure of the testicle is consolidated, and its anterior part, covered with granulations, is protruded through the front of the scrotum. The tissues around the testicle and cord are thickened and indurated. *Presented by Sir William Blizard.*

2381. Sections of a testicle, which protruded through a large ulcerated opening in the tunica albuginea and its other coverings, and was therefore removed with the surrounding portion of the scrotum. A small portion of the substance of the testicle is indurated; the rest of it is healthy. Its protruded surface is covered with granulations. The tunica albuginea may be traced to the margin of the base of the protrusion, where it ceases abruptly. The tissues external to the tunica albuginea also appear healthy. *Presented by William Lawrence, Esq.*

2382. Section of a testicle, of which the upper and anterior part is protruded through an ulcerated opening in the surrounding tissues, in the form of a circular, flat, soft, granulating growth. The surface of the protruded substance is blackened by the action of some caustic. Behind the epididymis, and closely connected with it, is a thickly-walled cyst, about an inch and a half in diameter, on the interior of which there are small flakes of lymph. *Hunterian.*

2383. A testicle, with part of a scrotum. The natural texture of the testicle is destroyed, apparently by induration. A considerable portion of it is protruded, with an irregular granular and sloughing surface, through an ulcerated aperture in the scrotum. The protruded part is much paler than the rest of the testicle; it appears to be the seat of a distinct, compact, yellowish-white, probably tuberculous deposit.

4. *Tumours of the Testicle.*

4 a. *Cartilaginous Tumours.*

2384. Section of a testicle, in which a large tumour has grown, and the natural texture of the gland cannot be discerned. The greater part of the tumour is composed of a firm, pale, and obscurely fibrous substance, within which there are a few small oval cavities with smooth and polished internal walls, and a great number of closely-grouped masses of cartilage, pure-white, compact, and irregularly shaped. On one surface of the specimen the cysts and portions of cartilage are shown in sections; on the other, the natural form of the portions of cartilage is exposed by the removal of the other structures of the tumour from their surface.

2385. The other section of the same testicle and tumour.

2386. A specimen, described as "scirrhus testis, or testis converted into cartilage." It is a thin section, which exactly resembles a section of a cartilaginous lobulated tumour, consisting of several small round portions of a firm, compact, transparent, opaline cartilage, which are united by thin partitions of fibro-cellular tissue. It is not a portion of the specimen last described; that consists of nodules of cartilage imbedded in a cystic fibrous tumour; this is almost wholly cartilaginous.

The four preceding specimens are from the Museum of Sir A. P. Cooper.

4 b. *Fibrous and Cystic Tumours of the Testicle (Hydatid Disease of the Testicle).*

2387. Section of a testicle, together with some of the surrounding parts, in which there is a large cystic tumour. The greater part of the cavity of the tunica vaginalis, distended by the growth of the tumour, is obliterated by adhesions. A small portion remains free at the front and upper part. Here, also, the section of the tunica albuginea may be seen, and beneath it some of the tubular substance of the testicle, apparently of healthy texture, spread out in a layer from one to three lines in thickness over the upper part of the tumour. The surface of the tubular substance is adherent to that of the tumour, which it thus partially envelopes; so that they could not be cleanly dissected from one another. The tumour is of regular oval form, smooth on its surface, and measuring about five and four inches in its chief diameters. It is composed almost exclusively of tough-walled cysts, connected into a compact, elastic mass by their opposed walls, and a small quantity of intermediate, tough, and apparently fibrous, tissue. They are for the most part of an oval shape; they are all simple, and vary in diameter from a line to half an inch. Their interiors are smooth and polished; their walls are not separable by dissection from the surrounding substance. They probably contained serous fluid. *Hunterian.*

2388. Another portion of the same testicle and tumour.

The preparation is engraved in Baillie's "Morbid Anatomy," fasc. viii., pl. viii., fig. 2, as "a large portion of a testicle, which had been converted into a mass of hydatids," p. 182.

2389. Section of a testicle, removed by operation. Its natural structure is not discernible: its place is occupied by a tumour of the same kind as that last described, consisting of a firm substance, intersected and, as it were, partitioned into lobes by wavy, shining, fibrous bands, and having small

cysts thickly scattered in its interior. The tumour is of regular and smoothly oval shape; it measures five inches in its greater, and three in its less, diameter. The cysts are for the most part oval, and measure from a line to half an inch in diameter; their walls are thin, smooth, and well defined; some of them contain a material "like softened tubercle," others, which are now empty, were filled with a "brownish glairy fluid." The tunica albuginea is thickened. The upper part of the sac of the tunica vaginalis contained a dark-coloured serum: the rest is obliterated.

From a middle-aged man, in whom the disease had existed twelve months, and had, at the last, increased rapidly. The epididymis was slightly enlarged, but appeared healthy in structure.

From the Museum of Robert Liston, Esq.

2390. Portion of a testicle removed by operation. The natural structure of the organ is not discernible: in its place there is a large tumour, like that last described, but of rather softer texture, intersected by fibrous bands, and with numerous round and oval cysts scattered through it. The cysts bear a less proportion to the substance in which they are imbedded than they do in the preceding specimen. Some of them are empty; others contain minutely lobulated growths, which have arisen from parts of their walls, and nearly fill their cavities. Many of them are larger than the cysts in the three preceding specimens.

The patient was thirty-three years old. The disease had long existed, and was believed to have originated in a blow; its growth was at last very rapid. There was no return of the disease after the operation.

From the Museum of Robert Liston, Esq.

2391. Section of a testicle, similarly diseased, marked by Sir A. Cooper as an example of "hydatid testis." The cysts are all empty; most of them are larger, and they are less numerous, than in the preceding specimens.

From the Museum of Sir A. P. Cooper.

2392. Section of "a diseased testicle," or, more probably, of a tumour which grew in a testicle. It consists of a mass of moderately firm substance, intersected by arching fibrous bands, and there projects at the front part

of it a minutely lobulated growth, like a warty or "cauliflower" excrescence. There is an appearance of a similar growth occupying part of a cavity on the cut surface of the section, and of another projecting at the lower and back part of the mass. Altogether, the specimen has the appearance of a sero-cystic tumour. *Presented by Sir Everard Home.*

4c. *Medullary Cancerous Tumours of the Testicle.*

2393. Section of a firm medullary tumour, removed with the testicle in which it grew. The tumour has a somewhat oval form; its surface is slightly uneven; and in its interior it appears composed of several lobes or portions of various size and shape, closely compact. Its texture is uniformly firm, elastic, and compact; most of it is moderately vascular; the minute injection of its vessels has given it a pinkish hue, mottled with spots of red; in one small portion it appears much less vascular, and firmer.

The patient died twelve months after the removal of the testicle, with a similar disease of the lumbar glands.

From the Museum of Sir A. P. Cooper.

2394. A testicle, in which none of the natural glandular structure can be discerned, its place being occupied by an oval mass of soft, brain-like, medullary substance, four inches in its chief diameter. The morbid mass is not apparently divided into lobes. It is in some places broken and rather flocculent, as if after softening of its texture; and in some, blood is effused into it in blotches, which still, after maceration, retain a darker colour than the rest.

From the Museum of R. B. Walker, Esq.

2395. Section of a mass of medullary substance, from the testicle of a child eight years old. It is of an oval form, measuring eight inches in length, and four inches in its transverse diameter. It appears composed of several distinct, but closely connected, oval and round masses; its texture is nearly uniform, pale, and rather compact, but with a few soft shreddy

portions here and there. Anteriorly it protrudes through a large ulcerated opening in the scrotum, and its surface here exposed appears more vascular than its substance.

From the Museum of Sir A. P. Cooper.

2396. Section of a testicle, greatly enlarged. Its natural structure is not discernible. The tunica albuginea is filled with an oval mass of soft medullary substance, nearly six inches in its greatest diameter. The whole mass appears composed of several round and oval portions, from a quarter of an inch to nearly two inches in diameter, each invested with a layer of fibro-cellular tissue, like a capsule, enclosing it; and these layers, or capsules, on the surface of the section, look like undulating or circling bundles of fibres partitioning the great mass into smaller ones, or distinct lobes. The substance of the medullary substance forming these lobes is generally soft; in some its texture is close, and its cut surface smooth; in others, flocculent and shreddy. In some parts the medullary substance does not completely fill the spaces or cavities formed by the fibro-cellular partitions. The tunica albuginea is from one to two lines in thickness, and coarsely laminated; the cavity of the tunica vaginalis is obliterated, except at its upper part. The vessels in the spermatic cord are enlarged; but the medullary disease is confined to the body of the testicle.

From a man forty years old, in whom the testicle increased in size for between two and three years, but did not excite much pain. Three years after its removal he was in good health.

From the Museum of Robert Liston, Esq.

2397. Section of a testicle, of which the blood-vessels have been injected. Its natural structure is not discernible; in its place there is a soft, but close-textured, medullary tumour, very like that last described in both size and shape; it is arranged in several round and oval masses, with fibro-cellular partitions, and hangs in fine short flocculi on some parts of the surface of the section. The tunica albuginea is slightly thickened.

From a man twenty-nine years old, who died with some internal disease eighteen months after the removal of the testicle.

From the Museum of Robert Liston, Esq.

2398. Section of a testicle, removed by operation. It is enlarged, but has not changed its shape. "Its natural structure is in a great measure obliterated, probably absorbed, and appears to be exchanged for an almost entirely new substance. The arteries were enlarged, and the veins become a little varicose." (*Hunterian MS. Catalogue.*) In its general character the morbid substance is like that last described; but it is firmer and more compact. Both sets of vessels are injected. The veins are large and varicose.

2399. Sections of a similar growth, of smaller size, within a testicle. At the upper part some of the tubular structure of the testis has been reflected from the surface of the tumour, making it probable that the tumour grew within the testicle, and expanded the glandular substance around it.

From the Museum of Sir A. P. Cooper.

2400. A testicle, removed by operation from a child two years and a half old. Its natural structure is not discernible. The tunica albuginea is distended with a soft medullary substance, divided into round masses by intersecting fibrous bands, and containing a few small cells. The diseased substance measures an inch and a half in its greatest diameter, and an inch in its least. The tunica vaginalis is thickened.

Presented by Sir William Blizard.

2401. Section of a large tumour, from the testicle of a child seven months old. It appears to have been composed of a firm medullary substance, like that last described, but more compact.

From the Museum of Sir A. P. Cooper.

2402. A testicle, removed by operation. The tunica vaginalis and tunica albuginea are remarkably thickened and indurated, and, except at the anterior part, are united in one firm layer. The whole of the natural structure of the testicle has disappeared, and is replaced by a large mass of medullary substance, divided, like those already described, by firm and thick fibrous partitions.

Presented by Sir William Blizard.

2403. Section of a testicle, in which the natural texture appears to have been displaced by a large mass of white medullary substance. The mass is nearly five inches in length, and three in breadth; its cut surface is smooth, and appears compact; there are obscure traces of thick fibro-cellular partitions intersecting it. The tunica vaginalis is thickened, and its opposite surfaces are adherent.

2404. Section of a large medullary growth in a testicle. It is composed of numerous distinct round portions, separated by partitions of cellular tissue, as in the preceding specimens. Its vessels are minutely injected, and it appears to have been in many parts very vascular. The lower portions of it are soft and flocculent.

2405. Section of a testicle, containing a large soft medullary tumour, like that last described, but more generally softened and flocculent. The blood-vessels, having been injected, show that different parts of the growth varied much in vascularity. The most softened parts do not appear to have been most vascular. The surfaces of the tunica vaginalis are adherent. The specimen shows peculiarly well the character and arrangement of the fibro-cellular partitions intersecting the morbid substance.

2406. Sections of a similar growth within a testicle, larger, still softer, and more vascular. The whole mass has a regular oval form; it measures six inches in length, and four inches in its antero-posterior diameter. The same disease has extended for several inches up the spermatic cord.

The four preceding specimens are from the Museum of Sir A. P. Cooper.

2407. Section of a testicle, removed by operation, together with a large soft medullary tumour, like those recently described, distending the tunica albuginea, broken, flocculent, and deeply coloured with blood diffused through its softened texture. *Presented by Sir William Blizard.*

2408. A testicle, described as a "pulpy testicle." The tunica albuginea is

distended by a soft substance, like those in the foregoing specimens, which hangs on the surface of the section in fine long branching flocculi. The colour has been wholly removed by maceration.

Presented by Sir Everard Home.

2409. A similar specimen, with the blood-vessels injected. The tunica albuginea, distended by the tumour, has an uneven nodulated surface, and is slightly thickened. The epididymis does not appear to have participated in the disease.

2410. A testicle, with its coverings, and a part of the scrotum, removed by operation. The natural structure of the testicle is not discernible; its place is occupied by a spheroidal mass, which measures upwards of five inches in its greater diameter, and is composed of a soft, pulpy, and flocculent medullary substance. The tunica vaginalis is thickened, and the upper part of its cavity was distended with fluid: the rest is obliterated by adhesion.

The patient was thirty-five years old, and had first observed an enlargement of the testicle twenty months before the operation. It grew rapidly, but was not painful till within the last six months. After removal, the whole mass weighed three pounds. The morbid substance was of a reddish-brown colour, and the tunica vaginalis contained six ounces of straw-coloured albuminous fluid. The patient recovered after the operation.

From the Museum of John Taunton, Esq.

2411. A testicle, in which a very large medullary tumour has grown. The tumour is of various consistence, but bears a close general resemblance to all the preceding medullary tumours; parts of it appear to have had blood effused in them. At the upper part it has in two situations protruded through the distended and ulcerated tunica albuginea, and has spread widely over its outer surface, growing within the cavity of the tunica vaginalis, but not breaking through it. The outer layer of the tunica vaginalis is thickened and indurated; a part of its inner surface is adherent to the diseased mass which has protruded through the tunica albuginea; and on another part, where it was distended high above the

testicle, a large mass of soft and broken medullary substance is attached to it.

From the Museum of Sir A. P. Cooper.

2412. Section of a testicle, very much enlarged by the growth of an oval medullary tumour, like those already described, except in that it is firmer, and that several small, oval, smooth-walled cavities, or cells, are scattered through it. These lie especially in and near the fibro-cellular partitions, many of which are very thick and coarse.

" Tumour.

" The Case of Mr. Anderson, January 3, 1779.

" About three months ago he sent for me, and then complained of a most excruciating pain in his hip, which ran down the outside of the thigh and leg to the foot. Supposing it to be rheumatism, I ordered him James's powders, which he took for two or three days; but it did not relieve him. Then I ordered Dover's powders, but without effect; also the volatile tincture of guaiacum, which also had no effect. He took occasionally opium to give him ease, especially at night; and the outside of the leg and thigh was rubbed with the volatile liniment and tinct. thebaic., which gave immediate [temporary] relief, but the pain soon returned, but was relieved by the application; however, the medicine soon lost its power altogether.

" Sir George Baker was called in, and it was still supposed to be the rheumatism. He took several other medicines, but nothing gave him any relief. He had at times a slight suppression of urine; and often complained of the piles.

" He told me that, about a month or six weeks ago, he observed a hard swelling just on the outside of the ischium, and under the posterior edge of the glutæus maximus; when I felt it, it appeared to be as large as a goose's egg. This swelling changed my idea of the disease, and I began to suspect a lumbar abscess, for there appeared to be no disease about the joint of the thigh, so as to make me suspect it to be a disease of this part. The swelling increased pretty fast, which puzzled me a good deal; for its increase was faster than what those kinds of suppurations usually are; I therefore thought of other causes. I once suspected, from the occasional strangury, that there might be some disease of the bladder, which had suppured; and that some of the urine had made its way out, and through the foramen magnum ischii; but, from recollecting that urine stimulated the parts to inflammation, I immediately gave up that idea; and then became more puzzled than ever. The swelling became so large, as to make a large rising on this part of the hip; and also was pushing forwards among the muscles of the thigh, into the groin; and all the parts were extremely tense.

" For two or three nights he became delirious, but was pretty well in the day, which he imputed to the opium, and left it off for some evenings; but at last he became quite insensible, in a kind of stupor, extremely low, and with a cold clammy skin. He was now not expected to live many hours; however, the symptoms decreased, and

he became as before. I now thought no time was to be lost, for I suspected that this swelling was pressing upon the ischiatic nerve, and which was probably the cause of all the irritation and the pains, which never abated.

"I could plainly feel a fluctuation in the swelling, and thought it advisable to make an opening into it, not with a view to cure, but to relieve. On the most prominent part of the tumour, which was near the posterior edge of the glutæus maximus, I made an incision in the skin, about two inches long; and then another between the fibres of the muscles, about an inch in length. My reason for doing it in this part was to avoid the great nerve, in case it ran on the outside of the tumour. The opening in the muscle was just sufficient for me to introduce my finger into the tumour with ease. When I introduced my finger, I felt a curdly substance; I then bent my finger and brought a little of it out upon it, and it proved to be a coagulum of blood. This immediately informed me what the case was, and I desisted at this time from going any further, for fear that if I took off too much of the pressure, the vessel might bleed still more freely; yet I did not choose to close up the opening, as no relief in such a case could be expected from the operation; therefore, I rather chose to allow the thinner part of the blood to escape, that the symptoms might be alleviated.

"The quantity which came away by this wound was but very trifling, although I introduced my finger occasionally to keep it open. The pain continued still the same, and the tumour not increasing, I began to hope that the vessel was closing or closed; I therefore opened it more freely, and removed some of the coagula; and when I was doing this, I felt the ischiatic nerve passing round the tumour on its outside, so that it was upon the stretch. He became easier immediately, and had never any pain afterwards.

"When I moved my finger in the coagula, I felt a vast number of small bones everywhere in it. A good deal of coagula worked out at the opening, but nothing like fresh blood. He became weaker and weaker, and at last he died.

"The appearance upon opening the Body of the above.

"I first opened the abdomen, and also cut through the symphysis of the ossa pubis to give room. I found the bladder pushed forwards, and to the right side; and in the left side of the pelvis there was a round tumour, filling near one half of its cavity. I cut into this tumour, and found it consist of a pretty solid irregular substance, like a large swelled lymphatic gland. On separating this substance all round from its containing parts or cyst, I found it lead me through the foramen magnum ischii into the upper part of the thigh. I also found that the union between the pubis and ischium was gone, and a great many small irregular bones down in the thigh.

"I removed as much of this tumour as possible, and then turned to the posterior parts, where the tumour was first felt, made an incision into it, and found a large irregular cavity, filled with coagulated blood, with a great many small pieces of bone everywhere in it. I also found that not only the union between the ischium and pubis was destroyed, but that the ischium was also separated from the ilion; so that the knob of the ischium only remained, and was loose.

"My idea of the case was this: a lymphatic gland on the inside of the pelvis, close

upon the inside of the obturator internus muscle, became diseased, or swelled, as is common for those glands to do; it pressed upon this muscle, as also the anterior and posterior branches of the ischium: all these parts, by this pressure, gave way, as is usual upon pressure; and perhaps when these two parts of this bone were nearly destroyed, that by some action, as by the flexors of the leg acting, either to flex the leg, or assisting to erect the body upon the thigh (because these muscles arise from it), that the ischium gave way at once; or, by sitting down on the knob of the ischium, it gave way, and that this fracture of these parts might rupture or tear the obturator artery, or some of the gluteal, from whence the bleeding came; or perhaps a number of small ones.

"That this tumour was scrofulous is very probable; for, first, he had a scrofulous bubo some years ago, which was supposed to have been venereal, but did not heal until all mercury, &c., was left off, and which remained long afterwards an indolent sore, as the scrofula generally does; secondly, the appearance of the tumour on the inside of the pelvis had the look of a scrofulous glandular swelling; thirdly, there was the same in the liver; fourthly, one of the testicles was increased nearly to the size of a small child's head; and yet no lymphatic glands towards the source of the circulation were diseased, which would make us suspect that it was not cancerous.

"All the above-mentioned morbid appearances had the same diseased structure."—*Hunterian MS.: Cases in Surgery*, p. 774.

Sections of the sciatic nerve of this patient are preserved in No. 2178, and a notice of their state is added to the description of No. 106, vol. i., p. 43.

2413. Section of a testicle, removed by operation, together with a medullary tumour, like that last described, in which there are a few oval, thin, and smooth-walled cysts. A portion of the tunica vaginalis, reflected from the posterior part of the section, is very much thickened.

The patient was thirty-five years old, and attributed the disease, which had existed for several months, to the testicle having been pinched. He recovered after the operation.

From the Museum of Robert Liston, Esq.

2414. A testicle, with its coverings, and a part of the scrotum, removed by operation. The testicle is much enlarged, and is irregularly nodulated at its upper part. Its natural structure is not discernible, and is replaced by a soft medullary substance, intersected with fibrous bands, and presenting several small cavities, which contained a gelatinous material. At the lower part the tunica vaginalis is thickened, and its opposite layers are closely adherent; at the upper part they are connected by several

bands of false membrane, and lymph is effused in the parts of the sac, which are not obliterated.

From a man thirty-five years old, in whom the disease had long existed.

From the Museum of Robert Liston, Esq.

2415. Section of a testicle, in which there is a tumour composed of rather compact and probably medullary substance, with cysts thickly scattered through it. The cysts are of various size, from half a line to half an inch in diameter; some of them are oval or round, but more are variously compressed by the solid growth; most of them have smooth lining membranes, but the interior of some of them is rough, as if from deposits of lymph or coagulated blood. At one situation (in the left margin of the preparation) there is an appearance of blood having been effused in the substance of the tumour; at this part it had been punctured on the day before its removal.

From a gentleman in apparently sound health. The disease was of six months' duration. The tumour bled freely when punctured.

From the Museum of Sir A. P. Cooper.

2416. Section of a large tumour of a testicle, composed apparently of a medullary substance, in parts of which there are groups of small cells. The whole mass has an irregularly oval form; it is composed of several round portions united by thick and close-set partitions of fibro-cellular tissue; some of its component portions are soft and flocculent. The injection of the blood-vessels proves that the mass has in many parts considerable vascularity. The arrangement of the partitions has given it an aspect almost like that of spleen or coarse erectile tissue.

The patient was a young man who was accidentally shot with small shot in the scrotum. A few shots entered the testicle. From the time of this injury the testicle enlarged. At the end of some months it was removed. The spermatic veins were found full of cells like those composing the chief mass of the tumour. The patient died six weeks after the operation with disease in the lumbar glands, like that shown in the testicle, and peritonitis.

Presented by G. J. Guthrie, Esq.

2417. Section of a testicle, considerably enlarged, and of which the natural structure is replaced by a substance which is said to have had a gelatinous appearance, and is finely intersected with fibrous bands. It bears a close resemblance to that last described, but none of it is softened.

From a middle-aged man.

From the Museum of Robert Liston, Esq.

4d. *Tubercle of the Testicle.*

2418. Section of a slightly-enlarged testicle, in the substance of which, as well as in the epididymis, there are numerous masses of compact, homogeneous, pale yellow, tuberculous matter. Some of these are small, oval, and isolated; but most of them are larger, as if formed by the coalescence of smaller masses. Their cut surfaces are firm and smooth. The substance of the testicle adjacent to the tuberculous deposits appears healthy; and they are rendered very distinct by the injection of the blood-vessels, none of which appear to have entered them.

From a middle-aged man who died with phthisis, and had similar disease of the other testis.

The preparation is figured in "A Practical Treatise on the Diseases of the Testis, and of the Spermatie Cord and Scrotum," by T. B. Curling, London, 1843, p. 324.

Presented by T. B. Curling, Esq.

2419. A testicle, cut through transversely, and exhibiting in its interior a small well-defined deposit of pale yellow, compact, uniform, tuberculous matter. The adjacent part of the testicle and the tunica vaginalis are healthy in both size and structure. The blood-vessels are minutely injected, but none of the injection appears to have entered the tuberculous matter.

From the Museum of Sir A. P. Cooper.

2420. A testicle, in the substance of which there are several deposits of a compact, pale, yellowish-white tuberculous substance. Most of the deposits are isolated and spherical, but some have coalesced into irregular forms.

The testicle is a little enlarged, and is knobbed by the projections of the morbid deposits; the tunica vaginalis is not adherent.

From the Museum of Sir A. P. Cooper.

2421. Section of a testicle, enlarged to about three times its natural size, and having in its lower half an irregular but circumscribed deposit of a compact buff-yellow tuberculous substance. The blood-vessels have been injected; the tissue next the morbid deposit appears more vascular than the rest, but it is not otherwise altered. *Hunterian.*

2422. A testicle, enlarged to about four times its natural size by the formation of two masses of pale yellowish-white and compact tuberculous matter in its interior. Nearly all the natural structure is removed, or spread around the diseased substance; what remains appears healthy, and is of the ordinary degree of vascularity. The surfaces of the tunica vaginalis are adherent at the upper part; and, either upon, or in the substance of, the adhesions, are three small thinly-walled cysts, of which one appears full of tuberculous matter, and the others are empty, but appear to have been similarly filled. On the posterior and lower part of the testicle there is another similar empty cyst.

From the Museum of Sir A. P. Cooper.

2423. Testicles, with the vasa deferentia, vesiculæ seminales, and prostate gland. The testicles are slightly and uniformly enlarged; their natural structure appears to have been removed and replaced by a compact, uniform, pale yellowish substance, like moderately firm tuberculous matter. There is a similar substance in the vasa deferentia, and the prostate gland and vesiculæ seminales are completely filled with the like. In the vesiculæ seminales it appears softer, and is broken up into a coarsely granular and grumous substance, like ordinary softened tubercle.

From the Museum of Sir A. P. Cooper.

2424. Section of a testicle, exhibiting numerous deposits of a pale yellow tuberculous substance at its posterior and middle part. The deposits

have a branched arrangement, and some of them have channels in their central parts, as if they were connected with blood-vessels.

From the Museum of Sir A. P. Cooper.

2425. A testicle, with its coverings and the spermatic cord. The testicle is enlarged to nearly four times its ordinary size by deposits of pale yellow, firm, tuberculous substance. Some of the deposits are isolated, small, round, and oval; but most of them have coalesced in one large irregular mass. At the anterior part, some of the tuberculous matter is softened. The proper substance of the testicle cannot be discerned. It appears to have been consolidated around the tuberculous matter. The tunica albuginea is thickened, and the opposite surfaces of the tunica vaginalis are closely adherent. There are several large thinly-walled cysts in the spermatic cord; two of which have been laid open.

The patient was thirty years old. The disease of the testicle was in progress for twelve months, and his health was much affected by it. The cysts in the spermatic cord were repeatedly tapped, but always filled again; and they rendered the extirpation of the testicle unusually difficult. Four years after the operation the patient was in good health.

The case is further related in "The Lancet," December 12, 1835; and in Mr. Langstaff's "Catalogue," p. 369.

From the Museum of George Langstaff, Esq.

2426. A testicle, in the interior of which there are several masses of substance described as "scrofulous." One of these, at the upper part of the body of the testicle, is cut through, and exhibits at its centre a small cavity bounded by a fine flocculent substance. The sac of the tunica vaginalis is obliterated. The specimen bears much resemblance to the foregoing examples of tuberculous disease of the testicle, but its characters are very obscure. *Hunterian.*

2427. A testicle, in the middle of which is a round mass of soft, granular, pale-yellowish, tuberculous matter partially softened. The adjacent part of the testicle is healthy; and the whole organ is of ordinary size.

From the Museum of Sir A. P. Cooper.

2428. A testicle, of which nearly the whole interior is occupied by a pale yellowish-white tuberculous substance, nearly uniform, and compact, except at its centre, where there is an irregular cavity, as if the morbid substance were softened and broken. The proper substance of the testicle is firm and pale, and appears indurated. The opposite surfaces of the tunica vaginalis are adherent.

From the Museum of Sir A. P. Cooper.

2429. A testicle, with the surrounding tissues, and a portion of the anterior part of the scrotum. By the side of the latter there is an aperture leading to an abscess, which extends, external to the obliterated cavity of the tunica vaginalis, round more than half the body of the testicle. The place of the testicle itself is occupied by a firm substance, described as scrofulous, and appearing to consist of numerous round coalesced masses of tubercle.

Hunterian.

5. *Tumours, and other Diseases, of uncertain nature in the Testicle.*

- 2429A. Two large portions of bone-like substance, of light and delicately-filamentous texture, composed of granules of earthy matter imbedded in animal tissue, which were enclosed within a tumour connected with a testicle. They resemble portions of a light and fibrous-looking osteoid tumour.

The following is part of the history sent with the specimen :—

“ W. W., aged seventy-two, applied on account of a prodigious swelling in the scrotum, which appeared to be one or both testicles in an enlarged and indurated state. The tumour had begun about six or seven years before, and, as he thought, about the upper part of the testicle, and had gradually increased to its present size. It was of an incompressible hardness. Of the penis, the only appearance was a small concavity, like a navel, nearly in the middle and upper part of the tumour. The circumference of the tumour at its root, or neck, measured fifteen inches. The patient was obliged to keep it suspended with straps over his shoulders, and could not, without pain, bear it hanging down for any length of time. The other testicle could not be felt. The patient was stout for his age, and otherwise healthy, but had passed many nights

without sleep before the operation of the removal of the diseased testicle was performed. He was well in the course of three weeks.

"About two years afterwards he applied again on account of a tumour about the size of a hen's egg, on the upper part of the cicatrix of the former wound. This also was removed, and healed; and he continued pretty well for two or three years, when he was seized with a violent cough, of which he died.

"On making an incision into the tumour, the scalpel struck on a hard body about four inches long, two and a half broad, and about half an inch thick; which, when taken out and macerated in water, was evidently a deposition of bony substance. At the upper part of the lump one of the testicles was found in a flattened state, pale and flaccid, and bedded in the tumour. The appearance of the tumour throughout was exactly like that of scirrhi of the breast, when they are taken out before ulceration takes place. The spermatic cords appeared pretty sound and free from knots."

2430. Section of a testicle, described as being enlarged by the deposition of scrofulous matter throughout its substance. The parts intervening between the morbid deposits seem dense and indurated. The characters of the morbid substance cannot be discerned. *Hunterian.*

2431. "A beginning cancer of the testicle, where the tubular substance is become indistinct by adhesion" (*Hunterian MS. Catalogue*).

2432. "A section of the testicle of a bull, in a diseased state, showing the tubuli testis" (*Hunterian MS. Catalogue*). They appear to have been unravelled and separated by fluid collected among them.

2433. Section of a testicle, of natural size, in the substance of which there is a small growth, which, from the bright redness it has acquired from the injection of the blood-vessels, may be supposed to have been highly vascular. The rest of the substance of the testicle appears soft, but not otherwise diseased. *From the Museum of Sir A. P. Cooper.*

2434. A testicle, at the lower part of which there is a large flattened nodulated growth of uncertain nature. *From the Museum of Sir A. P. Cooper.*

2435. Portions of an osseous or earthy substance, said to be from a tumour in the tunica vaginalis. *From the Museum of Sir A. P. Cooper.*

SERIES XLIX.—Appendix A. DISEASES OF THE EPIDIDYMIS.

1. *Enlargement and Induration.*

2436. Section of a testicle, of which the epididymis is enlarged and indurated.

Hunterian.

2437. A testicle, dried after the injection of its vessels, with a mass of osseous or earthy substance in the upper part of the epididymis.

From the Museum of Sir A. P. Cooper.

2438. A similar specimen. In both of these, as well as in the following, the disease is probably the result of the ossification of an inflammatory product, which, as it became organized, had produced the same kind of enlargement and induration of the epididymis as is shown in No. 2436.

From the Museum of Sir A. P. Cooper.

2439. A tunica albuginea testis, with the vas deferens injected and dried. The progress of the mercury, with which the vas deferens was injected, has been arrested in the lower part of the epididymis by a mass of earthy substance deposited apparently within the canal, and completely obstructing it.

From the Museum of Sir A. P. Cooper.

2439A. A testicle, the substance of which has been unravelled after the removal of the tunica albuginea. There is a large mass of earthy matter in the upper part of the epididymis, the whole of which appears enlarged and indurated.

From the Museum of John Heaviside, Esq.

2440. A testicle, which was extirpated because it had been for many years the seat of the most severe pain. There is not now any discernible change in its structure.

When first examined a small quantity of pus was found in the epididymis.

Presented by Sir William Blizard.

2441. A testicle, exhibiting a considerable enlargement, with induration of the lower half of the epididymis, in the middle of which there is a small abscess, with irregular, firm, pale, and defined walls. The testicle is of ordinary size. The surface of the tunica vaginalis testis has numerous films of false membrane attached to it. The abscess has not the appearance of a tuberculous cavity.

From the Museum of Sir A. P. Cooper.

2. *Cysts and Pedunculated Growths in the Epididymis.*

2442. A testicle, with two small pyriform cysts, attached by short narrow pedicles to the upper part of the epididymis. *Hunterian.*

2443. The upper half of a testicle, with several small cysts in the epididymis. They are seen through its transparent covering, and one is attached to it by a slender pedicle. *Hunterian.*

2444. The upper part of an epididymis, to which there are attached two small slenderly-pedunculated cysts, with thin membranous walls, and containing pellucid fluid. *From the Museum of Sir A. P. Cooper.*

2445. A testicle, with several large cysts attached to the lower part of the epididymis. Both layers of the tunica vaginalis are thickened; its cavity appears to have been the seat of hydrocele. The walls of the cysts are thick, tough, and opaque; they are attached to each other and to the epididymis by narrow bases and pedicles. *Hunterian.*

2446. The upper half of a testicle, much enlarged, consolidated, and having several small irregularly-shaped cartilaginous bodies, attached by slender pedicles to the upper part of the epididymis. The tunica albuginea is thickened, and there are numerous minute cartilaginous and osseous bodies upon its surface.

The specimen is figured in Sir A. Cooper's "Observations," pt. ii., pl. xiii., fig. 1.

2447. A testicle, with a small round body composed of a substance like cartilage, attached by a very slender pedicle to the upper and anterior part of the epididymis.

This appears to be the preparation figured in Sir A. Cooper's "Observations on the Structure and Diseases of the Testis," pt. ii., pl. xiii., fig. 2.

2448. A similar specimen. The attached body is smaller than in the preceding, and near it there is a small serous cyst in the epididymis immediately beneath the tunica vaginalis.

2449. A testicle, with partial adhesion of the opposite surfaces of the tunica vaginalis. A small flat mass of substance like cartilage, which lay loose in the remaining part of the cavity of the tunica vaginalis, is suspended on the testicle. It closely resembles the growths shown in the two preceding preparations, and like them was, probably, once attached by a pedicle, which gradually wasted or was broken.

2450. A section of an epididymis, and the upper part of a testicle. In the upper part of the epididymis, and projecting from its surface, is a thinly-walled membranous cyst, of an oval form, and about half an inch in diameter. It appears to have been partly filled with a thick pale substance like soft tubercle, some of which lies at the bottom of the bottle.

3. *Cancer of the Epididymis.*

2451. Section of a testicle and of a medullary tumour, four inches in diameter, which appears to have formed in the epididymis alone; for the body of the testicle (at the lower and left hand part of the preparation) is healthy, and is separated from the tumour by its tunica albuginea

4. *Tubercle of the Epididymis.*

2452. Section of a testicle, exhibiting in the epididymis two cavities like those of abscesses, with well-defined walls, and partially filled with a soft, pale-yellow, apparently tuberculous substance. The tissue around them appears healthy.

2453. Section of a testicle, with a portion of the posterior part of the scrotum. Immediately behind, or within, the middle and lower part of the epididymis, there is a mass of yellow substance, apparently firm tuberculous matter, with a small irregular cavity in its centre, from which a narrow fistulous passage, marked by a bristle, passes through the scrotum. The surfaces of the tunica vaginalis are adherent.

2454. A testicle, in which the interior of the epididymis is full of a soft mortar-like substance, formed probably by the accumulation of earthy matter in tuberculous deposits. The body of the testicle is enlarged, but natural in its form. Its interior contains neither tuberculous matter nor any like that in the epididymis.

The nine preceding specimens are from the Museum of Sir A. P. Cooper.

SERIES XLIX.—Appendix B. INJURIES AND DISEASES OF THE SPERMATIC CORD.

1. *Injuries.*

2455. The testicles, spermatic cords, and neck of the bladder of the dog referred to in the following passage from Sir A. Cooper's "Observations on the Structure and Diseases of the Testis," London, 1830, p. 51:—

"In 1823 I made the following experiment upon a dog. I divided the vas deferens upon one side, and the spermatic artery and vein on the other. The testis, upon that side on which the artery and vein were divided, gangrened and sloughed away. The testis on the side upon which the duct was divided became somewhat larger than natural. I kept the dog for six years; during that time he was twice seen *in coitu*,

but the female did not produce. This was in 1827. In 1829 I killed him, and found the vas deferens below the division excessively enlarged and full of semen, and entirely stopped, with some separation of its extremities; but it was open from the place of division to the urethra." The places of division are marked with a wire. The preparation is figured in Sir A. Cooper's work, pt. i., pl. x., fig. 3.

From the Museum of Sir A. P. Cooper.

2. Cysts: *Encysted Hydrocele of the Spermatic Cord.*

2456. A testicle, with part of the spermatic cord, of a boy. There is a cyst, or "encysted hydrocele," of the cord, rather more than an inch in length, and about half an inch from the epididymis. It is formed of a membrane which is smooth and polished internally, and externally is closely connected with the other tissues of the cord, though separable from them.

Hunterian.

2457. A testicle, to the posterior part of which, but external to the tunica vaginalis, a large cyst, which contained a serous fluid, is attached. The cyst has thick and tough walls, and a smooth, polished, internal surface, beneath which there are some small plates of calcareous matter. At its anterior part there is an oval aperture, by which it communicates with a smaller cavity, imbedded in the lower part of the spermatic cord just above the upper end of the epididymis. The testicle is healthy; the tunica vaginalis is thickened, and at the upper part its opposite surfaces are adherent.

Hunterian.

"Another collection, we are told, takes place in the cellular membrane of the tunica vaginalis of the cord. An hydatid may form anywhere on the outer part of the testicle, or on the body of the testicle (of these I have seen several), and may be joined with the true hydrocele, as in this preparation, where one hydrocele formed on the tunica vaginalis testis, which was also distended with water; and hence two distinct cavities of water, one behind the other."—*Parkinson's Hunterian Reminiscences*, p. 91.

2458. A testicle, with a large cyst immediately above it. After the minute injection of the blood-vessels, and the injection of the vas deferens with

mercury, the interior of the testicle has been removed, and its membranes, with those of the cyst, have been distended and dried. The cyst is globular, and between four and five inches in diameter; its walls are thin, and appear very vascular; the vessels of the spermatic cord pass over its posterior wall, and are separated from each other.

From the Museum of Sir A. P. Cooper.

2459. A small quantity of a slightly-opaque whitish fluid, marked "From a hydrocele, not serous." It contains numerous spermatozoa, and was probably removed from a cyst in the spermatic cord.

From the Museum of Sir A. P. Cooper.

3. *Hæmatocele of the Spermatic Cord.*

2460. A testicle, with the spermatic cord, and other adjacent parts. At the upper part of the preparation is the sac of an inguinal hernia; below, a hydrocele of the tunica vaginalis. Between them, and partly in front of the hernial sac, is a cyst within the spermatic cord. Its walls are thick, tough, and laminated; its cavity is oval, measuring about two inches in length, and an inch and a half in breadth, and is filled with a soft, grumous, yellowish substance, like half-decolorized coagulated blood. The interior of the cyst has the same colour as its contents. *Hunterian.*

4. *Tumours in the Spermatic Cord.*

2461. A testicle, with its spermatic cord. About an inch above the testicle a fatty tumour is imbedded in the tissues of the spermatic cord, and loosely connected with them. Its shape is oval, elongated from above downwards, and rather narrower above than below: it measures nearly four inches in length, and consists of numerous lobes of soft fat, closely held together with thin fibro-cellular partitions.

From the Museum of Sir A. P. Cooper.

2462. A testicle, with its spermatic cord, sections of five lumbar lymphatic glands, and a portion of omentum, from the same person. The testicle is healthy; but in the whole course of the spermatic cord there are medullary tumours, from one to three inches in diameter. Two of them, softened and broken in their texture, are laid open. The lumbar glands are affected with the same disease in various stages; and the omentum is thickly beset with similar tumours.

Mr. Hunter marked these, as he did other examples of medullary cancer, as "a disease differing from scrofula and cancer" (see vol. i. p. 119), and has recorded the following account of the case and the preparation:—

"Case of Cancer of the Spermatic Cord."

"A gardener, between forty and fifty years of age, who had been a good deal addicted to drinking, two years before his death was attacked with a disease in the left spermatic cord, which enlarged the cord, and extended up into the abdomen. Upon examination, the testicle did not appear diseased; and the tumour above it resembled much the sac of an old irreducible hernia.

"No means that were made use of were of the least service, and the patient died in the period of two years from the commencement; more from the disease in the abdomen than of the cord.

"Upon opening the body, the epiploon was found everywhere full of tumours of different sizes; from that of a pea to that of a common fist. Similar tumours were found in the loins on both sides, and extending down along the spermatic cord of the left side, as low as the testicle itself; but the testicle was perfectly distinct from this mass, and unaffected by disease.

"These tumours, when cut into, had very different appearances, according to the progress of the disease in them: the small ones were solid, and consisted of an uniform white substance; but when larger, there were red spots in different parts of the tumour; a little further advanced, one part was red and loose in its texture, as if made up of a fine loose fringe, and the rest solid: others, indeed, were pulpy, the whole tumour being soft, and containing a bloody fluid, with a loose fibrous part floating in it."—*Hunterian MS.: Cases and Dissections*, No. 69.

2463. A large mass of soft and apparently very vascular medullary substance, formed within or adjacent to a spermatic cord. The mass has an oval form, and is nearly six inches long. Its section shows that, like the common medullary tumours of the testicle, it is composed of several variously-sized round portions united by fibro-cellular tissue, which appears on the cut surfaces like fibrous wavy partitions. The vessels composing

the spermatic cord have been widely separated by the growth of the tumour; the veins are much enlarged. The testicle appears healthy.

From the Museum of Sir A. P. Cooper.

5. *Varicocele; Varix of the Spermatic Veins.*

2464. A spermatic cord, and testicle. The spermatic veins are enlarged and unusually tortuous. The testicle appears to have been of ordinary size, but has been emptied and dried.

From the Museum of Sir A. P. Cooper.

2465. A large mass of injected and dried spermatic vessels, probably from a testicle in which there was some great tumour. The arteries, injected with red wax, are dilated and tortuous; the veins, injected with yellow wax, are much more so, and form a large confused cluster of vessels.

From the Museum of Sir A. P. Cooper.

Specimens of Diseases of the Testicles in other parts of the Museum :—

Hydrocele, 12, 139.

„ with Hernia, 1336 to 1339, 1341.

Inflamed Tunica Vaginalis, 76, 102.

Transplantation, 44, 45, 46.

Atrophy, 1338, 1339.

Cancer, 268, 271.

Cyst by the Epididymis, 150.

Varicocele, 1335, 1340, 1341.

Separation and other Changes of the Constituents of the Spermatic Cord,
1312, 1315, 1322, 1325, 1335.

SERIES L.—DISEASES OF THE SCROTUM.

2466. An enormous enlargement of the scrotum, and of the integuments of the penis and prepuce, removed by operation. The mass before its removal measured forty-two inches in circumference, and forty inches from the verge of the anus to the pubes; after removal it weighed forty-four pounds and a half, of sixteen ounces each. The parts removed have a nearly globular form. Everywhere, except at the base of attachment, which was cleanly and smoothly cut across, they are covered with skin, which at the lower parts has a warty, knotted surface, but elsewhere does not differ from ordinary coarse skin, with large orifices of hair follicles. The part of the diseased structure which has been exposed is pale, dense, and tough, like the compact external layers of skin; in the recent state it is said to have "closely resembled the structure of the mammary gland." The penis and testicles are closely enveloped in its anterior part; the former is exposed by an incision, which is carried on to the urethra; and the frænum of the prepuce is shown greatly enlarged, and attaching the penis to a large spheroidal warty growth at the lower part of the tumour. The spermatic cords have been drawn out from the surface of the section by which the parts were removed.

The patient was twenty-two years old. The enlargement had been increasing for twelve years. He recovered rapidly and completely after the removal of the parts.

From the Museum of Robert Liston, Esq.

2467. A similar specimen, but with much less enlargement of the diseased parts. In front an incision has been made through the prepuce and the integuments of the penis, which are from half to three-quarters of an inch in thickness. The glans penis is thus exposed, and appears quite healthy. The enlarged scrotum forms a lobed and knotted mass, from four to six inches in diameter, with its cutaneous surface deeply wrinkled and warty. The texture of all the enlarged parts is the same as in the last-described

specimen: tough, compact, elastic, pale, like very close fibro-cellular tissue, or the compact external layers of healthy skin.

Presented by Sir William Blizard.

2468. A penis and scrotum, almost completely enveloped in great sloughing and flocculent medullary tumours. The tumours appear to have originated in the scrotum, and thence to have burst out in several different places through the skin. The left testicle has been cut through; it is completely and closely surrounded by the morbid structure, but is itself quite healthy. The other testicle was not found, and probably was involved in the disease, if not its primary seat.

From the Museum of John Heaviside, Esq.

2469. Portion of a scrotum, in which there is an oval, elevated, warty ulcer, from chimney-sweeper's cancer, and at the margin of the ulcer a conical horn-like growth, three-quarters of an inch in length.

The preparation is described and figured in Mr. Curling's "Treatise on the Diseases of the Testicle," p. 522.

Presented by Thomas Blizard Curling, Esq.

2470. The lower part of a scrotum, with the testicles. A deep irregular ulcer, with hard, sinuous, elevated, overhanging, and everted edges, has destroyed a large portion of the skin and the subjacent tissues of the lower part of the scrotum. It was, probably, a chimney-sweeper's cancer.

SERIES LI.—DISEASES OF THE VESICULÆ SEMINALES.

2471. The bladder, the vesiculæ seminales, and prostate and Cowper's glands, of a lemur. One of the vesiculæ is enlarged. *Hunterian.*

2472. Part of an urinary bladder, with the vesiculæ seminales, prostate gland,

and commencement of the urethra. The left vesicula seminalis is enlarged; its walls are thickened and indurated, and its cavity is nearly filled with tuberculous matter. The prostate gland is, in two places, deeply ulcerated, and at one of these the ulceration has spread into the vesiculæ seminales. There are also several small superficial oval ulcers by the side of the caput gallinaginis, and in the neck of the bladder.

From the Museum of John Howship, Esq.

SERIES LII.—DISEASES OF THE PROSTATE GLAND.

1. *Enlargement.*

AMONG the numerous specimens in which the prostate gland is enlarged, there are many in which it is not possible, in the present state of the preparations, to determine the origin or nature of the enlargement. In this uncertainty, it has appeared that the most useful arrangement of the specimens may be one determined by the various forms of the enlargement; according to whether it is uniform, or affects especially one or both lateral lobes or portions of the gland, or especially the middle and posterior, or the middle and anterior part, or is attended with peculiar deformity. Among the specimens thus arranged, those which best show the structure of the enlarged gland are Nos. 2476, 2478, 2488, 2496, 2502; those which display the enlargement complicated with other and peculiar forms of disease are Nos. 2494, 2498, 2499, 2500, 2510, 2514, 2515, 2516, 2518, 2519.

1 a. *Uniform Enlargement of the Prostate Gland.*

2473. Part of a bladder, with an enlarged prostate gland. The degree of enlargement is slight, but nearly uniform, affecting equally both the lateral and middle lobes or portions of the gland. The middle lobe is exposed by dissection from behind; and it forms a slight swelling in the neck of

the bladder, oval, and elongated from before backwards. The section of the anterior and middle portion of the gland shows that this also is much increased in thickness. Bristles are placed in the ureters and ejaculatory ducts. *Hunterian.*

2474. A nearly similar specimen; but the enlargement is somewhat greater, and the middle lobe forms a broad, transversely oval, convex elevation, which has a slight depression in the middle, so that it appears bilobed. The flattening and pressing together of the sides of the urethra, and the increase of its depth or antero-posterior diameter, are well marked. The left ureter is obstructed near its termination in the bladder by a small calculus. The bladder appears healthy.

From a gentleman seventy years old, who for several years had occasional attacks of irritation in the bladder, which he ascribed to gravel. In the last of these retention of urine ensued; it was relieved by the catheter, but he died of peritonitis, which had been overlooked in the urgency of the symptoms referred to the bladder.

The case is described by Sir E. Home in his work "On the Treatment of the Diseases of the Prostate Gland," vol. i., p. 154; and the preparation is figured in the same vol., pl. vi.

Presented by Sir Everard Home.

2475. Part of a bladder, with a prostate gland, slightly and uniformly enlarged in all its parts. In the situation of the middle lobe the enlargement forms a low conical elevation in the neck of the bladder; this, as in the specimen last described, is transversely oval, and, by two shallow grooves diverging from the caput gallinaginis, and passing over it, has acquired a superficially trilobed form. *Presented by Sir William Blizard.*

2476. A bladder, prostate gland, and adjacent parts, together with one of the kidneys of the same person. The prostate gland is uniformly enlarged to more than twice its natural size, and the part of the urethra within it is very deep and narrow. The middle portion of the gland is elevated like a transverse barrier, with a smoothly-rounded, level, upper margin across the neck of the bladder. The mucous membrane of the bladder is in several places pushed out in sacculi of various size and depth between the

bundles of the hypertrophied muscular coat, which are peculiarly strong above and behind the enlarged prostate. The ureters and the pelvis of the kidney are dilated and thickened. The glandular substance of the kidney is in great part removed, and its calyces are dilated into large sacs.

Hunterian.

2477. Part of a bladder, with an uniformly enlarged prostate gland. The middle portion of the gland appears wider than is natural, but forms no prominence in the neck of the bladder. Numerous cavities in the prostate open by wide smooth orifices in the urethra. One of them is in the situation of the right ejaculatory duct, as if that were dilated to more than a line in diameter. The others were probably made with catheters. The prostatic part of the urethra appears to have been large, and little, if at all, laterally compressed. There is a circumscribed cavity behind the lower part of the bladder, with rough granulated walls; the remains, probably, of an abscess between the bladder and rectum. The muscular coat of the bladder is hypertrophied, and the transverse band of fibres between the ureters is peculiarly large and prominent.

Hunterian.

1 b. *Enlargement of the Prostate Gland, affecting especially one or both of its Lateral Portions or Lobes.*

2478. Part of a bladder, with an enlarged prostate. Numerous deep sacculi of the mucous membrane of the bladder are pushed out between the bundles of the hypertrophied muscular coat. The prostate is enlarged to three or four times its natural bulk, and its section presents a coarsely-fibrous aspect, with bright or shining white fibres curving and circling in a pale firm homogeneous basis, much like a fibrous tumour. The right lobe is by one-half larger than the left, and the middle lobe is prominent in the bladder. The prostatic part of the urethra is deep and narrow, and curved in adaptation to the enlargement of the right lobe of the prostate.

The caput gallinaginis is prominent and sharp-edged. The ureters are dilated. *Hunterian.*

2479. Part of a bladder, with an enlargement of the prostate gland rather greater than that last described. The enlargement affects the right side of the gland rather more than the left; and the middle portion forms a large nipple-like projection in the neck of the bladder. The upper and anterior part of the gland having been cut away, the characteristic deepening of the urethra and its flattening from side to side are well shown. The urethra is also curved with a concavity directed towards the right, in correspondence with the convex surface of the enlarged right lobe: from this it passes by the nipple-like projection in the situation of the middle lobe, at the right side of which it opens into the bladder. The section of the gland displays a dense pale nearly uniform structure, with the orifices of a few groups of dilated ducts open on it. The calculus, which lies loose in the bottle, was found in the bladder after death, and appears to have rested behind the enlarged prostate.

Presented by Sir William Blizard.

2480. Part of a bladder, with an enlarged prostate gland. The enlargement has taken place to a much greater extent in the left than in the right lateral lobe of the prostate. The middle lobe is scarcely prominent; the left lobe forms a low, smooth, convex elevation in the neck of the bladder. The vesical orifice of the urethra, in adaptation to the change of form in the prostate, has the shape of a narrow crescent, with its horns three-quarters of an inch apart and turned to the left side. This orifice is also much nearer to the anterior than to the posterior part of the bladder, in consequence of the posterior middle portion being much more increased than the anterior middle portion is. The muscular coat of the bladder is hypertrophied: in other respects it is healthy. *Hunterian.*

2481. The bladder and prostate gland of a gentleman eighty-six years old. The bladder is small and thickly walled, and exhibits many small pits of mucous membrane depressed between its muscular fibres. About the

entrance of the ureters its coats are all equally dilated in two shallow sacculi. The prostate gland is enlarged so as to form a nearly globular firm mass, three and a half inches in diameter. The right lobe is enlarged rather more than the left, and the vesical orifice of the urethra has the form of a crescent, elevated in the neck of the bladder, with its horns directed towards the right side. The orifice is situated near the middle of the gland and of the neck of the bladder, for the anterior part of the prostate is as much increased as the posterior part is. A portion of the posterior part of the prostate has been removed, and displays a dense obscurely fibrous texture, with the open orifices of groups of ducts.

From the Museum of Sir A. P. Cooper.

2482. A bladder and prostate gland, with parts of the rectum and penis. The bladder is of large size, and all its coats, but especially the muscular one, are much thickened. Numerous small portions of mucous membrane are pushed outwards between the fasciculi of the muscular coat; and at the upper part of the bladder are two large sacs formed of the extruded mucous and cellular coats, with, apparently, a thin layer of muscular tissue. They communicate with the cavity of the bladder by narrow orifices. The rest of the mucous membrane is folded and creased like the skin of the palm of a hand. The prostate is enlarged; its lobes project far into the bladder, forming a deep ridge nearly all round the urethral orifice. There is a deep and extensive ulceration of the anterior wall of the rectum directly below the prostate gland, as if an abscess had formed between them, and burst into the intestine. The tissues around the ulcerated part are hardened and contracted.

The patient, a man seventy-six years old, had for a long time signs of disease of the pelvic organs, and occasional retention of urine.

From the Museum of Robert Liston, Esq.

2483. The bladder and prostate gland, with a portion of ileum, from a gentleman ninety-six years old. The bladder is very large; its muscular coat is thickened and strongly fasciculated, but weak and flabby. The mucous membrane is extruded in pits and deeply wrinkled. There is a large

quantity of adipose tissue on the outside of the bladder; and a portion of ileum is adherent to the peritoneum covering its fundus. The prostate gland is enlarged to between four and five times its ordinary dimensions, and especially in its right lobe, which projects in a large knobbed oval mass into the neck of the bladder. The enlarged left lobe projects similarly, but to a less extent.

2484. A bladder, with an enlarged prostate gland, and part of the urethra. The bladder is very large; its coats are thin, but strongly fasciculated. The prostate gland is enlarged to a mass nearly three inches in diameter, and more than usually knobbed, and irregular on its surface. A part of the enlarged right lobe projects in a globular knotted mass, an inch and a half in diameter, into the neck of the bladder; and there are two smaller masses or knobs by its side, which appear to be formed by the enlarged middle lobe pushed aside by the predominantly enlarged right lobe. Between these masses there is left only a narrow and crooked passage to the urethra. The prostatic part of the urethra is very deep and narrow, but its mucous membrane, as well as that of the bladder, is healthy. The caput gallinaginis is large, and diverging fasciculi pass from it to the principal enlargements of the prostate gland.

The patient was a gentleman eighty-three years old, who for upwards of thirty years had difficulty and frequent necessity of passing his urine. These were much aggravated during the last five years of his life, and they were accompanied with occasional incontinence of urine, pain in the urethra and bladder, and a distressing sense of fullness in the rectum, which he could scarcely succeed in completely emptying. Retention of urine occurred about two months before death, but was easily relieved by the catheter.

The case is further described by Sir E. Home, *l. c.*, vol. ii., p. 164; and the preparation is figured in the same vol., pl. v. (not in pl. iv., to which, in the history of the case, the reference is made).

Presented by Sir Everard Home.

2485. A bladder, with an enlarged prostate gland. The muscular coat of the bladder is very much hypertrophied, the mucous membrane is corrugated and depressed in numerous pits. At the middle of the posterior wall of the bladder there is a large thickly-walled sac opening into the cavity by

a narrow round orifice. The enlargement of the prostate gland affects the lateral lobes almost exclusively. They are about five times their ordinary size, and form two smooth oval masses with convex surfaces, which are in contact in the middle of the urethra, directly over the caput gallinaginis, and project in large and high elevations in both sides of the neck of the bladder. There is no prominence in the situation of the middle lobe, and the specimen appears to show how the lateral lobes, being thus allowed to come more nearly into contact, produced even a greater narrowness of the prostatic part of the urethra than is usual when the middle and posterior portion of the gland is proportionally enlarged, and holds the enlarged lateral lobes asunder. The section of the anterior and middle portion of the gland is from half to three-quarters of an inch in thickness: small masses, like fibrous tumours imbedded in it, project from its surface.

Presented by William Norris, Esq.

1 c. Enlargement of the Prostate Gland, affecting especially its Middle and Posterior Part, or Middle Lobe.

“ BESIDES this effect of the lateral parts swelling, a small portion of it, which lies behind the very beginning of the urethra, swells forwards like a point, as it were into the bladder, acting like a valve to the mouth of the urethra, which can be seen even when the swelling is not considerable, by looking upon the mouth of the urethra from the cavity of the bladder in a dead body. It sometimes increases so much as to form a tumour, projecting into the bladder some inches. This projection turns or bends the urethra forwards, becoming an obstruction to the passage of a catheter, bougie, or any such instrument; and it often raises the sound over a small stone in the bladder, so as to prevent its being felt.”—*Hunter; On the Venereal Disease; Works*, vol. ii., p. 279.

2486. Part of a bladder, with the prostate gland, and other adjacent parts. The prostate is slightly enlarged, especially in its middle lobe, which projects with a smooth convex surface in the vesical orifice of the urethra. There are deep and wide furrows by the side of the caput gallinaginis, and the prostatic portion of the urethra is not narrower than is natural.

Venereal.

“ Sir Thomas St——n, about fifty-five years of age, of a weak constitution, nervous, rheumatic, gouty, and breakings out in the skin like scurvy; often attacked with one, two, or more of the above complaints, therefore seldom well; has been very much

addicted to venery. Complaints in the urinary passages he had none, excepting many years back, when he was a young man, and they were only temporary, leaving no visible remains. He was rather remarkable for the retention of his water.

"In June, 1779, he was attacked with a frequency in making water, attended with a great difficulty and pain. He was attended by Dr. T——n, as there was some fever. I was called in to examine him, which I did with a bougie, but found no obstruction. I then suspected the prostate gland, and found it to be large and as hard as a bullet, and very sore when pressed. He had leeches applied to the perinæum; bladders of warm water applied, and he sat in warm water, which he thought relieved him. He became yellow, with whitish stools, for which he took four grains of calomel every other night, and which cured him of that complaint. All his symptoms in the time of making water abated, and in about a month's time he retained and made his water tolerably well, only knew that he was making it. He left off the calomel.

Things being in such a state, I thought it advisable to examine the prostate again, to see if these abatements of the symptoms were owing to a resolution of the prostate gland; but upon examination the gland was found as large and nearly as hard as before.

"As his symptoms came on almost at once, and as the prostate was then found very large, it became a matter of consideration whether this swelling in the gland was recent, as it were, coeval with the symptoms; or whether it had been coming on by degrees for some time back, and without ever having given the least symptom of it; as I had never seen a case where the prostate gland was enlarged, but what there had been complaints in the urethra, such as pain, urging, and frequency in making water, and as the gland enlarged these symptoms became worse and worse; from which I conceived that in the present case, where the gland was very large, that the swelling and symptoms might have come on together; but from the symptoms going off without any determination [diminution] of the size of the gland, I began to suspect that the swelling of the gland was of some standing, and what produced the symptoms now was an inflammation attacking it; for it is evident, from the state of the gland at the last examination, that it may be considerably swelled without giving any symptoms at all."—*Hunterian MS., Cases in Surgery*, p. 564.

The specimen is engraved in Sir Everard Home's work "On the Prostate Gland," vol. i., pls. 2, 3.

2487. An exactly similar specimen, except in that the bundles of muscular fibres passing from the orifices of the ureters to the posterior part of the prostate are remarkably large. *Hunterian.*

2488. Part of a bladder, with an enlarged prostate gland. The enlargement has taken place chiefly in the middle lobe, which is raised in a broad thick transverse ridge or bar behind and below the vesical orifice of the urethra. The anterior surface of this ridge forms nearly a right angle

with the rest of the prostatic part of the urethra; and its prominence appears the greater from the urethra directly in front of it being dilated into two deep fossæ by the sides of the caput gallinaginis. There are small calculi at the orifices of two of the prostatic ducts. The cut surfaces of its lateral lobes display an irregularly fibrous texture, white fibres running with various curves through a pale homogeneous basis; and the cut orifices of numerous slightly dilated ducts contain minute calculi.

Hunterian.

2489. A bladder and prostate gland, with parts of the urethra and rectum. The muscular coat of the bladder is much hypertrophied, and the mucous membrane is pushed out in numerous pits between the bundles of fibres, so that internally the wall of the bladder looks just like the auricle of a large heart. At the upper part there is one large sacculus of the mucous membrane. The prostate gland is slightly enlarged; and the projecting middle lobe, together with two folds formed of thickened mucous membrane and, probably also, of muscular fibres, which connect it with the lateral lobes, forms a bar, like that last described, across, or around, the posterior half of the orifice of the urethra. The membranous part of the urethra is slightly strictured. The rectum exhibits several small hemorrhoidal tumours.

The patient was a nobleman eighty years old. He had led a very dissolute life, and suffered many years with difficulty and frequent need of passing his water. His bladder became at last very irritable, and he twice had retention of urine. Catheters were passed three or more times a-day for the last three years of his life, and he died at last of some disease of the intestines.

The case is related by Sir E. Home, *l. c.*, vol. i., p. 150; and the preparation is figured in the same vol., pl. v.

Presented by Sir Everard Home.

2490. A bladder, prostate gland, and part of a penis. The bladder is small, and its mucous membrane sacculated. The prostate gland is considerably enlarged, and that part of it which projects immediately behind the vesical orifice of the urethra is connected, as in the last specimen, with the lateral enlargements by two broad and thick transverse ridges.

Together, they form one broad and deep ridge, projecting from behind forwards far over the posterior part of the orifice of the urethra, and giving the prostatic portion of the canal an unnatural curve, first upwards and then forwards. The rest of the urethra is healthy.

Presented by Sir Everard Home.

2491. Part of a bladder, with an enlarged prostate gland. The muscular coat of the bladder is hypertrophied, and its mucous membrane sacculated. The enlargement has especially affected the prostate in the situation of the middle lobe, which projects in a broad nipple-like process behind and over the vesical orifice of the urethra, giving the orifice the form of a narrow crescent with its horns turned backwards.

Presented by Sir Everard Home.

2492. A bladder, prostate gland, and vesiculæ seminales. The prostate gland, like that last described, is enlarged to nearly three times its ordinary size; and its middle and posterior portion projects in a round smooth mass into the neck of the bladder, just behind the orifice of the urethra. Its anterior portion is little, if at all, increased. A bougie is placed in the urethra. The coats of the bladder are one-third of an inch thick, and its muscular tissue is strongly fasciculated and prominent.

Signs of the disease existed for two years.

From the Museum of Sir A. P. Cooper.

2493. Part of a bladder, with the prostate gland enlarged into a spheroidal mass nearly three inches in diameter. The middle lobe forms a tumour projecting into the neck of the bladder, upwards of an inch in width, and three-quarters of an inch in depth, and marked on its anterior surface with a deep groove, in which a bougie long rested. The prostatic portion of the urethra has a nearly vertical direction, and is much elongated.

Hunterian.

2494. Part of a bladder, with the prostate gland, enlarged to between five and six inches in its transverse diameter. The chief increase is in the situation

of the left and middle lobes; and the surfaces of those portions of them which project in the bladder and urethra are grooved, so that they appear to be composed of distinct lobes. The same lobed appearance was (and is still in some measure) presented, on a section of the enlarged gland; in which its whole mass seems composed of oval portions of soft spongy substance, held together with intermediate cellular bands. A small oval mass, like a fibrous tumour, projects separately from the front of the chief enlargement, with which it is connected by cellular tissue.

The patient, seventy years old, had for several months had difficulty in making water, when he was seized with complete retention of urine. The catheter was introduced five times, and then, its introduction being difficult, the bladder was punctured from the rectum. In a few weeks after this the patient began to pass urine through the urethra, and the recto-vesical opening healed up, so that no trace of it remains. He continued nearly well for about eight months, and died of inflammation of the bowels.

The case is further related by Sir E. Home, *l. c.*, vol. ii., p. 19; and the preparation is figured in vol. ii., pl. ii.*

Presented by Sir Everard Home.

2495. Part of a bladder, with the prostate gland, and part of the urethra. The prostate gland is enlarged to between five and six times its usual dimensions, particularly in the situation of the middle lobe. A nearly pear-shaped mass, an inch in its chief diameter, projects into the neck of the bladder. On the upper part of this mass is a small separate knob or elevation, apparently formed by the growth of a distinct small spherical tumour. Between the sides of this mass and the enlarged lateral lobes of the gland, two very narrow channels lead to the urethra. The prostatic part of the urethra is very deep and narrow, and on its lower wall is a high ridge formed by a kind of frænum, extending from the caput gallinaginis to the middle enlargement of the gland. What is preserved of the bladder appears healthy.

The patient was a gentleman exceedingly fond of riding great distances on horseback,

* By comparing the preparation with the plate and description, it appears that the greater part of the description of pl. iii. belongs to pl. ii.; the preparation figured in pl. ii. being that of which the internal structure was particularly examined; this reference, therefore, at p. 21 to pl. iii. should be to pl. ii., and that at p. 69 to pl. ii. should be to pl. iii.

in whom, when fifty-five years old, hæmorrhage used to occur from the bladder whenever he rode. The urine always came first, and when it was all evacuated, dark blood followed. This continued for four years without any other symptom of disease, but he would not give up his plan of riding. When fifty-nine, after riding longer than usual, the bleeding became more copious, and was soon followed by retention of urine. He would not have an instrument passed, as some urine was constantly flowing from the over-distended bladder; and this went on with little change for three weeks. The catheter was then repeatedly introduced, and he was much relieved, although the secretion of the urine was very scanty. Three weeks afterwards, on a sudden, almost complete suppression of urine occurred; he became insensible, and slowly died. After death there was seen on the small distinct elevation of the middle enlargement "a ruptured vein, filled with half-coagulated blood," from which it was supposed that the frequent hæmorrhage had taken place.

The case is detailed by Sir E. Home, *l. c.*, vol. ii., p. 33; and the preparation is figured in the same vol., pl. i.

Presented by Sir Everard Home.

2496. A bladder and prostate gland. The bladder is large, its muscular coat is somewhat hypertrophied; and a large thick-walled sac opens into its left side by a narrow circular orifice. The prostate gland is considerably enlarged, but the part corresponding to the middle lobe is increased in a much greater proportion than either of the lateral lobes; so that it surpasses them in size, and forms a large smooth pyriform tumour, which measures about two and a half and two inches in its chief diameters, projects into the neck of the bladder, and forms a broad and deep barrier behind the vesical orifice of the urethra. The prostatic part of the urethra is very deep and narrow; and, at the enlarged middle lobe of the gland, suddenly turns upwards at a right angle to its former course. The ureters are dilated, and their walls are thickened. Strong fasciculi pass from the caput gallinaginis to the enlarged middle lobe.

From the Museum of John Taunton, Esq.

2497. Part of a bladder, with an enlarged prostate gland. The coats of the bladder are thickened. The prostate is enlarged in every part, but especially in the situation of the middle lobe, where an oval and somewhat flattened mass, about two inches and a half in width, and an inch and a half in depth, nearly fills the neck of the bladder, and forms a high barrier

behind and above the orifice of the urethra. The surface of this enlarged part, as well as of the rest of the gland, is irregularly and superficially knobbed, and the section of the gland exhibits some distinct round and oval masses, probably small fibrous tumours, in its interior. The urethra is very deep and wide, and at its vesical extremity appears to divide into two channels, which pass into the bladder by the sides of the great middle enlargement of the prostate. The seminal ducts are dilated. The membranous part of the urethra is healthy.

From a gentleman eighty-one years old, who had occasionally complained to friends of inconvenience and increased frequency in voiding urine; but had not resorted to professional aid until a fortnight before his death, when retention of urine came on, and it was necessary to puncture the bladder above the pubes. His gall-bladder, obstructed by a large calculus, is preserved in No. 1448.

Presented by William Lawrence, Esq.

2498. A bladder, with an enlarged prostate gland. The bladder is very large; its muscular coat is one-third of an inch thick, and the mucous membrane is pushed out in many sacculi between the bundles of muscular fibres. The lateral lobes of the prostate are enlarged to more than three times their ordinary dimensions, and in the situation of the middle lobe there is a spheroidal mass nearly two inches in diameter, and apparently formed by the enlargement of that part of the gland. This mass is covered with smooth mucous membrane, and a small lens-shaped body, probably a fibrous tumour, is fixed to its upper part. Below, the enlarged lobe becomes gradually narrower towards the caput gallinaginis, so that, in this aspect, it has a somewhat pyriform shape. On each side of the base of the tumour, in the passages leading past it into the cavity of the bladder, there are some slight lacerations of the mucous membrane, made in the attempts to introduce catheters. The prostatic part of the urethra is narrow, and more than half an inch in depth.

From a gentleman fifty-three years old, who was for many years supposed to suffer from stone, and passed a small calculus two years before his death. He could pass his water easily as he lay on his back; but scarcely at all when standing or kneeling. No stone could be detected by sounding, and the introduction of the instrument was very difficult and painful. In the last week of his life he had retention of urine, and

gradually increasing insensibility. The bladder, after death, was found to contain seven or eight angular stones, and the ureters were dilated and obstructed.

The case is further described in Sir E. Home's work already cited, vol. i., pp. 169, 265; and the preparation is figured in pl. ix. The pelvis of the right kidney and part of the ureter are preserved in No. 1930.

Hunterian.

1 d. *Enlargement of the Prostate Gland, with especial Enlargement of its Anterior and Middle Part.*

2499. A bladder, with the prostate gland, part of the penis, &c. The bladder is remarkably enlarged, its muscular coat is hypertrophied, its mucous membrane thickened and indurated, but smooth on its internal surface. The prostate gland is enlarged to three or four times its ordinary size. The chief increase has taken place in its upper and anterior middle part, so that the course of the urethra (in which a piece of catheter is placed) is much less curved than is usual in cases of enlarged prostate; and a round nipple-like mass, nearly an inch in diameter, projects into the neck of the bladder in front of the vesical orifice of the urethra. There are two smooth and flat oval calculi, each about an inch in its chief diameter, in the cavity of the bladder; and a third, of rather smaller size, lies loose in the bottle.

The patient had long retention of urine, and died exhausted.

From the Museum of Robert Liston, Esq.

1 e. *Enlargement, with peculiar Deformities, of the Prostate Gland.*

2500. Part of a bladder, with an enlarged prostate gland. The muscular coat of the bladder is hypertrophied. Its mucous membrane is depressed in numerous pits between the muscular fasciculi, and is in some situations superficially ulcerated and covered with lymph. The prostate is generally enlarged, and the parts of it which project in the bladder and urethra are

irregularly knobbed. Part of the right lobe projects in a short and thick nipple-like process into the neck of the bladder, in front of the enlarged middle lobe. Part of the left lobe projects in a broad but rather flattened process into the urethra directly over the *caput gallinaginis*, so as to be in contact with the opposite wall. The form of the prostatic part of the urethra is thus remarkably altered. It is elongated and increased in depth; it bends first to the right, and then turns sharply to the left round the projecting, and almost completely obstructing, portion of the left lobe. The chief passage for the urine appears to have been in front of this projection. The middle lobe forms a deep and broad, transverse, and tri-lobed ridge across the neck of the bladder: on its upper surface are traces of laceration made in passing catheters.

The patient was a gentleman about seventy years old. He had suffered for three years from difficulty in making water, when, in 1814, complete retention occurred. This was relieved by the catheter, which was passed with great difficulty, and was often allowed to remain long in the bladder. In two months he appeared nearly well, but in a month after was again unable to empty his bladder completely; it became much more irritable, and one day hæmorrhage, amounting to nearly three pints, took place from it. On subsequent days the hæmorrhage returned to a smaller amount, and he died exhausted.

The case is further detailed by Sir E. Home, *l. c.*, vol. ii., p. 157; and the preparation is engraved in the same vol., fig. iv. (not pl. iii., to which, in the history of the case, the reference is given).

Presented by Sir Everard Home.

2501. A bladder and prostate gland. The muscular coat of the bladder is hypertrophied, and its mucous membrane is thickened and depressed in deep pits between the muscular bundles. The prostate gland is enlarged, generally; but chiefly in the left lobe, and in the portion corresponding to the middle lobe. In the situation of the latter, or between it and the right lobe, there is a prominent nipple-like enlargement directed very obliquely towards the left side. The left lateral lobe, more enlarged than the right, projects with an abruptly raised convex surface into the urethra, so that the course of the prostatic part of the urethra is, as in the preceding specimen, tortuous, turning first to the right, and then sharply

round to the left, between the projecting enlargements of the left and middle portions of the gland.

From an old man who had long had disease of the urinary organs. At last, he had retention of urine, which was relieved several times a-day by the catheter, but incontinence of urine supervened; that which was passed was high-coloured, slimy, and fetid; and he gradually sank.

From the Museum of Robert Liston, Esq.

2502. A bladder, prostate gland, and part of the urethra. The cavity of the bladder is small, partly through its own contraction, but more in consequence of the encroachment of the prostate upon it. Its muscular coat is hypertrophied, its mucous membrane thickened. The prostate gland is enlarged to a compact spheroidal mass, from four to five inches in diameter. Its surface, where it projects into the bladder, is very irregularly knobbed, and forms a ridge an inch and a half deep all round the orifice of the urethra. This ridge is especially prominent at the posterior part, so that the greater portion of the cavity of the bladder lies behind and above it. The vesical orifice of the urethra was situated at a groove on the top of the posterior part of the ridge, between the two chief enlargements of the prostate; and immediately behind this groove, and resting on the ridge, lay a calculus. The prostatic portion of the urethra is nearly three inches long, very deep and narrow; its curve is nearly that of a semicircle, and its general direction nearly vertical. A very prominent fold of mucous membrane leads from the caput gallinaginis to the chiefly enlarged part of the middle of the prostate, and almost divides the prostatic portion of the urethra into two channels. The large irregular incisions through the membranous part of the urethra, as well as that by which a portion of the prostate is cut off and turned backwards, were made in lithotomy.

The patient was an old nobleman who for several years previous to 1803 had difficulty in making water, doing it effectually only when his bowels acted. In 1803 he had complete retention of urine. After this he passed his water voluntarily, but always with pain about the neck of the bladder. In 1806 his pain and distress in making water having constantly increased, a stone was found in the bladder; he was cut, and recovered in five weeks. But in four months his symptoms returned, and continued to increase for more than two years. In 1809 another stone was detected;

shortly after this he had two epileptic fits; and seven months after he was again operated on, and a stone was removed, of which the form indicated that it had lain in the pouch behind the ridge of the enlarged prostate, and on the groove between the two chief projections into the bladder. He died in less than an hour after the operation.

The case is further detailed by Sir E. Home, *l. c.*, vol. i., p. 176; and the preparation is engraved in the same vol., pl. xi.

Presented by Sir Everard Home.

2503. Sections of the calculus removed from the bladder of the patient whose history has been just detailed. *Presented by Sir Everard Home.*

2504. A bladder and prostate gland. The coats of the bladder are thickened and indurated, and two small thickly-walled sacculi communicate by narrow orifices with its cavity. The prostate gland is enlarged to nearly four times its ordinary size; and that part of it which projects into the bladder surrounds the orifice of the urethra, and is divided by deep grooves into five lobes, each of which is narrow at the caput gallinaginis, and thence gradually enlarges as it diverges towards the neck of the bladder. The rest of the enlarged gland has its usual spheroidal form.

From the Museum of John Taunton, Esq.

2505. A bladder, prostate gland, and part of the penis. The bladder is very large, its muscular coat is hypertrophied, its mucous membrane thickened and flocculent, especially about the neck, where it is also in many places superficially ulcerated. The prostate gland is increased to nearly three inches in width. In the neck of the bladder it projects in four distinct knobbed pyriform lobes, each about two inches long, and an inch in thickness at its larger end, and all tending at their narrow ends towards the caput gallinaginis. The two middle of these lobes are roughly ulcerated on their surfaces. The prostatic part of the urethra is very deep and large, and exhibits several impressions or cavities in its walls, produced probably by the forcible introduction of instruments. The rest of the urethra, so far as it is preserved, is also very large, and has been similarly injured in several places. About the middle of its spongy portion there is a false passage, nearly two inches in length, by the

side of which a great part of the wall of the urethra appears to have been destroyed. *Hunterian.*

1 f. *Enlarged Prostate Glands, Pierced or Wounded with Instruments.*

2506. Part of a bladder, with an enlarged prostate gland. The bladder is very much contracted, its muscular coat is hypertrophied, and its mucous membrane deeply corrugated. The enlargement of the prostate is general, but proportionally greater in the middle than in the lateral lobes. The middle lobe projects and overhangs far in the bladder, and there is a deep wound on its anterior part, which was made in introducing a catheter. The prostatic portion of the urethra is narrow, deep, and nearly vertical.

From a gentleman seventy-seven years of age, who had three attacks of retention of urine in the last three years of his life. They were all relieved by keeping a catheter in the bladder, and after each he regained power over his bladder. In a fourth attack he became dropsical and died.

The case is related by Sir Everard Home, *l. c.*, vol. i., p. 168; and the preparation is figured in pl. viii. of the same volume.

Hunterian.

2507. A bladder, prostate gland, and part of a penis. The muscular coat of the bladder is hypertrophied; its mucous membrane is depressed in numerous pits, thickened, and about the neck superficially ulcerated and covered with a thin layer of lymph. The prostate gland is generally enlarged to three or four times its natural dimensions, and the middle lobe is prominent and overhanging. Its surface, both in the urethra and where it projects into the bladder, is torn and ulcerated, in consequence of the frequent passage of catheters. The chief ulceration is in the prostatic part of the urethra, and on the left side of the middle lobe, marking exactly the direction which was usually given to the catheter.

From a man seventy-three years old, who had signs of enlarged prostate for four years. His last and chief illness commenced a month before his death, with great difficulty and pain in making water, and an almost constant desire to do so. The catheter was passed twice or more in each day after this time, sometimes easily, but

often with much difficulty. It could not be long retained in the urethra on account of the great pain which it caused about the neck of the bladder.

The case is further detailed by Sir E. Home, *l. c.*, vol. ii., p. 52; and the preparation is figured in the same vol., pl. vii.

Presented by Sir Everard Home.

2508. Part of a bladder, with a prostate gland, a portion of the penis, &c. The prostate is enlarged in all its dimensions, and forms a broad and deep barrier behind and nearly all round the vesical orifice of the urethra. The prostatic part of the urethra is enlarged and remarkably increased in depth, and in its course forms nearly a semicircle. A portion of glass is placed in a false passage, which, commencing in front of the bulbous portion of the urethra, passes obliquely upwards and to the right, through the upper part of the enlarged right lobe of the prostate, into the anterior part of the neck of the bladder.

The patient, sixty-three years old, suffered long with disease of the urinary organs. Retention of urine at last coming on, a catheter was forcibly introduced into the bladder; and, after passing bloody urine, he gradually sank.

From the Museum of Robert Liston, Esq.

2509. A bladder, prostate gland, and penis. The muscular coat of the bladder is hypertrophied, all the tissues around it are thickened and indurated, and there is lymph on its peritoneal coat. The mucous membrane also is thickened, deeply corrugated, and here and there superficially ulcerated. The prostate gland is enlarged to nearly three inches in width; all its parts are equally affected. A portion of bougie is placed in a passage forced through the middle part of the enlarged prostate. This passage leads straight through the substance of the gland into the bladder; its opening into the urethra is smooth and round, that into the bladder is ulcerated and surrounded with lymph. The prostatic and membranous portions of the urethra appear to have been acutely inflamed, and about an inch behind the glans penis the urethra seems to be dilated into a large oval sac, with uneven ragged walls, which has been widely laid open from below, and was probably an abscess.

The patient, an aged gentleman, had often had retention of urine, and had been as

often relieved with the catheter. But two or three weeks before death, a surgeon, finding difficulty in passing the catheter, perforated the prostate with it.

The specimen is engraved in Mr. Crosse's "Treatise on the Urinary Calculus," pl. xiii., and described at p. 117.

Presented by J. G. Crosse, Esq.

2510. A vertical and transverse section of part of a bladder, and a prostate gland. The prostate is enlarged to four or five times its ordinary size; its substance is firm, but not compact, and in its interior there are numerous small cysts, oval or round in shape, and from half a line to three lines in diameter, probably portions of dilated ducts. The right lobe is much larger than the left, and the course of the urethra is curved in correspondence with its greater projection. A portion of glass is placed in a passage which was forced with an instrument from the urethra into the bladder, through the inner part of the right lobe, and the right side of the enlarged middle lobe, of the prostate. All the prostatic part of the urethra appears to be superficially ulcerated.

The patient, seventy-nine years old, having retention of urine from the enlargement of the prostate, the false passage was, after some vain attempts to introduce a catheter, bored through the substance of the gland. The instrument thus passed in was left for two days in the bladder. Urine, without blood, flowed freely through it, and on its withdrawal the patient made water very frequently by his own efforts. For eight days he went on favourably, and then suppression of urine came on, and continued for forty-eight hours. On the secretion being re-established he rallied, but in a few days after, an affection of the throat supervened, and appeared to be the immediate cause of his death. Acute peritonitis was found to have existed in the neighbourhood of the bladder.

From the Museum of Robert Liston, Esq.

2510A. A similar specimen, except in that the mucous membrane of the neck of the bladder and the prostatic part of the urethra is extensively ulcerated, in consequence probably of the injury done in the perforation of the middle lobe of the prostate gland.

2511. A bladder, prostate gland, and penis. The cavities of the bladder and urethra are exposed by a section on the right side. The prostate gland is enlarged to about four inches in diameter, and its posterior and middle portion projects in a broad and thick ridge upwards of an inch in depth

behind and above the vesical orifice of the urethra. A portion of glass is passed through a passage which was cut through the base of this ridge. The passage commences in the middle of the posterior wall of the prostatic portion of the urethra, goes straight onwards through the substance of the gland, and enters the neck of the bladder just behind it. The prostatic part of the urethra is dilated: the rest is healthy.

The patient, a man eighty-two years old, had difficulty in voiding urine for many years, and was admitted into the Mary-le-bone Infirmary with retention of urine of forty-eight hours' duration. Mr. Stafford, with a stiletted catheter, perforated the prostate gland, as shown in the preparation. Two quarts of bloody urine were drawn off, and a catheter was left in the bladder for three days. It was then withdrawn and passed through the opening in the prostate every night and morning for a fortnight, when the man began to void urine naturally. He did so to the time of his sudden death, nearly six weeks after the operation. The cause of his death appeared to be connected with effusion in the cerebral ventricles and pericardium.

The case is related and the specimen engraved in "An Essay on the Treatment of some Affections of the Prostate Gland," by R. A. Stafford, p. 81, London, 1840, 8vo.

Presented by R. A. Stafford, Esq.

2512. A bladder, with the prostate gland, and vesiculæ seminales. The prostate gland is uniformly enlarged to nearly four times its ordinary dimensions. The middle and posterior portion of the gland forms a broad elevated ridge between the urethra and neck of the bladder; and a wide, smooth-walled, oblique passage, in which a portion of bougie is placed, has been made through its substance. The walls of the bladder are thin, and its mucous membrane, in more than twenty places in the posterior and lateral walls, is protruded through the muscular fibres in round and oval narrow-mouthed sacs of various sizes, from a quarter of an inch to nearly an inch in diameter. At the entrances of the ureters, also, there are two larger and less prominent sacs, in the walls of which all the coats of the bladder appear to be comprised. The vesiculæ seminales are very small. *From the Museum of Sir A. P. Cooper.*

2513. A bladder, with an enlarged prostate gland, &c. The bladder is large, and its mucous membrane is protruded in many sacculi between the muscular fibres, but the muscular coat is thin and flaccid. The chief

enlargement of the prostate is in the left lobe, which projects in an oval tumour, nearly an inch in diameter, into the neck of the bladder. The middle and right lobes are enlarged in a less degree. The middle lobe projects far into the bladder. A passage, in which a piece of bougie is placed, was forced with a catheter through the middle lobe five years before the patient's death. The vesical orifice of the urethra had the form of a large crescent, the convex surface of the enlarged left lobe being adapted to a concavity in the surface of the right lobe. The prostatic portion of the urethra is very large; it forms a kind of oval cavity, two inches long, and (now it is laid open) an inch in width.

The patient was a gentleman sixty-five years old, who had not been able to pass his urine voluntarily for five years before his death. The retention first occurred in consequence of his being accidentally prevented for several hours from making water. During the first year after this occurrence, the catheter was introduced with so much difficulty that it was necessary to leave it in the bladder, and change it only occasionally. Afterwards it was found that, by imitating exactly the form which the catheter assumed when it had lain some days in the bladder, another might always be easily introduced. The patient died at last of an affection of the bowels.

The case is described in Sir E. Home's work already cited, vol. i., p. 174; and the preparation is figured in the same vol., pl. x.

Hunterian.

2. *Abscess and Ulceration of the Prostate Gland.*

2514. A bladder, with abscesses (perhaps of tuberculous origin), in and around the prostate gland, and ulceration of the bulb of the urethra. Mr. Hunter has thus described the parts in their original state:—

“ By desire of Mr. Hayes, and in presence of him and Mr. Moffet, I opened the body of a young man (*vide* his case). I took out the penis, bladder, and rectum; I then opened the bladder on the fore part, and found it very thick in its muscular coat, of a pale livid colour. The inner surface was shaggy, especially at the openings of the ureters, which were very large in their whole length: so were the pelves and kidneys. All these cavities were filled with a pale brown mucus. I then slit open the urethra through its whole length; on continuing the incision from the fore part of the bladder through the prostate gland and body of the penis, first, we found in the body of the prostate gland and membranous part, a vast number of large irregular cavities, which seemed to have been the seat of abscesses, which had burst into the urethra, so that here the urethra was very irregular or wanting, in a great many places. There

had one abscess formed in the posterior part of the prostate, which had destroyed the terminations of the ducts of the testicles, and that part of the vesiculæ seminales which is next to the gland, so that the communication between these parts and the urethra was cut off, and their communication with one another. I opened the vesiculæ seminales, and observed that their contents were the same with that which we find in common in dead bodies, and he had not been dead above eleven hours, so that no putrefaction could have taken place. The contents of the vasa deferentia and the contents of these bags had a free passage into this abscess on the inside of the urethra. About the bulbous part there was a loss of substance, which might be called an ulcer. The urethra was sound from this to the glans, excepting where the mortification had communicated with it.

“Why should there be some disease in the kidneys? for they discharged a mucus. These parts seem all to have some consent with one another.”—*Hunterian MS.: Dissections of Morbid Bodies*, No. 125, p. 212.

2515. A bladder, with the prostate gland, and part of the penis. The bladder is small, and its walls are rather thin; the mucous membrane about its neck is thickened and granular; the ureters are thickened and dilated. The prostate gland is a little enlarged; a roughly-walled cavity, probably that of a tuberculous abscess, in its lower and middle part, opens by a wide irregular orifice into the urethra directly behind the caput gallinaginis, and involving the ejaculatory ducts. The rest of the urethra is healthy.

Presented by Sir Everard Home.

2516. A bladder, prostate gland, and part of the penis. The muscular coat of the bladder is hypertrophied; its mucous membrane is corrugated, saccular, and in many places superficially ulcerated; in the recent state it was extremely vascular. The prostate gland is enlarged to three or four inches in diameter. Its surface is knobbed, and its interior is firm, and appears composed of many round or oval masses. Two or three small calculi are imbedded in it. Both the lateral lobes project in large round masses in the neck of the bladder; and in the situation of the middle lobe there is a separate pyriform enlargement, fixed by a narrow base. Its surface, as well as that of the most prominent part of the left lobe, is ulcerated; and parts of the substance of the gland project through the ulcerated mucous membrane, with coarsely flocculent, sloughing surfaces. Two membranous fræna pass from the caput gallinaginis to the middle

enlargement; both of them are very deep, and form nearly complete partitions in the urethra. There is a slight stricture just anterior to the caput gallinaginis, and the surface of the urethra anterior to it is uneven, as if it had healed after being torn or ulcerated.

From a nobleman who, when sixty-eight years old, had retention of urine, which was with difficulty relieved by the catheter, and was followed by constantly frequent necessity of making water. Three years afterwards he was unable to empty his bladder completely, and had other signs of enlargement of the prostate, for which the catheter was used three times a-day. At the age of seventy-three, after some violence in introducing the instrument, the bladder became much more irritable, and his urine was found to be constantly tinged with blood. These signs increased rapidly. At the last, urine could not be retained for more than an hour without violent spasmodic contractions of the bladder, and excruciating pain, till at length the patient became comatose and died.

The case is further related by Sir E. Home, *l. c.*, vol. i., p. 181; and the preparation is figured in the same vol., pl. xii.

Presented by Sir Everard Home.

3. *Tumours and other allied Morbid Growths in the Prostate Gland.*

2517. A bladder, with the prostate gland, part of the urethra, &c. The cavity of the bladder is reduced to scarcely more than an inch in diameter, and had been of this size for a long time before the patient's death. Its mucous membrane is thickened, granular, and exceedingly corrugated; its other coats appear healthy. The neck of the bladder and the prostate gland are involved in a large tumour, composed of a dense, tough, and partly fibrous tissue, in which no distinction of parts can be discerned. The urethra is dilated.

The patient, a man sixty years old, had for a long time before his death laboured under pain and difficulty in making water, which at last became extreme. The expelling power of the bladder was sometimes lost, but the catheter never brought away so much as a teacupful of urine. He died exhausted.

From the Museum of Robert Liston, Esq.

2518. A bladder and prostate gland, with part of the rectum and other adjacent organs. The situation of the prostate gland, and all the space between it and the neck of the bladder and the rectum, are occupied by a medullary

tumour, about four inches in length, and three in thickness. Its texture is soft and spongy, and in some parts is broken down; in the recent state it contained a great deal of blood. Anteriorly, the tumour has pressed upwards and forwards the bladder, prostate, and urethra; and, involving all the substance of the prostate, projects with a roughly ulcerated and fungous surface into the prostatic and membranous parts of the urethra. In front, it involves the crura penis, and surrounds the bulbous portion of the urethra, through which a portion of bougie is passed. Posteriorly, it projects against the rectum, and compresses its walls nearly into contact. Above, it is invested with the peritoneum passing from the bladder to the rectum, which is slightly thickened. The mucous membrane of the bladder is in some parts superficially ulcerated, but in other respects that organ is healthy.

The patient was a man forty-five years old. About five months before his death he received a severe blow in the perineum, two months after which he complained of difficulty in voiding his urine, and frequent desire to empty his rectum. The tumour could at this time be felt projecting into the rectum; it continued to enlarge, and produced retention of urine, with great pain in discharging the fæces. Small quantities of dark, bloody, and fætid urine were repeatedly drawn off, and the patient died gradually exhausted.

From the Museum of Robert Liston, Esq.

4. *Calculi in the Prostatic Ducts.*

2519. Section of a prostate gland, in which numerous small calculi are imbedded in sacculi formed, probably, by dilatation of the ducts.

From the Museum of Sir A. P. Cooper.

2520. A thin section of a prostate gland, dried, and exhibiting many small calculi imbedded in it.

From the Museum of Sir A. P. Cooper.

5. *Effects of Calculi lodged in the Prostatic Portion of the Urethra.*

2521. A bladder, with the prostate gland, part of the penis, &c. The muscular

coat of the bladder is thickened; its mucous membrane is healthy. The prostate gland is enlarged to more than three times its ordinary dimensions, and proportionally in all its lobes. The urethra, obstructed by the projection of the middle lobe, and narrowed by the enlargement of the lateral lobes, is completely closed up by a calculus, which is lodged in its prostatic portion just over the caput gallinaginis, and appears to have been tightly grasped by the elastic substance of the prostate.

The patient died in consequence of retention of urine.

Hunterian.

2522. A bladder and prostate gland. The muscular coat of the bladder is hypertrophied; its mucous membrane is healthy in texture, but pushed outwards in many small pits. The prostate gland is increased by nearly uniform enlargement to a mass between three and four inches in diameter, and its surfaces are irregularly and superficially knobbed. On its section it appears composed of many oval and round masses, closely united together, compact, and obscurely fibrous. The part which projects into the bladder forms a thick prominent ridge all round the orifice of the urethra. The prostatic and immediately adjacent parts of the urethra are greatly increased in both depth and width, and are marked along the under surface by a kind of frænum passing from the caput gallinaginis both forwards and backwards. On the right side of this frænum is an incision made in the operation of lithotomy.

The patient was a man seventy-six years old. After having difficulty in making water for a year, he had retention of urine. It was relieved; but his former symptoms increased, and three years from their commencement a stone was felt. He was cut, and twenty small spherical calculi, which appeared to have lain in the prostatic portion of the urethra, were removed. He died eleven hours after the operation. Seven calculi were afterwards found in the right kidney, but none in the bladder.

The case is further detailed by Sir E. Home, *l. c.*, vol. ii., p. 66; and the preparation is figured in the same vol., pl. iii. (see note to No. 2494).

Hunterian.

2523. Part of a bladder, with the prostate gland. The prostate is changed into one large sac, which was filled with calculi. This sac is nearly spherical in form, and about an inch and a half in diameter; its walls are

a line in thickness, and uneven on their internal surface. It has a large, irregular, and apparently ulcerated orifice of communication with the bladder, and a smaller one at its lower and posterior part (through which a quill is passed), by which it opens into the urethra. The ureters are dilated: what is preserved of the bladder appears healthy.

Presented by William Lawrence, Esq.

2524. The urinary organs of a child. The bladder is contracted, its muscular coat is hypertrophied, and its mucous membrane thickened. It contains a calculus half an inch in diameter; and another calculus, of an oval form, an inch and a quarter long, and three-quarters of an inch in transverse diameter, is lodged in the prostatic and immediately adjacent part of the urethra, which is dilated into a thin-walled sac around it. The rest of the urethra is healthy. The ureters, and the pelvis and infundibula of both kidneys, are exceedingly dilated.

2525. A bladder and prostate gland, from a boy. The coats of the bladder are thickened, and its muscular texture is hypertrophied. It contained a large calculus, which is preserved in the next preparation. The prostate gland is increased in size, and the prostatic portion of the urethra, by the formation of a calculus in it, is dilated into a large, smooth, oval cavity, the walls of which, formed by the extended substance of the gland, are from one to two lines in thickness.

From the Museum of Sir A. P. Cooper.

2526. The calculi mentioned in the preceding description. The upper calculus is that which lay in the dilated prostatic portion of the urethra; it has almost exactly the form and size of the healthy prostate gland of an adult.

From the Museum of Sir A. P. Cooper.

2527. A bladder and part of a penis. From the bladder a cavity is continued, becoming gradually smaller, to the membranous part of the urethra, into which it opens by an aperture of the ordinary diameter of that canal. The muscular coat of the bladder is not traceable beyond its usual

boundary, at the anterior part of the vesiculæ seminales. The ejaculatory ducts open into the upper and posterior part of the cavity between the bladder and membranous part of the urethra, immediately in front of the boundary of the muscular wall of the bladder; they are indicated by bristles. That part of the cavity which is anterior to the ducts, and which occupies the usual position of the prostate gland, has thin tough walls, apparently lined with mucous membrane. The bladder is very small. Its muscular coat is somewhat hypertrophied, and its mucous membrane is thickened, indurated, and granulated on its inner surface. The vesiculæ seminales are healthy, but one of their ducts is dilated into a small round sac. One of Cowper's glands is dissected out, and appears healthy. A bougie is placed in the urethra, which is of its ordinary size. It is uncertain whether the absence of the prostate gland were congenital or the consequence of disease: possibly there was a large calculus lodged in the prostatic part of the urethra, gradually dilating it, and producing absorption of the substance of the gland.

The patient was sixty-eight years old. He had abundant muco-purulent discharge, and for the last two or three years of his life suffered great misery. The specimen is engraved in Mr. Crosse's "*Treatise on the Urinary Calculus*," pl. ix., fig. 1.

Presented by J. G. Crosse, Esq.

Specimens of Diseases of the Prostate Gland in other parts of the Museum :—

Wounds. See specimens of consequences of Lithotomy, Nos. 2031 to 2040.
Enlargement, 1954, 1972, 1974, 1975, 1980, 2013 to 2017, 2021 to 2025,
2043 to 2045, 2529, 2530.

Abscess, 1973, 1987, 1996, 2014 (?), 2544, 2556, 2570.

Tubercle, 2010.

Injury by Instruments, 2565, 2571, 2572, 2573.

Calculi (placed in different parts of this Series).

SERIES LIII.—INJURIES AND DISEASES OF THE URETHRA.*

1. *Stricture.*

“ THE most frequent disease in the urethra is an obstruction to the passage of the urine ; it happens both in young and old, although most frequently in the latter. Before I begin to treat of this subject, I shall, for the better understanding of the whole, make some observations on the uses of this passage in its natural state.

“ It may, first, be observed, that the urethra in man is employed for two purposes. On this occasion I may be allowed to make the following general remark, that nature has not been able to apply any one part to two purposes with advantage, as might be illustrated in many instances in different animals. The animals whose legs are contrived both for swimming and walking, are not good at either, as seals, otters, ducks, and geese. The animals, also, whose legs are intended both for walking and flying, are but badly formed for either, as the bat. The same observations are applicable to fish, for the flying-fish neither swims nor flies well ; and whenever parts intended for such double functions are diseased, both are performed imperfectly. This is immediately applicable to the urethra, for it is intended as a canal or passage both for the urine and the semen. The urine requires the simplest of all canals, and of no greater length than the distance from the bladder to the external surface, as we find the urethra in women, birds, the amphibia, and fish ; but the passage for the semen in the quadruped requires to be a complicated canal, and of a length capable of conveying the semen to the female, provided with many additional and necessary parts, as the corpus spongiosum urethræ, musculi acceleratores, Cowper’s glands, prostate gland, and vesiculæ seminales. As all these parts are to serve the purposes of generation, and as the diseases of this canal are principally seated in them, we at once see how much the urinary organs must suffer from a connection with parts so numerous, and so liable to disease ; and what adds to the evil is, that the actions of the urinary organs are constant, and absolutely necessary for the well-being of the machine, whereas the evacuation of the semen takes place only during a certain portion of life, is then only occasional, and never essentially necessary to the existence of the individual. The force of this observation is at once seen by making the comparison between the inconveniences that attend the expulsion of the urine in the male, and in the female.

“ The canal of the urethra is liable to such diseases as are capable of preventing in some degree the passage of the urine through it ; and in some of these diseases the passage at last becomes completely obstructed. In all cases there is a diminution of the size of the canal, but in different ways. There are five modes of obstruction, four of which are diseases of the passage itself, the fifth is a consequence of the diseases of other parts. Three of the former are a lessening of the

* Most of the diseases of the prostatic portion of the urethra are included in the preceding series, with those of the prostate gland.

diameter of the passage; the fourth an excrescence in the passage; the fifth arises from the sides being compressed, which may be done either by exterior contiguous swellings, or by a swelling of the prostate gland.*

“ I. *Of Strictures.*

“ The three first I shall now consider, of which the first is the true permanent stricture arising from an alteration in the structure of a part of the urethra. The second is a mixed case, composed of a permanent stricture and spasm. The third is the true spasmodic stricture.”—*Hunter: On the Venereal Disease; Works*, vol. ii., p. 227.

2528. Part of a penis, exhibiting a slight annular stricture of the urethra, two inches from its external orifice. The narrowing of the passage is produced by a mere linear constriction, beneath which there appear some fine transversely undulating bands of glistening fibrous tissue. The sub-mucous tissue around the stricture appears indurated and intimately united to the tissue of the corpus spongiosum. Immediately before and behind the stricture, the urethra has its natural diameter.

The preparation is engraved in Hunter's works, pl. ix., fig. 1, and may be one of those referred to by Mr. Hunter, where he says (vol. ii., p. 230), “ The disease generally occupies no great length of the passage; at least, in most of the cases that I have seen, it [the stricture] extended no further in breadth than if the part had been surrounded with a piece of packthread, and in many it had a good deal of that appearance.”

Hunterian.

2529. A bladder and penis, laid open from behind. There is a very close annular stricture of the urethra, two inches from its external orifice. The narrowing of the passage, as in the specimen last described, takes place almost suddenly; and the urethra on each side of it soon regains its natural diameter. The tissue of the strictured part is compact and hard, as if a cord of tough, fibrous, glistening tissue had been imbedded in the wall of the urethra; but the parts near it appear healthy. Near the stricture, on both sides of it, the orifices of the lacunæ on the upper wall of the urethra are enlarged. At the membranous part of the urethra

* “ Many other kinds of obstruction are described by authors, none of which I have ever seen; and as probably I have opened more urethras after death, where there was an obstruction of the passage, than all the authors who have written on this subject, I am inclined to believe that they wrote from imagination only.”—*Quarto Edition.*

there is a second but slight stricture; the prostatic portion is dilated. The prostate gland is rather enlarged; the bladder is small; its muscular coat hypertrophied; its mucous membrane deeply wrinkled.

From an old man who was admitted into the Edinburgh Royal Infirmary, moribund, with retention of urine. He was relieved by the introduction of a small catheter, but he continued sinking.

From the Museum of Robert Liston, Esq.

2530. Part of a penis, with the prostate gland, neck of the bladder, and other adjacent parts. Two inches and a half anterior to the prostate, there is a short close stricture of the urethra, apparently formed by the thickening and contraction of a small portion of the whole circumference of its walls. The stricture resembles that last described, except in that it is closer and less sudden, for the urethra in front of it gradually becomes narrower as it approaches it. Behind the stricture the whole of the urethra is dilated, and especially its prostatic portion, which forms a deep and wide hollow, with the caput gallinaginis raised very prominently at the bottom. The prostate gland is enlarged. The mucous membrane of the bladder is depressed in many small pits in the spaces between its muscular fasciculi.

From the Museum of Sir A. P. Cooper.

2531. Parts of a bladder and penis. There is a very close stricture of the urethra at the anterior part of its membranous portion; indeed, the passage appears to be completely closed. The urethra in front of the stricture becomes gradually wider; it has here the shape of a long narrow funnel; but its lining membrane is healthy, and not puckered. At, and adjacent to, the stricture, the tissues of the urethra and those around it appear consolidated and hardened. Behind the stricture the urethra again widens, but more rapidly than it does in front of it: it soon attains nearly double its natural diameter, and its surface is strongly fasciculated. The caput gallinaginis is effaced; and the part of the urethra near its usual situation is superficially ulcerated. The muscular coat of the bladder is hypertrophied, and its mucous membrane ulcerated.

Hunterian.

“ *Of the Enlargement of the Urethra.* ”

“ The urethra beyond the stricture I have observed is enlarged, because it is more passive than the bladder, and yields to the pressure of the urine. It is naturally passive while the bladder is acting, by which means it becomes distended in proportion to the force with which the bladder acts, and the resistance of the stricture. Its internal surface often becomes more irregular and fasciculated. It is also more irritable, the distention becoming often the immediate cause of spasms in that part; and these spasms are most probably excited with a view to counteract the effort produced by the action of the bladder.”—*Hunter: On the Venereal Disease; Works*, vol. ii., p. 257.

2532. Portions of three bougies, near the points of which there are circular impressions, produced by their being passed into annular strictures of the urethra. *Hunterian.*

2533. Portions of three bougies, with similar impressions at a distance from their points. *Hunterian.*

2534. Part of a penis, with a stricture at the bulbous and adjacent parts of the urethra. The canal is “irregularly contracted for above an inch in length, owing to its coats or internal membrane being irregularly thickened, and forming a winding canal.” (*Hunter, On the Venereal Disease: Works*, vol. ii., p. 230.) *Hunterian.*

2535. A bladder and penis, laid open from the front and right side. Nearly the whole length of the urethra is diseased; its mucous membrane is thickened, and in many places contracted and puckered, with shining, wavy, fibrous bands variously arranged in or beneath it, looking like the surface of a cicatrix after superficial ulceration. Bristles are introduced into four places, at which the canal of the urethra is more especially narrowed. At the junction of the membranous and prostatic portions, its walls are deeply ulcerated. The texture of the corpus spongiosum is indurated, and like fibrous tissue. The mucous membrane of the bladder is corrugated and granular; its muscular coat is hypertrophied.

Hunterian.

2536. A penis, having the urethra laid open from below. There are two narrow and very close strictures; one about an inch and a half, the other

four inches from the external orifice of the urethra. At these parts the canal of the urethra, which in both instances is gradually and regularly narrowed as it approaches the stricture, is not laid open. The whole of the rest of the surface of the urethra is uneven and corrugated, as if by numerous little cord-like thickenings of its walls. It presents, also, a multitude of small orifices and shallow depressions, some of which are probably dilated lacunæ. Behind the second stricture the canal is enlarged and strongly fasciculated. The caput gallinaginis is effaced. At the left side of the membranous portion there is a small cavity, the remains, probably, of an abscess in the adjacent tissue; it does not communicate with the urethra.

The patient was thirty-six years old. He had had signs of stricture for six years before his death. Shortly before he died he had ague; and when this ceased the signs of stricture and of irritability of the bladder became much more severe than they had ever before been.

From the Museum of John Howship, Esq.

1 a. *Accidental Complications of Stricture of the Urethra.*

2537. The bladder and penis of a boy seven years of age, laid open laterally. There is an annular stricture of the urethra near the junction of the bulbous and membranous portions. It appears to be formed by a broad fold of mucous membrane, about half a line in depth: there is no apparent change of texture. Behind the stricture the urethra is generally dilated, and a small calculus is lodged in it, which could not, without dilatation, have passed through the strictured part. Immediately in front of the stricture is a deep, circular, smooth-walled pit, made by the points of bougies. The muscular coat of the bladder is hypertrophied.

The following account of the case, which was taken from Mr. Hunter's record of it, is inserted in Sir E. Home's "Practical Observations on the Treatment of Strictures in the Urethra," vol. iii., p. 55, London, 1821:—

"A. B., aged six years, after a slight illness, had a difficulty in making water, and passed a very small quantity at a time; this went off in about ten days; and in the course of nine months he had three or four returns of the same complaint, the stream

dividing, and then scattering. Every return was more violent and of longer continuance; at last, these symptoms became constant. At the end of eleven weeks there was an endeavour to make water six or seven times in an hour; he made very little at a time; had great pain and heat in the urethra; but in other respects he continued well, if we except a degree of fever, and loss of appetite.

"I saw him September 10th, 1785. A very small bougie passed, with difficulty, through a stricture in the membranous part of the urethra; it gave little pain after it was introduced, and was allowed to remain a quarter of an hour. The impression of the stricture on the bougie was very deep. Next day it was passed again, when he made water better; but this brought on a little fever, which prevented its being persevered in for two or three days, and then went off; his urine came now in a continued stream, and he was much relieved. The bougie now passed more readily, and the stricture was much dilated; the passage, however, very soon became again contracted, and, from want of proper assistance, the boy died in six months.

"Upon an examination of the body after death, the part at the stricture was found to be narrower than the general canal, and just before it there was a small sac, made by the point of a bougie, in the side of the urethra, but not going on to any extent. A small calculus lay behind the stricture, and the passage leading to the bladder was a good deal wider than common; the bladder itself was very considerably thickened in its coats.

"In this case, if the armed bougie had been used, the boy would have been immediately relieved, and in a very short time cured."

2538. Portions of two bougies, with irregular impressions, produced by a stricture in the urethra of a boy seven years of age; probably the boy whose case is described above. *Hunterian.*

2539. "The penis and bladder of a gentleman who died of mortification of his bladder, in consequence of stricture, assisted by a small stone," which lies immediately behind the stricture. "In the preparation are seen the thickened coats and fasciculated inner surface of the bladder; the small stone, which acted as a valve upon the stricture; and a canula is introduced from the glans down to the stricture, showing the practicability of destroying the stricture with caustic." (*Hunterian MS. Catalogue.*) The stricture is just in front of the membranous portion of the urethra: it is an annular one, with thickening and induration of the submucous tissue, and the canal is reduced to half a line in diameter.

The preparation is engraved in the "Treatise on the Venereal Disease," and in Hunter's Works, pl. xii.

Hunterian.

2540. A bladder and penis, with the ureters, kidneys, &c. There is a close annular stricture at the anterior part of the membranous portion of the urethra, by which the canal is drawn towards the right side, and is for a short distance reduced to a line in diameter. A bristle is passed through it. Immediately in front of the stricture is a small, round, and deep depression in the lower wall of the urethra; produced, probably, like the similar depression in No. 2537, by the use of instruments; and close behind the stricture an oval rough calculus, measuring ten lines by six, is impacted in the membranous and prostatic portions of the urethra, which are dilated and ulcerated around it. The prostate gland is healthy. The bladder is large, its muscular coat is hypertrophied, its mucous membrane thickened, dark with blood, and in parts covered with lymph, as if just before death it had been acutely inflamed. The ureters and pelvis are very much dilated; and the substance of both kidneys is atrophied.

The patient, a man thirty-six years old, and very intemperate, had stricture for six or seven years, and died with constant stillicidium, muco-purulent and fœtid urine, great pain in the loins, and extreme emaciation.

The specimen is described and represented in Mr. Crosse's "Treatise on the Urinary Calculus," pl. x., and pp. 30, 113.

Presented by J. G. Crosse, Esq.

2541. A penis, with part of a bladder, the urethra being laid open from behind. There is a very narrow stricture of the urethra about two inches from its external orifice, and a second in the membranous portion. They are both formed by irregular thickening, wrinkling, and contraction of the walls: the intermediate part of the canal is, also, indurated and wrinkled on its inner surface; and the tissues around it appear consolidated. The large clot of blood, which is suspended separately, was found lying in the dilated part of the urethra behind the posterior stricture, and caused fatal retention of urine by completely obstructing the canal.

Presented by Sir Everard Home.

2. "*Diseases in consequence of a Permanent Stricture in the Urethra.*"

"Strictures in the urethra produce almost constantly diseases in the parts beyond them; that is, in the part of the urethra between the stricture and the bladder. They bring on in most cases a gleet, as has been described, and often a considerable distension of this part of the canal; also inflammation and ulceration, and in consequence of them diseases in the surrounding parts, as in Cowper's glands, the prostate, and the surrounding cellular membrane, forming abscesses there, and at last ulceration, for the purpose of making a new passage for the urine. The bladder is also often affected, and sometimes the ureters, with the pelvis of the kidneys, and in some cases the kidneys themselves. All these are effects of every permanent obstruction to the urine; some of them are methods which nature takes to relieve the parts from the immediate complaints; such are the increase of the urethra beyond the stricture, and the enlargement of the ureters and pelvis of the kidneys, which are only to be considered as the parts accommodating themselves to the immediate consequence of the obstruction, which is the accumulation of urine. Of these complaints I shall take notice in their order.

"II. *Of the Formation of a New Passage for the Urine.*"

"When the methods recommended above for the removal of stricture have either not been attempted, or have not succeeded, nature endeavours to relieve herself by making a new passage for the urine, which, although it often prevents immediate death, yet, if not remedied, is productive of much inconvenience and misery to the patient through life. The mode by which nature endeavours to procure relief is by ulceration on the inside of that part of the urethra which is enlarged and within the stricture. The ulceration commonly begins near or close to the stricture, although the stricture may be at a considerable distance from the bladder; therefore we must suppose that there is some circumstance besides the distention of the urethra by the urine which determines the ulceration to a particular part. This circumstance most probably arises immediately out of its vicinity to the stricture, and may be called contiguous sympathy. The stricture is often included in the ulceration, by which it is removed, the disease cured, and a stop sometimes put to the further ulceration; but unluckily this is not always the case. We may observe that this ulceration is always on the side next to the external surface, as is common in abscesses.

"As this ulceration does not arise from preceding inflammation, and as it cannot be said that the urine acts exactly as an extraneous body, because it is in its natural passage, we find that there is but very little inflammation of the adhesive kind attending these ulcerations. We must allow, however, that the urine produces the ulcerative disposition here, like matter on the inside of an abscess, although not so readily.

"Whenever, therefore, the internal membrane and substance of the urethra are removed by absorption, the water readily gets into the loose cellular membrane of the scrotum and penis, and diffuses itself all over those parts, not having been previously united by the adhesive inflammation: and as the urine has considerable irritating powers when applied to the common cellular membrane, the parts inflame and swell. The presence of the urine prevents the adhesive inflammation

from taking place; it becomes the cause of suppuration wherever it is diffused; and the irritation is often so great, more especially in cases where the urine has been allowed to become very stale, that it produces mortification, first in all the cellular membrane, and afterwards in several parts of the skin; all of which, if the patient lives, will slough away, making a free communication between the urethra and external surface, and producing fistulae in perinaeo.

"We may observe, however, that the want of the adhesive inflammation in these ulcerations appears to be peculiar to that part of the urethra which lies between the membranous part and the glans penis; for we find from experience, that when this process takes place further back, as in the prostate gland, a circumscribed abscess is generally formed. This may arise from the difference in texture of the cellular membrane of the parts, the first admitting of the diffusion of the urine very readily from the looseness of its texture, the other producing adhesions before the urine is allowed to pass, which adhesions afterwards exclude it.

"It sometimes happens that the urine gets into the spongy substance of the body of the urethra, and is immediately diffused through the whole, even to the glans penis, producing mortification of all these parts, as I have more than once seen."—*Hunter: On the Venereal Disease; Works*, vol. ii., p. 258.

2542. "Ulceration from a stricture in the beginning of the membranous part of the urethra, from which the urine got into the cellular membrane and killed the patient. The right ureter is much distended [a small portion only of it is left, and presents the appearances of an oval pouch]. From St. George's Hospital." (*Hunterian MS. Catalogue*.) The stricture is included in the ulceration, and has been removed; so that the urethra where it was seated appears as large as elsewhere. *Hunterian*.

2543. A prostate gland, and part of a penis, with the urethra laid open from above. There was a stricture in the membranous portion of the urethra, which was completely removed by ulceration spreading irregularly through the contracted tissues and the immediately adjacent parts. The urethra at the seat of stricture has completely regained its natural size.

Presented by Sir Everard Home.

2544. Parts of a bladder and penis, laid open from the front. There is a stricture of the urethra near the anterior part of the bulbous portion; its situation is indicated by two portions of bristle stuck vertically into the tissues at its sides, and by an appearance of undulating transverse fibres between them. All that part of the urethra which is between the

stricture and the prostate gland is involved in an irregular ulceration, which has formed a cavity like that of an abscess, but does not open externally by any fistulous passage. There are similar ulcerated cavities within and exterior to the prostate; and the interior of the prostatic part of the urethra, and of the mucous membrane of the bladder, is superficially ulcerated. *Hunterian.*

2545. A bladder and urethra, laid open from the front. The bladder is contracted, its muscular coat is hypertrophied, its mucous membrane is everywhere superficially ulcerated and covered with patches of lymph and calculous matter. The mucous membrane of the prostatic portion, and of the anterior part of the spongy portion, of the urethra, is similarly diseased; the membranous portion and the spongy portion, for two inches anterior to the bulb, have their walls thickened, indurated, covered with lymph, and so irregular that the canal can hardly be traced. By the side of this part bougies are placed in two fistulæ or false passages, leading very obliquely towards the perinæum. *Hunterian.*

2546. A bladder, and the greater part of the penis. Part of the urethra, in front of a stricture, is laid open from the front; a large white bougie indicates the rest of its course through the stricture and behind it. A small dark bougie is placed in a false passage, which extends for nearly an inch in the tissue above the urethra. Extensive ulceration has destroyed the greater part of the wall of the membranous portion of the urethra. Its canal thus opens widely into a large ulcerated, but circumscribed abscess, which must have formed a considerable tumour in the perinæum. The prostatic portion of the urethra is irregularly dilated. The bladder is contracted, and its coats are thickened and indurated.

Part of the preparation is engraved and described in Hunter's Works, pl. x., as an example of a false passage.

Hunterian.

2547. Part of a bladder, with the penis, scrotum, and adjacent integuments. Part of the urethra has been exposed from above, and a bougie is passed

through its whole length. All the membranous, and a great part of the spongy portion of the urethra, are involved in deep and irregular ulceration, which, just in front of the membranous portion, has formed a large aperture, communicating with a cavity in the tissues of the perineum. There is a small opening behind the scrotum near the raphé, which leads straight and at once into the cavity. The bladder is very small, and its coats are thickened; but its lining membrane is healthy. There is no trace of the stricture of which it is probable these changes were the consequence; doubtless, as in some of the foregoing cases, it was removed by the ulceration. *Hunterian.*

2548. A bladder and penis. The bladder and posterior half of the urethra are laid open from above, the anterior half of the urethra from below. The interior of the bladder and urethra are throughout in a state of ulceration and sloughing, long shreds of rotten flocculent tissue hanging into them. A bougie, introduced into the anterior part of the urethra, shows that a portion of its inferior wall, about three inches from its orifice, has been removed by ulceration; and it is probable that through this aperture "the urine got into the spongy substance of the body of the urethra, and was immediately diffused through the whole, even to the glans penis, producing mortification of all those parts" (See the quotation at p. 268). The coats of the bladder are very much thickened. *Hunterian.*

3. "Of Inflammation in the Parts surrounding the Urethra.

"Inflammation arising from distension and irritation of the urethra often extends considerably further than the surface of that canal, for the surrounding parts become the seat of inflammation, the situation of which will commonly be according to the situation of the stricture producing the distension. Thus we find the inflammation affecting the prostate gland, the membranous part of the urethra, the bulb, and probably Cowper's glands, with other parts of the urethra between the bulb and the glans. But inflammation in the surrounding parts of the urethra is not always a consequence of distension or stricture; it arises often from other irritations in this canal, such as violent gonorrhœas, and very irritating injections. When inflammation attacks these parts it is of the true adhesive kind; and therefore when suppuration takes place an abscess must be

formed, unless the inflammation be resolved. The matter, according to a general principle in abscesses, points externally; when the seat of the abscess is either in the prostate gland, membranous part, or in the bulb, the matter will point in the perinæum; or the abscess may be formed forwards in the scrotum, or before it, according to the situation of the stricture.

“ The seat of these abscesses is generally so near the inner surface of the urethra, that the partition between them often gives way, and they open internally, as frequently happens in an abscess by the side of the rectum, so that the matter is at once discharged by the urethra, or carried back into the bladder to be discharged with the urine. When the internal opening only takes place, I believe it is owing to the ulceration on the inner surface of the urethra, as has been already described; and in these cases also the stricture is sometimes involved in the abscess and ulceration, by which means the water will find a free passage forwards; but the urine has also a free passage into the abscess, which we may suppose retards its healing, and often becomes the cause of its opening externally; but here, from the adhesive inflammation having taken place, the urine cannot insinuate itself into the surrounding cellular membrane, so as to produce the consequences mentioned in treating of the way in which nature endeavours to relieve herself. In such cases we find, that upon pressing the abscess externally, the matter is squeezed into the urethra, and so out by the glans. It sometimes happens that a catheter can be introduced into the opening of such an abscess, by which means it can be washed by injecting something through the catheter, whereby probably it may be sooner healed. It more frequently happens that such abscesses open both internally and externally, discharging themselves both ways.

“ These ulcerations and suppurations, of both kinds, are to be considered as efforts of nature, or, to speak more physiologically, as a natural consequence arising from such irritation, by which, as the urine cannot pass by the old passage, a new one is made to prevent further mischief.

“ Both these diseases, when they open externally, if not properly treated, often lay the foundation for the complaint commonly called the fistula in perinæo; which is owing to the bottom of the abscess having a less disposition to heal than the external parts.”—*Hunter: On the Venereal Disease; Works*, vol. ii., p. 264.

2549. A bladder, penis, and adjacent parts. The cavity of the bladder and the urethra are exposed from the right side. There is a short, but very narrow, stricture of the urethra, half an inch anterior to the bulb. A bristle is passed through it. Abscesses have formed within and adjacent to the prostate gland and vesiculæ seminales; their cavities are laid open, and communicate with one another. None of these abscesses are shown to have opened either externally or into the urethra. The muscular coat of the bladder is much hypertrophied; its mucous membrane is healthy: the left ureter opens into the bladder on a nipple-like process.

From the Museum of George Langstaff, Esq.

2550. A bladder, and part of a penis, laid open from the front. There is a

short, but very narrow, stricture, or closure of the urethra, at the junction of its bulbous and membranous portions; for a quarter of an inch, the course of the canal cannot be discerned. Behind the stricture the urethra is very much dilated, and its mucous membrane is ulcerated, granular, and indurated. Many parts of the mucous membrane of the bladder, also, are in the same state, especially those parts of it which, in the contracted condition of the organ, lay on the surface of the wrinkles exposed to the urine. Immediately below and in front of the stricture there is a large cavity, like that of an abscess, in the tissues around the bulb and corpus spongiosum. There is no apparent communication between this abscess and the canal of the urethra.

2551. A bladder, and part of a penis, laid open from the front. There is a small abscess in the substance of the bulb, communicating by a wide oval orifice with the urethra. Anterior to this orifice, which is in the situation of a former stricture, the canal of the urethra is contracted, and its mucous membrane is thickened and wrinkled; still more anteriorly, it is ulcerated. A patch of lymph on the posterior part of the neck of the bladder marks the spot on which a catheter rested for some days. The muscular coat of the bladder is much hypertrophied; its mucous membrane is deeply wrinkled.

The patient, an old man, had a bad stricture. A catheter was introduced with difficulty, and was retained in the bladder. Some progress had been made towards cure, when he was attacked with typhus fever, and died.

From the Museum of Robert Liston, Esq.

2552. Part of a bladder, with the penis, scrotum, perineum, and adjacent integuments. The bladder and the posterior half of the urethra are laid open from the front. All the membranous portion of the urethra, and the first inch of the bulbous and spongy portions, are reduced to about a line in diameter by irregular superficial thickening and contraction of their walls. Just in front of the stricture a portion of bougie indicates the course of a false passage, which has been made into the tissue of the perineum; and, in consequence of which, it appears not improbable that

a large and irregular abscess formed in the perinæum and the adjacent parts. Bristles are passed into a great number of openings in the skin of the scrotum, perinæum, and right buttock, which lead by canals, various in direction and in length, into the cavity of the abscess. But there is no appearance that the abscesses ever opened, even by the false passage, into the canal of the urethra. *Hunterian.*

4. *Of Fistulæ in Perinæo.*

“ It often happens that the new passages for the urine do not heal, on account of the stricture not being removed ; and even when the stricture is removed, they frequently have no disposition to heal. In both cases they become fistulous, and produce fresh inflammations and suppurations, which do not always open into the old sore, but make new openings externally. These sometimes arise from the first external openings not being sufficiently large, so that they heal up long before the bottom, or long before the diseased urethra ; and even when the external opening has been made as large as possible, it will often heal sooner than the bottom, and become fistulous at last.”
—*Hunter: On the Venereal Disease; Works*, vol. ii., p. 268.

2553. A penis, and part of a bladder, laid open from behind. The whole of the membranous part of the urethra is closely contracted, but the surface of its mucous membrane is nearly smooth. A bristle is placed in a small fistulous canal, leading straightway from the front of the stricture through the integuments of the perinæum, which, around the orifice of the fistula, are deeply puckered in like the surface of a cicatrix. The prostatic portion of the urethra and the ureters are very much dilated ; the bladder, so far as it is preserved, appears healthy. *Hunterian.*

2554. A penis, with part of the prostate gland. The anterior half of the urethra is exposed from below ; the prostatic and membranous portions from above. There is a narrow annular stricture of the urethra, two inches and a half from the external orifice. The surface of the membranous portion is contracted, and seamed as if cicatrized, and there are several small fistulous apertures in it, which lead into canals in the corpus

cavernosum and the indurated tissues of the perinæum. Bristles are placed in all these. *Hunterian.*

2555. A bladder, penis, scrotum, and other adjacent parts. The urethra, and a fistulous passage leading from it to the perinæum, are laid open from the left side. There is a very narrow annular stricture, nearly closing the anterior part of the membranous portion of the urethra; a part of its lining membrane is ulcerated, and a white bristle is passed through the most contracted portion. Behind the stricture the membranous and prostatic portions of the urethra are dilated, and the lining membrane of the membranous portion is thickened and puckered. An inch behind the stricture there is a small aperture in the lower wall of the urethra, through which a black bristle is passed; it is the orifice of the small fistulous canal already mentioned, which extends with a tortuous course, and gradually enlarging, beneath the integuments; and, after branching, opens in the middle of the perinæum, and in the posterior part of the scrotum. The lining of the fistula is rough, as if covered with lymph or granulations. The muscular coat of the bladder is exceedingly hypertrophied, and its fasciculi project in strong columns beneath the thickened mucous membrane. *Hunterian.*

The preparation is represented in Baillie's "Morbid Anatomy," fasc. viii., pl. v., p. 2.

2556. A bladder, penis, scrotum, and perinæum. The bladder and part of the urethra are laid open from the left side, and a bougie is placed in their whole course. The membranous portion of the urethra, and the anterior half of the prostate gland, are involved in a deep and irregular ulceration, which has formed in their place a large oval cavity, like that of an abscess. Portions of whalebone are passed into several apertures in the scrotum and perinæum, which lead into fistulous canals communicating indirectly with the cavity above described. The bladder is very small, and its coats are thickened. One of the testicles is exposed; it is enlarged, and the cavity of the tunica vaginalis is obliterated by adhesion of its opposite surfaces. *Hunterian.*

2557. A bladder and penis, laid open from below and from the right side. The urethra, by irregular thickening of its walls, is contracted through its whole length, except in the prostatic portion, and just behind its external orifice; in these situations, more especially in the latter, it is dilated. In the membranous portion, the wall of the urethra is extensively destroyed by ulceration. Two large openings in its lower part lead into long and branching fistulous passages in the tissues of the perinæum, which are all thickened and consolidated around the urethra. The walls of the bladder are thickened and indurated. Its mucous membrane, especially in its upper part, is deeply ulcerated, and covered with irregular growths, like rough masses of fibrine, coated in some places with calculous matter.

Presented by Sir William Blizard.

2558. A bladder, with a portion of the penis and scrotum, and the adjacent parts, exposed by a lateral section on the right side. There is a long and close stricture within and in front of the membranous part of the urethra, through which a small piece of whalebone is passed. Immediately behind it there is an orifice in the lower wall of the urethra, which is indicated by a large piece of whalebone placed in it, and which leads into the cavity of a smooth and hard-walled abscess, occupying a great part of the perinæum, and opening near the anus. The muscular coat of the bladder is thickened and fasciculated; its mucous membrane is healthy.

From a middle-aged man, whose history was unknown.

From the Museum of Robert Liston, Esq.

2559. Part of a penis, with the neck of the bladder, prostate gland, and other adjacent parts. The urethra is laid open from the front. Anterior to its membranous portion, the urethra is irregularly narrowed and superficially ulcerated: portions of whalebone are passed through two ulcerated apertures, with smooth healed borders, in its lower wall. These apertures lead into long, oblique, fistulous passages in the perinæum. One of the passages opens externally through the skin, just behind the scrotum, a part of which is preserved; and another larger aperture in the adjacent skin

leads into a long fistulous canal below the urethra, but apparently not opening either into it or into either of the adjacent passages. Below the prostate gland, and imbedded in its substance, there are two small, spherical, smooth-walled cysts.

From the Museum of Sir A. P. Cooper.

2560. Parts of a bladder and penis, the greater portion of one side of the penis being removed for the exposure of the urethra. A short fistulous passage leads from the urethra through the integument, by the side of the frænum of the prepuce; it is about a line in diameter, and its edges are smoothly rounded, as if it had long existed. The urethra anterior to the aperture, and for nearly two inches behind it, is irregularly contracted, and its surface is fasciculated, as if it had cicatrized. Behind the contraction the urethra is dilated as far as the membranous portion, where there is a second slight contraction, and a short false passage, in which a bougie is placed. The bladder is contracted; its muscular coat is exceedingly hypertrophied; its mucous membrane is thickened, dark, and granulated on its inner surface; and on the right side, near the neck of the bladder, a kind of polypous growth, consisting of groups of small, oval, flattened bodies, is attached to the mucous membrane of the bladder.

Hunterian.

5. *Effects of the Treatment of Strictures in the Urethra.*

2561. A piece of bougie, on which there is a tubular portion of the lining membrane of an urethra, which sloughed, and was discharged after the application of nitrate of silver.

2562. Part of a bladder, and a penis. The urethra has been laid open from the front to show its condition after the cure of two strictures in its membranous portion. Its canal at this part is slightly wrinkled on its inner surface, and appears indurated; but it is as large as at the adjacent parts.

2563. A similar preparation. The strictures had been treated with caustic.

2564. A similar preparation, in which a single stricture of the urethra was believed to have been cured by the application of caustic. There is here even less variation from the natural state of the parts than there is in either of the preceding; but the part is said to have appeared, when first examined, "more ligamentous" than the rest of the urethra.

The four preceding specimens were presented by Sir Everard Home.

2565. A bladder, prostate gland, and urethra. In its prostatic portion, and just in front of its vesical orifice, the urethra (as it were) branches, and one branch of it is directed straight backwards, in a short, but wide, smooth-walled cul-de-sac, which appears to pass into a space in which the substance of the prostate is deficient. The other branch opens, as the healthy urethra does, into the bladder. There is no caput gallinaginis, but one of the ejaculatory ducts, and several prostatic ducts, can be seen opening at the bottom of the cul-de-sac. There is no appearance of any morbid change of texture in the urethra, or any of the parts preserved; and the patient died of disease unconnected with the urinary organs. It is possible that this peculiarity of form was congenital; but it is more probable that it was produced by the use of bougies or catheters, the points of which, instead of being passed into the bladder, were pressed into the substance of the prostate till, by its absorption, a deep fossa was formed in it, like those formed in the walls of the urethra in Nos. 2537 and 2540, and in the bulb in the next following specimen.

The preparation is engraved in Sir E. Home's "Observations on the Prostate," vol. ii., pl. viii.

Presented by Sir B. C. Brodie.

2566. A prostate gland, and part of a penis, the urethra being laid open from above. Nearly all the membranous portion of the urethra is narrowed by an irregular contraction and wrinkling of its lining membrane. Immediately in front of the stricture a false passage has been formed by the use of caustic, which, being forced below the stricture, has made a deep cul-

de-sac (very like that shown in the preceding specimen) in the substance of the bulb. This appears, however, to have been formed some time before the patient's death, for all the parts around are smooth. The more immediate cause of death was stone in the bladder.

Presented by Sir Everard Home.

2567. A bladder, and part of a penis, laid open from the front. The whole of the membranous and part of the bulbous portions of the urethra are contracted irregularly to less than a line in diameter. An inch and a half of the urethra anterior to the stricture has been preserved, and is dilated to nearly twice its ordinary size; its lining membrane appears to have been inflamed, or superficially ulcerated. The walls of the bladder are thickened and contracted. The dilatation of the urethra anterior to the stricture was, doubtless, produced by bougies long pressed against the stricture and the parts in front of it. *Hunterian.*

2568. Parts of a prostate gland and of a penis, laid open so as to give a lateral view of the urethra. A stricture appears to have obliterated the greater part of the membranous portion of the urethra; what remains of it is indicated by pieces of bristle. A bougie is placed in a false passage, formed by caustic. It commences half an inch anterior to the stricture, and, after a course of an inch and a half, re-enters the urethra in its prostatic portion, which is dilated much beyond its natural size. *Hunterian.*

2569. A penis, with the urethra laid open from above. A false passage extends nearly the whole length of the spongy portion of the urethra, close by its side, and opens into it at both ends. A bristle is placed in the anterior part of this passage, a bougie in the posterior part. The latter part is the larger; the sides of the anterior part are very rough and uneven. The urethra itself appears healthy; at most, there is a slight stricture about the middle of its cavernous portion. *Hunterian.*

2570. A bladder, and part of an urethra. A short, wide, false passage has been made anterior to the membranous part of the urethra, into which it opens

at both ends; and in the prostatic portion there are many grooves separated by prominent folds of mucous membrane. The parts around the prostate gland and the neck of the bladder are rough and irregular, having been the seat of abscess. The coats of the bladder are of ordinary thickness, but very pale.

From a gentleman seventy-seven years old, who for many years had his urine regularly drawn off by his servant. He died of the abscess already mentioned, which appeared to be produced by some violence in the introduction of the catheter.

Presented by Sir B. C. Brodie.

2571. A bladder and penis, laid open from the front. There is a long narrow stricture of the membranous portion of the urethra, and of the part just anterior to it, in which a piece of whalebone is placed. A large false passage has been made by the side of the stricture; commencing in front of it, it passes obliquely to the left, penetrating deeply into the substance of the bulb, and by a branch extending over the urethra far into the right lobe of the prostate gland. The muscular coat of the bladder is in some parts nearly an inch thick, and strongly fasciculated; its mucous membrane is healthy.

The patient was forty-four years old. He long laboured under stricture, which was relieved by keeping a catheter in the urethra. He died with pericarditis.

From the Museum of Robert Liston, Esq.

2572. A bladder, and part of a penis, laid open from the front. There is a stricture in the membranous part of the urethra, through which a black bougie is passed. Another bougie is placed in a false passage, which, commencing about an inch in front and on the left side of the stricture, passes through a narrow fold of the mucous membrane of the urethra; and then, passing above and obliquely across the strictured part of the canal, is continued in a curve over the side of the prostate gland into the right vesicula seminalis. The muscular coat of the bladder is hypertrophied; its mucous membrane is thickened and wrinkled.

The patient was sixty-two years old. He had retention of urine, which was relieved by the catheter. The false passage was formed in the subsequent treatment.

From the Museum of Robert Liston, Esq.

2573. A bladder, penis, and adjacent parts, the cavity of the bladder and the urethra being laid open from the left side. The relative position of the parts may be discerned by marking the section of the symphysis pubis on the right, and a part of the raphé of the perinæum on the left side of the preparation. The course of the urethra can hardly be traced in the midst of the numerous false passages which have been made by its sides. Three of the most considerable false passages commence at two large apertures made through the wall of the urethra, about two inches from its external orifice. One of these, indicated by a white bougie, opens again into the urethra, after a straight course of about an inch and a half; the second, similarly indicated, does so after a rather longer course; and the third, in which a catgut bougie is placed, after twice entering and again leaving the urethra, at length terminates in it, at the beginning of its prostatic portion. In the tissues beneath and around these passages, there is a series of cavities left after the discharge of abscesses, which have opened both into the urethra and the false passages, and by several orifices through the integuments of the penis, scrotum, and perinæum. A large red bougie is placed in a continuous canal, which passes along this series of cavities, and through which the urine finally passed. The canal commences by a large opening beneath the penis, and just in front of the scrotum, then, passing beneath the urethra and between the prostate gland and the rectum, it opens into the bladder by a large orifice, near that of the left ureter. The prostate gland is enlarged; its surface, as well as the mucous membrane of the neck of the bladder, is stained in several places, as if by the application of nitrate of silver. The coats of the bladder are thickened, and large patches of lymph are effused upon its mucous membrane.

From the Museum of Robert Liston, Esq.

2574. The bladder, and parts of the penis and rectum, of a man who died ten days after an incision had been made in the perinæum for the relief of retention and effusion of urine, in consequence of stricture of the urethra. The tissues, which were cut through in front and to the left side of the anus, are ragged and sloughing. The muscular coat of the bladder is exceedingly hypertrophied; it is in some parts three-quarters of an inch

thick. The mucous membrane is thickened, indurated, and deeply wrinkled.

Presented by Sir William Blizard.

6. *Ulceration of the Urethra independent of Stricture.*

2575. Part of a penis, in which the urethra has been laid open, and exhibits numerous small deep ulcers, with elevated margins, at the orifices of the ducts or lacunæ of its mucous glands. In the membranous portion there is a generally diffused superficial ulceration, with a slight narrowing of the canal; and below it is a small abscess, with thin smoothly-lined walls.

From the Museum of Sir A. P. Cooper.

2576. The extremity of a penis, with long, irregular, and flattened bands, apparently of lymph, in the urethra. The interior of the urethra is superficially ulcerated; the lymph is in only a few points adherent to it.

The patient had a large calculus and ulceration in the bladder.

From the Museum of Sir A. P. Cooper.

7. *Morbid Growths in the Urethra.*

2577. "A diseased urethra, which is become very irregular, having an excrescence upon it, which might be called a caruncle" (*Hunterian MS. Catalogue*). In front of the *caruncle*, the urethra is irregularly contracted; behind it is dilated. This must be one of the specimens to which Mr. Hunter alluded in the following passage:—

"Of Caruncles or Excrescences in the Urethra.

"Strictures are not supposed to be the only causes of obstruction to the passage of urine in this canal; excrescences or caruncles are likewise mentioned by authors as happening frequently. From the familiarity with which they talk of them, and the few instances in which they really occur, one would suspect that this cause of obstruction was originally founded in opinion, and not observation, and afterwards handed down as matter of fact. If caruncles had been at first described from actual

examination of cases, the language would have accorded with the appearances, and they would have been considered as seldom the causes of obstruction compared with strictures. However, they do sometimes happen, although but rarely. I have in all my examinations of dead bodies seen only two, and these were in very old strictures, where the urethra had suffered considerably. They were bodies rising from the surface of the urethra like granulations, or what would be called polypi in other parts of the body. It is possible they may be a species of internal wart, for I have seen warts extend some way into the beginning of the urethra, having very much the appearance of granulations."—*Hunter: On the Venereal Disease; Works*, vol. ii., p. 277.

2578. Part of the bladder and urethra of an ox. A pyriform growth is attached to the verumontanum, and reaches backwards to the neck of the bladder. It is about two inches in length, has a round pedicle nearly an inch long and two lines in diameter, and is three-quarters of an inch in diameter at its larger end. Its surface is smooth and covered with mucous membrane, like that lining the urethra. The part of the urethra around the growth is dilated, but, as well as the adjacent parts, is healthy in its texture. *Hunterian.*

2579. The external organs of generation of a young woman, exhibiting a small, minutely lobulated, and vascular growth, attached by a broad base to the lower wall of the external orifice of the urethra.

From the Museum of R. B. Walker, Esq.

2580. The external organs of generation of a woman, from whom a growth like that shown in the preceding preparation was extirpated a long time before death. The orifice of the urethra is large, and its lower margin is defective, but in other respects the parts are all healthy.

From the Museum of R. B. Walker, Esq.

8. *Calculi in the Urethra.*

2581. A penis, with the urethra laid open from above. The membranous portion of the urethra is dilated and elongated, so as to form a cavity an inch and a half long, and nearly three-quarters of an inch in diameter.

The dilatation appears to have been consequent on the lodgment of the small calculus which is at the bottom of the bottle. The mucous membrane of the whole urethra is irregularly wrinkled and rough. The prostate gland is slightly enlarged.

From the Museum of Sir A. P. Cooper.

See also Nos. 2537, 2539, 2540.

Specimens of Injuries and Diseases of the Urethra in other parts of the Museum :—

Wounds, 2031 to 2040.

Acute Inflammation, 107, 2509.

Simple Stricture, 1, 1321, 1964-5, 1983, 2041-2, 2516.

General thickening, 1989.

Obstruction and other effects of Calculi, 1985, 2028-9, 2039.

Effects of Stricture, 1867, 1868, 1997, 2508, and others in Series XXXIX., XL., and LII.

Tuberculous Ulceration, 2010.

Effects of Tumours, 1999.

SERIES LIV.—DISEASES OF THE PENIS.

1. *Phimosis and Paraphimosis.*

2582. Part of the penis of an adult, affected with natural phimosis, but in other respects healthy. *Hunterian.*

2583. Part of the penis of an adult, with natural paraphimosis. *Hunterian.*

2584. Part of a penis, with phimosis, produced chiefly by inflammation and oedematous enlargement of the prepuce. *Hunterian.*

2585. Part of a penis, in which the prepuce has become completely adherent to

nearly the whole of the glans, leaving but a small orifice for the passage of the urine. Hairs have grown on the lower surface of the prepuce, even to its extremity. *Hunterian.*

2586. Part of a penis, in which the operation of slitting the prepuce, for the cure of phimosis, was performed long before death. The edges of the wound have smoothly healed, but they still appear swollen: the glans is half exposed. *Hunterian.*

2587. Part of the penis of an adult, from which the whole prepuce has been removed by circumcision. In the situation of the former attachment of the prepuce, there is a slight wrinkling of the healed skin; the integuments of the body of the penis and of its glans appear very nearly alike. *Hunterian.*

2. *Diseases of the Preputial Secretion.*

2588. Part of a penis, with small warts in the interior of the retracted prepuce, and a large collection of the secretion of the *glandulæ odoriferæ* adhering around the glans, dried, and hardened into a thick laminated substance like cuticle. *Hunterian.*

2589. The end of a penis, in which half the glans is covered with the secretion of the *glandulæ odoriferæ*, hardened, as in the preceding preparation, into a layerlike cuticle. *From the Museum of Sir A. P. Cooper.*

2590. Layers, a line or more in thickness, of similar secretion, dry and hard, like pieces of horn.

3. *Syphilitic Eruptions and Ulcers on the Penis.*

2591. Part of a penis, on the skin of which are two small patches of a superficial

and apparently scaly eruption. There was eruption of the same kind upon the surface of the body. The blood-vessels of the glans are minutely injected. *From the Museum of Sir A. P. Cooper.*

2592. The end of a penis, exhibiting on the inferior surface of the glans two circumscribed depressions, left after the healing of syphilitic ulcers.

Hunterian.

2593. The end of a penis, exhibiting a less depressed cicatrix just anterior to the frænum. *Hunterian.*

2594. Section of the end of a penis, exhibiting superficial and apparently healed ulcers of the glans, and the adjacent part of the prepuce.

From the Museum of Sir A. P. Cooper.

2595. Part of the penis of a negro, from which a considerable portion of the prepuce, with its frænum and the adjacent part of the glans, were removed by syphilitic ulceration. The diseased parts have healed smoothly, but with thickening and induration of the prepuce around the base of the glans.

From the Museum of Sir A. P. Cooper.

2596. Part of a penis, in which a syphilitic ulcer, extending through the prepuce, has healed. *Hunterian.*

2597. Part of a penis, from which the prepuce has been completely removed by syphilitic ulceration. The ulceration has smoothly cicatrized, except on a part of the corona glandis, to which it appears to have spread from the prepuce. *Hunterian.*

2598. The end of a penis, in which a great portion of the glans has been destroyed by syphilitic ulceration. The ulceration appears to have been nearly healed when the person died. *Hunterian.*

2599. A scrotum, with the remains of a penis which has been almost wholly destroyed by syphilitic ulceration; the ulcerated parts have healed.

Hunterian.

2600. Part of a penis, of which the glans has protruded through a large ulcerated opening on the base of the prepuce. The glans and the exposed surface of the penis, for an inch behind it, are irregularly ulcerated and covered with granulations. The remains of the prepuce are enlarged and very œdematous, but its interior is not exposed. *Hunterian.*

2601. Part of a penis, in which, after the glans had, as in the preceding preparation, protruded through the ulcerated prepuce, all the diseased parts healed. The prepuce, reduced to its natural dimensions, and retaining its natural saccular form, has its base attached to the inferior surface of the glans. The skin around the base of the glans is drawn tight; but there does not appear to have been any constriction of the urethra. *Hunterian.*

2602. Part of a penis, in which, as in the preceding preparations, the glans passed through an ulcerated aperture in the upper part of the prepuce. All the diseased parts have smoothly healed; the skin of the base of the prepuce is closely united to the base and lower part of the glans, and the anterior part of the prepuce hangs loose below and in front of the glans. A bougie is placed in the urethra.

From the Museum of Sir A. P. Cooper.

2603. Part of a penis, in which the frænum of the prepuce and the adjacent part of the wall of the urethra were destroyed by syphilitic ulceration. The ulcers have healed, but the aperture in the urethra remains: a piece of whalebone is placed in it. *Hunterian.*

2604. Part of a penis, in which an ulcer, by the side of the frænum of the prepuce, has penetrated the urethra close by its external orifice. A bristle is tied round the remaining partition between the orifice of the urethra and that of the ulcer. *Hunterian.*

2605. A penis, in which a large and deep, sloughing, syphilitic ulcer has destroyed the frænum of the prepuce and the adjacent portion of the

glans, and has made an extensive opening in the urethra. Circumcision appears to have been performed. The parts have smoothly healed, but the opening in the urethra remains half an inch in length. A bougie is passed from the orifice of the urethra across its ulcerated part, and through the healthy part behind the ulcer.

From the Museum of Sir A. P. Cooper.

4. *Warts on the Penis.*

2606. A prepuce, nearly covered with large masses of warts, forming a kind of cauliflower excrescences. *Hunterian.*

5. *Cancer of the Penis.*

2607. Part of a penis, with a large and partially ulcerated carcinomatous growth around the glans. The growth resembles a thick ring of large and minutely divided warts: it is, probably, an epithelial cancer.

From the Museum of Robert Liston, Esq.

2608. Section of a penis, having a large warty and very vascular growth of carcinomatous substance, like that last described, springing from all the upper and anterior surface of the glans.

From the Museum of Robert Liston, Esq.

2609. Section of a glans penis, in which there is no trace of the original structure, the whole of it being involved in a large lobulated growth of soft cancerous substance. The section of the morbid substance displays numerous pale, undulating, fibrous partitions, which in general radiate from the middle towards the circumference of the growth. The surface of the growth is coarsely granular, but does not appear to be ulcerated.

Hunterian.

2610. The other section of the same glans penis. *Hunterian.*

2611. The end of a penis, amputated in consequence of cancerous ulceration of the glans and prepuce. Around nearly all the free border of the prepuce (which is now drawn backwards) there is an ulcer with a hard, sinuous, elevated margin; and close by it, at those parts of the border of the prepuce to which the ulceration has not extended, there are flat, oval, slightly elevated carcinomatous tubercles, with superficially ulcerated surfaces. Beneath the border of the prepuce the ulceration has spread deeply around the neck of the glans and the adjacent part of the body of the penis. On the glans itself there are several broad oval ulcers, with flat bases and slightly elevated margins, of which some have coalesced.

From the Museum of John Taunton, Esq.

2612. Part of a penis, exhibiting extensive cancerous ulceration, like that last described, destroying the base of the glans, the adjacent portion of the prepuce, and the tissue under the skin of the body of the penis. In the neighbourhood of the ulceration the glans appears unaltered, but the prepuce is thickened and knotty.

From the Museum of Sir A. P. Cooper.

2613. Part of a penis, of which the glans and prepuce have been extensively destroyed by carcinomatous ulceration. The ulcerated parts are hard, uneven, and knotted; and have circumscribed, swollen, and elevated margins. The blood-vessels are injected.

The patient died a year and a half after the removal of this part, with cancer in the groin.

From the Museum of R. B. Walker, Esq.

2614. Section of a penis, in which the areolæ of the bulb, and of a great part of the corpus cavernosum urethræ, appear to be filled with the matter of medullary cancer. At the anterior part of the penis there is a large unevenly ulcerated aperture in the urethra, and the whole length of the canal is rough and narrow. Some of the vessels on the back of the penis appear filled with coagula.

Hunterian.

2615. The end of a penis, amputated in consequence of a large and deep

circumscribed ulcer, which had destroyed a considerable portion of the lower part of the glans. The rest of the glans and the prepuce are much enlarged. The nature of the ulcer is doubtful.

Presented by Sir William Blizard.

SERIES LV.—DISEASES OF THE OVARIES.

1. *Simple Cysts.*

2616. An enlarged ovary, in the interior of which there are numerous small, oval, smoothly-walled cysts, with distinct thin walls; all, probably, enlarged Graafian vesicles. *Hunterian.*

2617. An ovary, enlarged by the growth of numerous simple cysts within it. They are of various size; most of them are oval; others, by their mutual pressure, have lost this form. Some of them have been opened; of these the largest is about an inch and a half in its chief diameter, and has tough and smooth walls. Probably, this specimen displays a more advanced form of the same disease as that shown in the preceding specimen, namely, the coincident, though not equal, enlargement of many Graafian vesicles, each of which grows into a simple cyst. *Hunterian.*

2618. A small cyst, from an ovary. Its blood-vessels are injected, but are small and few in number. *Hunterian.*

2619. An uterus, with the broad ligaments, and other parts. The right ovary has been distended by the accumulation of fluid into a thick-walled and apparently single sac, between two and three inches in diameter. All the other parts are healthy.

2620. A bladder, uterus, and vagina, with an enormous, but apparently simple, ovarian cyst, the blood-vessels of which have been minutely injected. In its present collapsed state, the cyst measures fifteen inches in length, and six inches in diameter; its walls are tough, and about a line in thickness. Its outer surface is smooth, and in nearly every part free: some small portions of it are covered with false membrane. The opposite ovary and all the other parts are healthy, except that a small calculus is attached to the surface of the interior of the bladder.

Presented by Anthony White, Esq.

2. *Compound Cysts of the Ovary.*

2621. An uterus, to the anterior and right lateral walls of which an ovarian cyst, nearly six inches in diameter, is attached. The walls of the cyst are a line and a half in thickness, and it contained a jelly-like fluid. Its lining membrane is, for the most part, smooth and polished; but in many situations is elevated, or beset with other cysts and growths projecting into the cavity of the great or parent cyst. Of these endogenous productions, some are small, oval, and spherical membranous cysts developed beneath the lining membrane of the parent cyst, and raising it in low convex projections into the cavity. Many of these small cysts are placed singly; others are grouped close together, compact, and, as it were, heaped one upon another. Others of the growths consist of groups of small, leaf-like, oval, narrowly pedunculated cysts, attached to the lining membrane of the parent-cyst, and pendulous in its cavity. The walls of these appear of various thickness; some pellucid; some thick, so that they look nearly solid. Again, there is one larger hemispherical growth, which appears made up of a congeries of small membranous cysts imbedded in fine transparent membranous films and shreds. There is a small cyst in the opposite ovary. The uterus is healthy.

From a woman thirty years old, who died with enteritis, apparently unconnected with the ovarian disease.

From the Museum of Robert Liston, Esq.

2622. An ovary, enlarged to more than four inches in diameter by the accumulation of fluid in numerous cysts within it. The walls of the outer or parent cyst are about a line in thickness, compact and tough; and it is so laid open as to display a central space (hardly a cavity), the walls of which are formed by several large cysts, which appear to have grown beneath the lining membrane of the parent cyst, and to have projected into its cavity till they have completely filled it and have met in its centre. These endogenous cysts are of various sizes, from half an inch to two inches in diameter, variously grouped, and, by their mutual pressure, variously shaped: their walls are, in some thin and transparent, in some thick, tough, and opaque. On the exterior of the parent cyst, there are also numerous small hemispherical cysts, placed singly or in groups; and several tufts of fine filaments, and groups of small pedunculated cysts and solid bodies, of which some appear to have been formed within the cysts.

Presented by William Lawrence, Esq.

2623. A portion of diaphragm, with part of a large ovarian cyst firmly adherent to its peritoneal surface. On the inner surface of the cyst, there are numerous smaller cysts and tumours connected to it, and to one another, by pedicles and bands of false membrane. A portion of lung adheres to the corresponding pleural surface of the diaphragm. The cyst had been tapped several times, but could not be completely emptied, for it was sacculated. It adhered firmly to most of the abdominal viscera.

From the Museum of George Langstaff, Esq.

3. *Cysts of the Ovary, containing Fatty Matter, Hair, Teeth, &c.*

2624. An ovary, in which a cyst, half an inch in diameter, is filled with a bright yellow fatty substance, and a few small hairs. The cyst has thin membranous walls, and altogether presents the ordinary appearance of a distended Graafian vesicle. There are some similar smaller cysts by its side.

Hunterian.

2625. The fallopian tube and ovary of a young woman eighteen years of age, whose hymen was perfect. The ovary contains a cyst two inches in diameter, and with walls a line in thickness, within which there is a second cyst of rather smaller size, and with thin walls. This second cyst is filled with a mass of fat and brown hair irregularly mixed, as if they had been rolled up together; and at one side of it there is a firm substance like a piece of skin, upon which several fine large hairs and an imperfectly formed tooth are implanted. There is also a small oval cyst attached by a pedicle to the fallopian tube. *Hunterian.*

2626. An uterus, to which a large thick-walled cyst is attached. The cyst is divided by partitions into three or four separate compartments, in one of which are a tuft of hair and a tooth, of the form of an incisor, firmly implanted in its walls. The interior of this compartment of the cyst has the general aspect of skin, with apertures like those of hair follicles. The interior of the others is smooth and polished. They all contained a cream-like fluid.

The patient was a lady, thirty years old, who from childhood had occasional difficulty in passing urine, but enjoyed good health. Two years before her death she had signs of inflammation of the bladder, which subsided in two months; but she remained subject to pain and swelling about the hypogastrium. About two months before her death she began to complain of pain, tenderness, and fulness in the left side of the abdomen; the urine being now secreted and discharged naturally, and a tumour, large and indurated, was felt extending from the spleen to the umbilicus. A week before death ascites ensued, and she died with extreme dyspnoea. Besides this cyst, which was supposed to be a diseased ovary, there was a similar large cyst, containing creamy fluid and hair, connected with the left ovary; and the urinary bladder was filled with a similar fluid, enclosing another tuft of hair.

The case is related by Dr. Phillips in the "Medico-Chirurgical Transactions," vol. ix., p. 427.

Presented by Dr. Phillips.

2627. A tough, thick-walled, ovarian cyst, which was filled with fat and hairs. It has been emptied and inverted, to show that a great part of its inner surface is covered with minute pedunculated wart-like bodies, of which some are nearly isolated, but the greater part are arranged in close-set and elevated groups like warty growths. *Hunterian.*

2628. An ovarian cyst, of a spheroidal form, six inches in diameter, and filled with a fatty substance, in which numerous fine, but stiff, light, and curling hairs are interspersed. *Hunterian.*

2629. A spherical, thinly walled, ovarian cyst, nearly four inches in diameter, filled with a firm mass of fatty matter and hair, pressed together into a ball. *From the Museum of Sir A. P. Cooper.*

2630. Four small portions of a substance like an ill-formed horn, such as grows sometimes from a diseased hair-follicle. They were removed from an ovarian cyst. *From the Museum of John Heaviside, Esq.*

2631. A portion of bone, from an ovarian cyst. It is irregular in its form, but at one margin has three deep cavities like alveoli, in one of which is a molar tooth almost perfectly formed.

From an unmarried woman twenty-seven years old, whose hymen was perfect.

Presented by Sir B. C. Brodie.

2632. A large ovarian cyst, in the thick membranous walls of which several irregular plates of bone are imbedded. In one of these there are two well-formed incisor teeth, with long fangs.

From the Museum of Sir A. P. Cooper.

4. *Enlargement of Ovisacs.*

2633. The ovary of a hen, of which nearly all the ovisacs have been enlarged into cysts from half an inch to an inch and a half in diameter, and attached by long pedicles. Most of the ovisacs are full of fluid; others contain a thicker and opaque substance. Altogether they make up a mass nearly six inches long and four broad.

Presented by Henry Earle, Esq.

2634. A hen, in which the abdominal cavity is distended by disease of the ovisacs like that last described, except that the ovisacs are more numerous, and not so large. They were all filled with a transparent albuminous fluid, a part of which in each of them has been coagulated by the alcohol. Just below the ovary is a dark round mass, apparently blood, effused in the abdominal walls, and coagulated.

5. *Tumours of the Ovary.*

2635. An uterus, with the broad ligaments, &c. A round flattened tumour, of uncertain nature, upwards of two inches in diameter, is connected with the right ovary. A small, pedunculated, mucous polypus is attached to the interior of the os uteri. The other parts are healthy.

Presented by Sir William Blizard.

2636. Sections of one of the ovaries of a woman who died with diffused hard cancer of the stomach. It is converted into a hard and externally nodulated mass of a very dense, uniform, and compact white substance, with an obscure fibrous texture.

The other ovary, similarly diseased, is described as No. 240.

Presented by George Saunders, Esq.

2637. An ovary, injected and dried, exhibiting large irregular masses of earthy matter deposited in its interior.

From a woman who had hard cancer of the breast.

From the Museum of Sir A. P. Cooper.

2638. An uterus, with the broad ligaments and ovaries, and a portion of a large tumour connected with the left ovary, and apparently composed of

lobulated medullary substance. The right ovary and other parts are healthy. *Hunterian.*

2639. An uterus, with the ovaries, both of which are converted into nodular masses of dense and firm substance, probably medullary cancer. The masses have each an irregularly oval form; one of them measures three and a half and the other two and a half inches in its chief diameter; and a section of the larger displays an uniform pale basis, with opaque white fibres traversing it in various directions, and imperfectly partitioning it into round lobes. *From the Museum of John Heaviside, Esq.*

2640. An uterus, with the ovaries and other adjacent parts. There is a well-formed foetus of about five months old, with its membranes and placenta perfect, within the uterus. The ovaries are both extensively diseased; they are both enlarged, the left to a diameter of two inches, the right to nearly four inches in diameter; the tissue of the left is soft, flocculent, and vascular; that of the right is replaced by a collection of cysts, most of which are filled with soft, laminated, and apparently medullary substance.

2641. An ovary, with a section of a cyst attached to its surface, from a woman who died with cancer of the breast. The cyst is round, flattened, and about three-fourths of an inch in diameter. Part of its cavity is occupied with a growth of dark soft substance, traversed by white lines, somewhat like a piece of spleen; the rest was filled with a bloody fluid.

From the Museum of Sir A. P. Cooper.

2642. Section of an ovary, greatly enlarged by the deposition of melanotic matter, by which it is converted into an uniformly black soft mass. Its peritoneal covering has a singularly mottled appearance, from the various shades of colour produced by the melanotic deposits in and beneath it.

The patient was a woman forty-two years old, the mother of ten children. She was ill ten weeks. A circumscribed moveable swelling, painful on pressure, was felt at the lower part of the abdomen, and there were several small tumours beneath the integuments of the abdomen and other parts, which after death were found to be cysts filled with a dark pulpy substance. She had lancinating pains in the loins, abdomen,

and extremities; and, at the last, hectic fever with copious expectoration, and occasional vomiting of dark-coloured fluid.

Nearly the whole of the peritoneum was spotted and streaked with deposits of melanotic matter, and there were several globular melanotic tumours in the omentum. The pleura, lungs, and pericardium were similarly diseased. The sternum, ribs, parietal and occipital bones, and all the inner table of the skull, were black, brittle, and unusually soft; and there were dark striæ on the membranes at the base of the brain. The uterus appeared healthy.

From the Museum of Robert Liston, Esq.

2642A. An uterus, with the ovaries, both of which are enlarged to between four and five inches in diameter, and filled with soft, deep black, melanotic substance.

The patient was twenty-three years old. Her eye was removed in consequence of melanosis three years before her death. She had melanotic tumours in the liver, heart, and several other parts, of which specimens are in the Museum of St. Bartholomew's Hospital.

The case is published in the "London Medical Gazette," 1845, vol. xxxvi., p. 961.

Presented by William Lawrence, Esq.

Specimens of Diseases of the Ovaries in other parts of the Museum:—

164, 164A, 165A, 165B, 166, 1275.

SERIES LVI.—INJURIES AND DISEASES OF THE FALLOPIAN TUBES OR OVIDUCTS.

1. *Obstruction and Dilatation.*

2643. Section of an uterus, with one of the fallopian tubes and broad ligaments. The fimbriated extremity of the fallopian tube has been turned round, and become closely adherent to the side of the uterus; and, in conse-

quence of the closure of both of its orifices, fluid has collected in it, and distended it into an elongated pyriform sac. The mucous membrane of the tube appears to have given way in some places under the distension; it projects in folds like half-valves wherever the tube bends suddenly. There is a fibrous tumour in the fundus of the uterus. *Hunterian.*

2644. A Fallopian tube, dried. It is elongated and tortuous, and in its whole length was distended with a thin serous fluid, which accumulated in it after the closure of both its orifices. Its diameter gradually increases, from its uterine to its ovarian extremity, from two and five lines; and then it suddenly enlarges, so as to form an oval sac, which measures about five and four inches in its chief diameters; constituting the "dropsy of the Fallopian tube." *Presented by James Paget, Esq.*

2645. Portion of an uterus, with a Fallopian tube and ovary. A globular cyst, nearly two inches in diameter, is connected with the outer part of the Fallopian tube. The walls of the cyst are a line in thickness, tough, and laminated, and it has a distinct thin lining membrane, paler than the rest of its walls; its internal surface is for the most part smooth and polished, but in some places is reticular and fasciculated, like over-distended mucous membrane. The cyst is most probably formed by dilatation of part of the Fallopian tube, and subsequent thickening of its walls. All the adjacent parts appear healthy. *Hunterian.*

2646. An oviduct, from a fowl or some other large bird, in which it appears as if, in consequence of the obstruction of its extremity, the materials of several eggs have been stopped in their progress, and have distended nearly the whole length of the tube. *Hunterian.*

2. *Cysts and Tumours of the Fallopian Tubes.*

2647. The outer extremity of a Fallopian tube, near the fimbriæ of which a small, oval, and thin-walled cyst, full of fluid, is attached by a slender pedicle. *Hunterian.*

2648. A Fallopian tube and ovary. On the Fallopian tube there is a small, oval, pedunculated cyst; and on the ovary, a small, flattened, round tumour. *Hunterian.*

2649. The fimbriated extremity of the Fallopian tube of a sow, laid open to show a small finely membranous cyst attached to its inner surface. *Hunterian.*

2650. The fimbriated extremity of the opposite Fallopian tube of the same animal, with a small pedunculated cyst attached to its outer surface. *Hunterian.*

2651. A Fallopian tube and ovary. A thin membranous cyst, of an oval form, and about an inch in its chief diameter, is attached to the upper part of the broad ligament, or lies between its layers. A small pedunculated cyst is also attached near the fimbriæ of the Fallopian tube. *Hunterian.*

2652. An ovary, with the broad ligament and Fallopian tube. There is a thinly-walled cyst, two inches in diameter, between the layers of the broad ligament, and attached to the fimbriated extremity of the tube. It was filled with a serous fluid. The ovary and Fallopian tube are healthy. *From the Museum of George Langstaff, Esq.*

SERIES LVII.—DISEASES OF THE UTERUS.

1. *Displacements.*

2653. A bladder, uterus, and rectum, with part of the integuments of the perinæum, placed in the positions which they occupied during the life of the patient. There has been prolapsus, with complete inversion of the whole length of the vagina, which protruded in a large swelling, upwards

of four inches in length, beyond the labia. A portion of bent wire is introduced at the end of the inverted vagina into the os uteri: the uterus itself, somewhat curved and distorted, but not otherwise diseased, is exposed by the removal of the left wall of the vagina: the ovaries and broad ligaments are stretched and brought down to the level of the external labia, but are healthy in their structure. The greater part of the bladder has been carried outwards beyond the labia, together with the inverted anterior wall of the vagina. A curved eyed probe, which is introduced into the orifice of the urethra, passes almost straight forwards in its course to the interior of the bladder. A part, however, of the apex of the bladder remained within the labia; but it has been cut away. A large mass of the rectum is protruded more than two inches beyond the anus.

The patient had been thus diseased for many years.

From the Museum of John Howship, Esq.

2654. An unimpregnated inverted uterus, with the vagina, ovaries, &c. Bristles are placed in the uterine orifices of the Fallopian tubes, which, by the inversion of the uterus, have come to open obliquely in the upper part of the vagina. Below, is a polypus, which was attached at the fundus of the uterus, on the rough spot now seen by the side of the right Fallopian tube. A ligature was applied near its attachment, and it sloughed off just before the patient died.

Mr. Hunter left the following record of the history of this specimen, and some observations on Inversion of the Uterus, to which it afforded the principal illustration:—

“ Introsusception.

“ An Account of an Introsusception found in a Lady who appeared to die of a Polypus in the Uterus.

“ For a considerable time prior to her death she had a pain in her side, which was at first supposed to be bilious, and for which she was purged, and often relieved; but when the polypus was discovered, it was then suspected to have some connection with the polypus, although not easily explained, but no hardness could be felt anywhere in the belly.

“ When her bowels were not open, or loose, this pain was very considerable; but when she had a motion, or when she was loose in her bowels, she was immediately easy,

which made me suspect there was some obstruction in the colon ; but when she died, the cause was then discovered.

“ *The appearance upon opening the Body.*—The contents of the abdomen were in a perfect sound state, although not all in a natural one. There was an intromission of the jejunum into itself (downwards) very near to its beginning. The length of inversion downwards was about five inches, and as it had been squeezed down to oblige it to invert it up again, it was puckered together, so as to take up probably much more than a foot of gut. The inner returning gut, or that part inverted back again, had none of this puckering : and, indeed, it would rather unfold the middle portion the moment the other could be inverted in ; for it must be always upon the stretch, by the mesentery as it were pulling it out, and which it may sometimes do : from which I could conceive an intromission move downwards, inverting the lower or outer, and clearing or disengaging that which was already in this state.

“ The inversion of the uterus from a polypus explains perfectly the increase of an intromission when once [it has] taken place : they are continued exactly upon the same principle. The cause of the inversion of the uterus from a polypus is the same operation in the uterus that continues it, and it is the same operation in the intestine that continues the increase of the intromission ; but the first cause of the intromission is not the same that continues it, as is the case with the inversion of the uterus from a polypus ; it is owing to what may be called accidental, and then the action of the intestine comes in to continue and increase it : each explaining the other.”—*Hunterian MS. : Cases and Dissections, No. 47.*

“ *Of the Inversion of the Human Uterus.*

“ This viscus is liable to be inverted from two causes ; one is immediately after labour, when it is so large as to admit of its containing itself, and which is commonly from an imprudent mode in disengaging and bringing away the placenta, when that substance has been attached to the fundus of the uterus, or near it. This may be said to arise from violence or hurt, but which admits of a return or cure, when immediately attended to ; however, if not immediately attended to, the opportunity is lost, arising from the natural alteration taking place in the uterus itself, by its restoring itself to its natural size, which, as it were, takes on this necessary form as if modelled to it, and which now becomes unalterable.

“ The second in its mode is somewhat similar to the above, or first : viz., the expulsion of an adventitious body, although of another kind, and at a very different period in the state of this viscus. It begins to take place when this viscus is small, but becoming gradually large enough (by the very disease that produces it) to admit of an inversion ; so that in the first cause the uterus is first large, so as to admit of an inversion, and by its contraction to its natural state, it as it were fixes it ; but in the present, it begins where the uterus is at the smallest, and it gradually enlarges so as to admit of its inversion. The first is done immediately, because its cause is immediate, for this enlarged state of the parts is of short duration ; but the second is gradual, because it is to produce it itself, by the very action of the uterus in expelling an unnatural or adventitious body, commonly called a polypus.

"To explain this, let us suppose a polypus to grow from the fundus of the uterus or near it, as the placenta adhered in the first cause of inversion; and as it grows in size it will gradually fill this cavity, and will of course become uneasy to the uterus, which will be constantly endeavouring to remove it.

"The action of the uterus to effect this will be downwards, and as the body of the uterus acts on this substance, it will be gradually squeezed down towards the os tincæ, and the fundus will of course be gradually drawn into its own cavity, and as the polypus is squeezed down so will the fundus follow.

"When the whole of the polypus has got into the vagina, if it has no length of neck, then will the fundus uteri be as low down as the os tincæ, the upper half of the uterus just filling the lower half: but I conceive it does not stop here: I conceive the contained or inverted part becomes an adventitious or extraneous body to the continuing [containing?], and it continues its action to get rid of the inverted part, similar to an intromission of an intestine. How far the vagina may assist this action of the uterus, by its endeavouring to free itself of the polypus now come down into it, I will not say. That either the uterus or vagina, or both, continue the action after the tumour has escaped [from] the uterus and got into the vagina, was evident in Miss Dr—m's case."

"The Case of Miss Dr—m."

"A polypus had formed at the opening of the left Fallopian tube, which of course had elongated into the cavity of the uterus, and as that viscus had contracted on this substance, according to the principles above stated, its fundus, to which the polypus was attached, was gradually drawn in, first at this part, and afterwards the whole. It was an oblique inversion; for one Fallopian tube was longer out of the fundus than the other. This operation had continued on till the polypus had been squeezed into the vagina, and there probably became more quiet, although we have reason to suppose it still made progress; for as the polypus had a very short neck by the time it had got into the vagina, the inverted fundus must have been as low as the os tincæ, but upon examination it was rather lower, and the tumour was some way disengaged, or distant, from the os tincæ, and as the tumour in the vagina was larger than a turkey's egg, we must suppose it had grown much larger than when in the uterus itself.

"She dated an uneasiness in these parts for near three years. Dr. Denman was sent for, who examined the vagina, and found the polypus filling up almost the whole vagina. The fingers could be easily passed on by the side of it to its neck, or attachment to the uterus, and the os tincæ could be felt all round, enclosing its own fundus; but which was then supposed to be a continuation of the polypus into the cavity of the uterus, not supposing it to be the fundus uteri itself.

"A ligature was proposed to be passed round its neck, so as to take off that part which was within the vagina, and see if that which was supposed to be a continuation of the polypus within the uterus would not mortify from inflammation, &c., as is sometimes the case. The ligature was attempted to be passed over it, but from the size of the tumour and the tightness of the mouth of the vagina, she being a virgin, it at first could not be done.

"When she had recovered of the fatigue from the first attempt, it was attempted a second time, and succeeded; but now the tumour was less, probably from the first attempt, and also from the mouth of the vagina having in some degree become relaxed, by which means the operation became easier.

"The ligature was drawn as tight as she could bear, with tolerable ease, and when she could bear it, it was occasionally tightened, but her health became so ill that this part of the operation she could hardly bear; and, after having undergone this fatigue for days, she at last died, just as it was cut through.

"Prior to her death she had a pain in her left side, which was suspected to have some connection with her complaint, although not easily explained, but no hardness could be felt there. When her bowels were not open or loose, this pain was very considerable, but when she had a motion, or when she was loose in her bowels, she was immediately easy, which made me suspect there was some obstruction in the colon; but when she died, the cause was then discovered, which proved to be an intussusception of the jejunum downwards."—*Hunterian MS. : Cases and Dissections*, No. 70.

The specimen is in No. 1364.

2. Obliteration of the Orifice or Cavity of the Uterus.

2655. An uterus and vagina, having their cavities laid open from the front. The os uteri is closed; the cavity and walls of the uterus are healthy, and but little enlarged. *Hunterian.*

2656. The uterus of a sheep, the horns of which are dilated in consequence of the closure of the upper part of the vagina and of the os uteri. *Hunterian.*

3. Cysts in and near the Uterus.

2657. "A portion of an uterus, in which a very large encysted tumour had formed. The patient had been twice tapped, and the cyst emptied. The case was supposed to be ovarian dropsy during life." (*Description sent with the preparation by Sir Everard Home.*)

It is perhaps impossible to say what was the disease thus described. The preparation shows what appears to be a portion of the walls of an uterus, enlarged as in pregnancy, measuring about nine inches by five, with a large irregular aperture near

its centre. There is no appearance of a distinct cyst. Perhaps the disease was an accumulation of fluid in the cavity of an uterus, of which the orifice had been obliterated; or perhaps that which looks like uterine substance is part of a large fibrous tumour, the whole centre of which softened and was hollowed out so as to form a large cavity, in which fluid was secreted.

2658. The lower and posterior part of an uterus, recently parturient, to the outer surface of which a thinly-walled cyst, about an inch and a half in diameter, is attached. *Hunterian.*

2659. The uterus of a macacus, surrounded with thin-walled cysts containing hydatids. *Hunterian.*

4. *Polypi, and other Tumours, of the Uterus.*

4 a. *Mucous, or Gelatinous, Polypi.*

2660. A cervix uteri, with two small oval and flat, pedunculated, soft, and nearly transparent growths attached to its mucous membrane, and pendulous from it. *From the Museum of Robert Liston, Esq.*

2661. Section of an uterus, in which a small, flat, pedunculated growth, or mucous polypus, is attached to the mucous membrane lining the lower part of its cavity. *From the Museum of Sir A. P. Cooper.*

2662. A similar preparation, in which a rather larger growth of the same kind is attached to the interior of the cervix uteri by a narrow flat band, nearly an inch long. *From the Museum of Sir A. P. Cooper.*

2663. A similar preparation, with two such growths attached to the same part of the uterus. *From the Museum of Sir A. P. Cooper.*

See also No. 2667.

4 b. *Fibrous, and Fibro-Calcareous, Tumours of the Uterus.*

4 b 1. *Imbedded in the Walls of the Uterus.*

2664. An uterus, cut open through the posterior wall, in which is a spherical fibrous tumour, an inch in diameter. The tumour has grown in the middle of the wall, and projects slightly both into the cavity of the uterus and externally. It has but a loose connection, by fibro-cellular tissue, with the surrounding uterine substance. *Hunterian.*

2665. An uterus, in which a fibrous tumour, more than an inch in diameter, has grown in the substance of the fundus, and projects towards the peritoneal cavity. Another much smaller tumour, formed close by it, projects into the cavity of the uterus, and is flattened by the pressure of its walls. There is a third very small one in the middle of the left wall; and a fourth, of equally small size and disk-shaped, lies just beneath the peritoneum, near the right Fallopian tube. This Fallopian tube and the ovary are adherent to the side of the uterus. The cavity of the uterus is enlarged where the tumour projects into it. *Hunterian.*

2666. Section of an uterus, and of a spherical fibrous tumour, an inch in diameter in its upper and posterior wall. The tumour presents a somewhat laminated concentric arrangement of its chief fibres. It has grown just beneath the mucous membrane, which is reflected over all that part of it which projects into the cavity of the uterus.

The other half of this uterus and tumour is preserved in No. 217, described in vol. i., p. 97.

Hunterian.

2667. An uterus, in the walls of which there are three fibrous tumours. Two of these are situated in the middle of the left wall, and by their mutual pressure have lost the spherical form which they usually assume. The

third is situated at the fundus of the uterus, and has grown into its cavity, to the form of which it has in part adapted itself, becoming broad and flat. The cavity of the uterus is enlarged at this part, and its mucous membrane is flocculent, as if superficially ulcerated. A small soft mucous polypus is attached by a long pedicle to the wall of the uterus, near the cervix. *Hunterian.*

2668. An uterus, with the ovaries, part of the vagina, &c. Two nearly spherical, but rough-surfaced, fibrous tumours were formed in the posterior part of the fundus of the uterus, just under the peritoneum, and projected towards the abdominal cavity. Both have had earthy matter deposited in them. One of them, about an inch and a half in diameter, is partially exposed by dissecting away the peritoneum and part of the uterus covering it; the other is removed, and the cavity in the wall of the uterus in which it lay, and with the interior of which it was loosely connected, is exposed. *Hunterian.*

2669. The tumour removed, or shelled out, from the uterus last described. It is oval, and nearly two inches in its greater diameter. Earthy matter is irregularly deposited in isolated streaks and spots throughout its interior and upon its surface. *Hunterian.*

2670. A fibrous tumour, on the surface of which earthy matter is deposited in an almost continuous layer. It was removed from the uterus after death. *Presented by Sir Everard Home.*

2671. An uterus, in the posterior wall of which a fibrous tumour, nine inches long and seven inches broad, has been developed. By the growth of the tumour (which reaches from the fundus of the uterus nearly to the outer end of the lower wall of the vagina) the uterus itself has been drawn out to a length of between seven and eight inches. Its walls are thin, and exhibit large vessels in them like those of a pregnant uterus; and its cavity, which is lengthened in the same proportion as its walls, is not more than half an inch in diameter. The tumour, though single, has an

aspect as if it were made up of several smaller fibrous tumours; for it consists of many portions of various sizes and shapes compressed together, but not very tightly, and connected by thin and rather loose layers of fibro-cellular tissue, which on the cut surface look like partitions subdividing the great mass. Its outer surface is in some parts knobbed; and in some parts its texture appears to be loosened and softened. The peritoneal surface of the uterus is covered with false membrane.

Hunterian.

2672. Section of an uterus, and of an enormous fibrous tumour growing from the posterior part of its cervix. The tumour is of an elongated oval form, twelve inches in length and five inches in thickness, and presents the ordinary structure of a single fibrous tumour, with variously undulating, circling, and entangled fibres. At its lower end, also, there are several small smooth-walled cavities. At the upper part the line of boundary between the tumour and that part of the cervix uteri which was expanded over it as it grew, can be distinctly traced. At this part the substance of the uterus is much increased in thickness and vascularity, and can be traced in a thin layer over a great portion of the posterior surface of the tumour. The anterior wall of the uterus, the upper half of its posterior wall, and its cavity, are of natural size: the mucous membrane of the latter is superficially ulcerated. The anterior surface of the tumour is rough, as if from superficial ulceration, and its lower end, which must have protruded far from the vagina, is in a similar state. The bladder and rectum are connected, as usual, with the uterus; but there is a large quantity of false membrane in the pouch between the uterus and the rectum.

Hunterian.

4 b 2. *Fibrous Tumours projecting into the Peritoneal Cavity, and either separated from the Uterus, or attached to its exterior, like Polypi, by small Pedicles.*

2673. The upper part of an uterus, to the external surface of the fundus of which a fibrous tumour is attached. The tumour is of a broad oval form,

measures about an inch in its chief diameter, and is probably composed of two smaller spherical fibrous tumours, enclosed in one covering of peritoneum. It is attached to the uterus by a flat band, about half an inch wide and one or two lines thick, and consisting of little more than the peritoneum, elongated by the growth of the tumour beneath it.

From the Museum of Sir A. P. Cooper.

2674. An uterus, in the walls of which there are eight or nine large fibrous tumours. The smallest is an inch in diameter, the largest four inches; most of them have an irregularly oval form. They all project upon the peritoneal surface; the largest of them retains only a narrow base of attachment to the fundus of the uterus, and another is attached to the side of the uterus by a flat band, like that in the preceding specimen. The uterus is enlarged, and deformed by their growth: its fundus is bent towards the left side, where one of the tumours imbedded in the posterior wall is cut open, and exhibits the ordinary structure. The ovaries and the other adjacent parts are healthy.

From the Museum of John Heaviside, Esq.

2675. An uterus, with the Fallopian tubes, ovaries, &c. A fibrous tumour, of the shape and size of an ovary, is attached by a broad band of peritoneum to the angle of the fundus of the uterus, near the right Fallopian tube. There are no tumours of the same kind in the walls of the uterus.

2676. An uterus, with two large fibrous tumours, which were situated between it and the rectum. They had probably grown just beneath the peritoneum of the posterior wall of the uterus, and had been separated from it by the gradual wasting of such pedicles as are shown in the preceding specimens. They are situated one above the other. The lowest of them is spheroidal, and measures about four inches in diameter; the upper one is of the same form, but somewhat smaller; they are fixed to each other by only a small part of their adjacent surfaces; their texture is very heavy and compact, with tough fibres traversing a nearly homogeneous tissue. One of the ureters is compressed by the lowest tumour, but is not otherwise altered.

The patient was ninety-one years old, and suffered from the growth of the tumours for thirty-seven years.

Presented by Sir T. G. Cullum.

2677. Section of a large tumour, together with portions of intestine, mesentery, and omentum adherent to its surface, which was taken from the cavity of the abdomen, but which probably had grown in or upon the walls of the uterus, and had been gradually detached from them. The tumour is kidney-shaped, seven inches in length, and three and a half in width. It is composed of hard yellow earthy substance, deposited irregularly through a tough fibrous tissue, and exactly resembles the fibro-calcareous, or calcified fibrous, tumours of the uterus, which have ramified internal skeletons. Its external surface is minutely nodulated and rough; it is invested with a thin capsule of fibro-cellular tissue, to which all the adjacent abdominal organs appear to have been adherent.

From an old woman. The uterus was said to be "ossified;" probably it had smaller tumours of the same kind in its walls. One such tumour, closely attached to the uterus, was connected by a strong band with this which is here preserved; and the patient died in consequence of a portion of intestine being strangulated by the band.

The other section of the tumour is preserved in No. 225.

From the Museum of John Howship, Esq.

2678. A tumour, of the same kind and form, but much smaller, dried. It is said to have been "formed in the pelvis of an old woman, whose arteries were ossified. It was attached to each side of the pubes by membranous bands in the course of the round ligaments, and was suspended by them above the fundus of the bladder, appearing like a diseased uterus."

From the Museum of John Heaviside, Esq.

4 b 3. *Fibrous Tumours projecting into the Cavity of the Uterus, and either separated from its Walls, or attached to them, like Polypi, by small Pedicles.*

2679. An uterus, in which a firm fibrous tumour, attached to a considerable

portion of the length of the posterior wall, has grown into the cavity, to the elongated and flattened form of which it has adapted itself.

Hunterian.

2680. A section of the upper part of an uterus, to the inner wall of which an oval fibrous tumour, measuring an inch and a half in its chief diameter, is attached by a short and narrow pedicle. The cavity of the uterus is adapted to the tumour; its walls appear healthy.

Presented by Sir Everard Home.

2681. An uterus, with the Fallopian tubes, ovaries, and other parts. The cavity of the uterus is dilated by a fibrous tumour, just like that last described, but twice as large, which has grown into it, and is attached by a narrow base to the posterior wall, near the fundus. There is also an oval tumour of the same kind, two inches in its chief diameter, which is attached by a pedicle, an inch long, to the outer part of the fundus of the uterus, and which projected like a polypus into the peritoneal cavity. The rest of the uterus and the ovaries are healthy.

Presented by Sir William Blizard.

2682. An uterus, the cavity of which is dilated to a diameter of six inches by the growth of a great spherical fibrous tumour within it. The tumour appears to be attached over a wide extent of the wall of the uterus, but it does not protrude from the cavity: its substance is softened and broken down. The walls of the uterus have grown in correspondence with the enlargement of its cavity, so that it resembles an uterus at the end of the fourth month of pregnancy. There is a growth like the fibrous tumour, but softer and more flocculent, on the outside of the uterus: it is connected with the right broad ligament and ovary, and perhaps communicates with the tumour within the cavity of the uterus. *Hunterian.*

2683. An uterus, from the posterior and lower wall of which a large fibrous polypus has grown, and is suspended in the vagina by a broad thick pedicle. The surface of the polypus exposed in the vagina is flocculent,

and extensively ulcerated. On the adjacent wall of the vagina itself, also, there are several small ulcers. A separate small fibrous tumour in the wall of the fundus of the uterus projects into its cavity.

Presented by William Lawrence, Esq.

2684. A vertical antero-posterior section of an uterus, with a large fibrous polypus growing from the posterior wall of the cervical portion of its cavity, to which its base of attachment is an inch in diameter. The fibrous structure is obscure. The exposed surface is ulcerated, and the part next the surface, for a depth of from one to two inches, is of a dirty greenish colour, probably from sloughing and decomposition. The boundary between the uterus and the fibrous growth is hardly discernible. The part of the uterus to which the growth is attached is enlarged and unnaturally vascular; the tumour itself appears to have received but few and small vessels. The vagina, distended around the morbid growth, is superficially ulcerated.

From the Museum of Sir A. P. Cooper.

2685. A thin section of the same tumour, and of the adjacent portion of the uterus, dried, and exhibiting their relative degrees of vascularity. The vessels of the tumour are small, few, and chiefly linear.

From the Museum of Sir A. P. Cooper.

2686. Another section of the same tumour, similarly prepared.

From the Museum of Sir A. P. Cooper.

2687. An uterus, with a fibrous polypus, of an oval form, and measuring five inches in transverse diameter, attached to the anterior lip of the cervix by a strong fasciculated pedicle, an inch and a quarter in length, and half an inch in diameter. The exposed surface of the tumour is rough and flocculent. The rest of the uterus is healthy.

2688. "The uterus of a woman, showing a polypus that grew from the inside of the uterus; and, as it grew, was conducted into the vagina, where it had more room, and there swelled." (*Hunterian MS. Catalogue.*) The

pedicle by which the polypus is attached to the middle of the left wall of the uterus is an inch long, and a quarter of an inch thick; its tissue may be traced, by its white fibrous bands, into the substance of the uterus. The mucous membrane of the uterus is continued over the polypus, but is in parts excoriated and flocculent. The vagina is enlarged. The broad ligaments and other parts near the uterus are healthy.

2689. Section of an uterus, and of a large fibrous polypus, attached by a broad basis to its cervix, and suspended in the vagina. The surface of the polypus nearest to the uterus is granular, and appears to have been very vascular; the surface of its lowest part is flocculent, as if it had been covered with sloughs. *From the Museum of George Langstaff, Esq.*

2690. A tumour, which separated by sloughing from the uterus. It has been dried, but still measures eight inches in length, and five in breadth. It appears to have possessed a compact fibrous structure.

Presented by Joseph Swan, Esq.

2691. The uterus from which the preceding tumour separated, the vagina and other parts. The tumour appears to have been attached on the left side, at and around the cervix uteri. There are traces of acute peritonitis, and all the parts appear to have been very vascular.

The patient died soon after the sloughing of the tumour.

Presented by Joseph Swan, Esq.

2692. Part of an uterus, to the interior of which, near the upper left angle of its cavity, a small portion of a polypus is attached. *Hunterian.*

2693. A large, spheroidal, fibrous polypus, which was removed by ligature from the neighbourhood of the os uteri of an unmarried woman. Bristles are placed in the part which was tied.

The patient recovered.

Presented by Sir Everard Home.

2694. A fibrous polypus, disk-shaped and irregularly knobbed on its surface, which was cut from the anterior part of the cervix uteri. It measures nearly five inches in diameter, and two and a half in thickness; it weighed three pounds. It was attached by a pedicle nearly an inch in diameter; the cut surface of which is shown at the centre of the mass.

The patient was forty years old, and the tumour appeared to have been fourteen years in progress; but though it had caused great pain, and its surface had begun to ulcerate, her general health was not affected by it. Its excision was attended with no inconvenience, and was followed by complete recovery.

From the Museum of John Taunton, Esq.

2695. A spherical fibrous tumour, nearly four inches in diameter, which was removed by excision from the internal wall of the uterus. The cut surface of the pedicle, by which it was attached, is an inch and a half in diameter, and exhibits the open orifices of several large blood-vessels. The opposite part of the tumour, which was exposed in the vagina, is superficially ulcerated.

The patient was forty years old, and for many years suffered from a profuse vaginal discharge. She had violent pain in the vagina and dysuria, and the external organs of generation were inflamed and swollen. Pains, like those of labour, came on, and this tumour was protruded externally. Its pedicle was cut through, and the patient recovered, but there was considerable hemorrhage for several days after the operation.

From the Museum of George Langstaff, Esq.

4 c. *Cancer of the Uterus.*

2696. An uterus, with the ovaries, broad ligaments, vagina, and other adjacent parts, exposed from behind. A broad flat growth of, apparently, medullary or epithelial cancer is attached to all the right and posterior part of the cervix uteri. The growth has a sharp, projecting and overhanging, irregularly sinuous border; it measures about four inches from side to side, two and a half inches from before backwards, and nearly an inch in thickness, at its middle and thickest part. Its surface is smooth and sponge-like; its

substance soft, filamentous, and shreddy. A ligature was tied round a part of its base, its substance having first been broken through; but the part tied does not appear altered in its texture. The uterus is large; its cavity is dilated; and on its left wall there is a small flat growth, half an inch in diameter, like a mucous polypus. The ovaries are both adherent to the sides of the uterus, and the broad ligaments are thickened.

Hunterian.

2697. An uterus, with the ovaries, and other adjacent parts, exposed from behind. The cervix, and the lower half of the body, of the uterus, are involved in a large growth of soft medullary substance, which is ulcerated and broken down into a pulpy, flocculent, and finely shreddy texture. The uterus is enlarged. At the upper part of its cavity the sinuous and slightly elevated border of the ulceration may be discerned. The ovaries, bladder, and other adjacent parts are healthy. *Hunterian.*

2698. A section of an uterus, which has been greatly enlarged by the growth of masses of medullary substance in its walls. The morbid substance is soft, and in many parts broken and coarsely granular. It forms a great irregular mass, involving the substance of the inferior two-thirds of the posterior wall of the uterus, and a similar mass involving the superior two-thirds of the anterior wall. Both the masses project into the cavity of the uterus, elongating it, and altering its shape. Its interior, also, is superficially ulcerated.

From a woman fifty-five years old. She received a violent blow on the lower part of the abdomen eighteen months before death, and the disease appeared from that time to make progress.

Presented by John Pearson, Esq.

2699. An uterus, of which the cervix, together with all that part of the vagina which was attached to it, has been destroyed by cancerous ulceration. The uterus itself is enlarged near the ulcerated part, but the ovaries, Fallopian tubes, and broad ligaments are healthy. *Hunterian.*

2700. The upper parts of an uterus and bladder, the lower third of each having

been wholly destroyed by carcinomatous ulceration. The remaining portions of the organs appear healthy in structure, except at the parts exposed by the ulceration, which are uneven, rough, shreddy, and flocculent. Bougies are placed in the ureters.

2701. An uterus, with the vagina and bladder. Nearly the whole of the uterus has been destroyed by carcinomatous ulceration; the remains of its fundus are soft and shreddy. The surface of the vagina, by the extension of the same process, is rough, and covered with sloughing shreds of tissue; the neck of the bladder, and the lower half of its posterior wall, are in a similar state; and the ovaries are converted into hard carcinomatous masses, each more than an inch in diameter.

From a woman sixty-eight years old. A portion of glass marks the situation of the urethra.

Presented by George Langstaff, Esq.

2702. Parts of an uterus, urinary bladder, vagina, &c. . The posterior wall of the bladder, the lower half of the uterus, and all the upper part of the vagina, have been destroyed by carcinomatous ulceration. Their remains are ulcerated and shreddy; and have numerous large sloughing and nearly detached portions of ulcerated tissues hanging from them. The enlarged upper half of the body of the uterus remains, and a quill is placed in its cavity. This, and the remains of the urinary bladder and of the external part of the vagina, serve to mark the relative positions of the organs; their forms are hardly discernible. *Hunterian.*

2703. An uterus, with parts of the bladder, vagina, and rectum. By ulceration, probably of a carcinomatous nature, the lower two-thirds of the uterus, together with the adjacent parts of the walls of the bladder and vagina, have been destroyed, so that the bladder and vagina appear to form one large cavity, with coarsely ulcerated walls. The ulceration has also extended into the rectum, a small aperture in which is indicated by a portion of whalebone; and through the fundus of the uterus, opening into the peritoneal cavity by an aperture half an inch in diameter. The tissues immediately adjacent to the ulcerated parts appear swollen.

2704. An uterus, with the ovaries, vagina, and other parts, exposed from behind. The prominent part of the cervix uteri, and all the adjacent portion of the vagina, are deeply ulcerated. The ulcer has an uneven shreddy base; and on the left side of the vagina there is a long piece of tissue, which has apparently sloughed from it. The border of the ulcer is not well defined nor elevated; the tissues beneath it are thickened and indurated; its nature is doubtful, but most probably it had its origin in medullary cancer. The body of the uterus appears healthy: the ovaries are adherent to it. The mucous membrane of the bladder is superficially ulcerated; and the middle of its posterior wall is perforated by the ulceration extending from the upper part of the vagina. *Hunterian.*

2705. An uterus, with the ovaries and parts of the vagina, bladder, &c. An irregular ragged ulceration has destroyed nearly all the upper part of the vagina, and the surface of the cervix and adjacent part of the body of the uterus. The ulceration had been preceded by an abundant growth of "cauliflower excrescence," which was thrown off in separate portions. The tissues beneath the ulcer of the walls of the vagina are dense and indurated; and this change of structure extends in every direction to the attached surface of the peritoneum, where it is reflected from the uterus to the bladder and rectum; but the peritoneum itself is not diseased. The upper half of the uterus and the ovaries are healthy.

From an unmarried woman, forty years old, who had discharge of watery fluid from the vagina for thirteen months before death. After the cessation of the catamenia, about six months before death, the discharge was sometimes mixed with blood. She became gradually very much emaciated. The inguinal glands enlarged, and she suffered lancinating pain in the lower part of the abdomen. The whole of the vagina appeared to be filled with the tumour, and portions were occasionally removed when spontaneously almost detached.

Presented by John Goss, Esq.

SERIES LVIII.—INJURIES AND DISEASES OF THE VAGINA
AND EXTERNAL ORGANS OF GENERATION
IN THE FEMALE.

1. *Effects of Inflammation.*

2706. The labia pudendi of an infant, enlarged, swollen, and superficially ulcerated on their anterior surfaces. *Hunterian.*

2707. An uterus, and part of a vagina. The substance of the uterus is extremely dense and hard, but its form is unaltered. In the upper part of the vagina there are numerous small ulcers. Some of them are oval, or round, others irregular in their outlines; they all have sharp, abrupt, but not elevated, borders, and their bases are smooth, and do not appear to be indurated. None of them penetrates further than the sub-mucous tissue. *Hunterian.*

2. *Enlargement of the Nymphæ, Clitoris, and Labia.*

2708. The external organs of generation of a woman, with round smooth enlargements of each of the nymphæ.

From the Museum of John Heaviside, Esq.

2709. Two nymphæ, similarly enlarged and indurated. Their surface is like that of healthy skin, but lobed and wrinkled. *Hunterian.*

2710. Nymphæ, similarly enlarged. *Hunterian.*

2711. Two nymphæ, removed by operation. The right nympha is considerably enlarged and indurated, and there is an aperture through its whole

thickness formed by ulceration. Behind the aperture is another ulcer, extending less deeply, and completely healed.

From the Museum of George Langstaff, Esq.

2712. Nymphæ, similarly diseased. The right nympha is more than four times as large as the left: it is of an oval form, measuring three inches in length, and an inch and a half in thickness. A section shows that it is composed of an uniform pale, dense, skin-like texture; its surface is coarsely wrinkled and warty; it is covered with thin cuticle. The structure of all the preceding diseased nymphæ is probably similar to that of this specimen.

Hunterian.

2713. The external organs of generation of a woman, in whom a lobulated tumour was formed, apparently by enlargement of the prepuce of the clitoris.

From the Museum of John Heaviside, Esq.

2714. Parts of the external genital organs of a woman, enormously enlarged. The parts preserved consist of four distinct portions, two at the sides, and two in the middle between them. The two lateral portions are probably the labia, each of which is six inches in length, and two or three inches in width. Their surfaces are dark, deeply lobed, and wrinkled; they appear to be composed of firm skin-like tissue, and are covered with a thin epidermis. These two portions are united above by a narrow isthmus, from the front of which are suspended the two middle portions, which may be considered as the enlarged clitoris and its prepuce. They form two irregularly-rounded masses, attached above by narrow pedicles, and presenting the same external characters as the enlarged labia. The lowest of the two, which is also rather the largest, measures four inches and a half in one, and three inches in another diameter. The section of one of them shows that it is composed of a compact, pale, yellowish-white tissue, like that of tough skin, uniform, and constituting the whole of the enlargement, not isolated like a tumour imbedded in other tissue.

Hunterian.

3. *Tumours.*

2715. A portion of a tumour, removed by operation from a labium. It weighed upwards of ten pounds, and is six inches in diameter. It is covered with healthy skin; and consists of a pale and compact, but soft and elastic, tissue, traversed in some parts by irregular shining fibres, and in others having several small oval cavities in it.

The patient was thirty years old. The tumour had been growing many years, and there was another similar to it, but smaller, lower down in the labium. The patient recovered after the operation.

From the Museum of Robert Liston, Esq.

4. *Cancer.*

2716. An uterus, vagina, and urinary bladder. A large irregular opening has been formed, probably by cancerous ulceration of the adjacent walls of the vagina and bladder, and around the aperture there are sloughs and large pieces of lymph. There are, also, remains of adhesions over the whole peritoneal surface of the uterus and ovaries. *Hunterian.*

2717. Parts of a vagina and bladder. A large oval, circumscribed, and probably cancerous ulcer, extends around the whole circumference of the vagina, and presents a rough sloughing surface. At one part, the ulceration has extended through the posterior wall of the bladder, in which it presents in a smaller extent the same general characters.

Hunterian.

Specimens of Diseases of the Vagina and External Organs of Generation in the Female, in other parts of the Museum :—

83, 1258, 1263, 1970, 2684, 2699 to 2705.

SERIES LIX.—INJURIES AND DISEASES INCIDENTAL TO
GESTATION AND PARTURITION.

1. *Malposition of the Fœtus.*

2718. An uterus, Fallopian tubes, ovaries, &c. The right Fallopian tube, near its outer end, is dilated into a sac, about an inch and a half in diameter, by a retained ovum. The ovum is laid open, and a fœtus, nearly an inch in length, with the extremities just budding, and parts of the amnion and other membranes, are exposed. There is a large corpus luteum in the right ovary. The uterus contains no decidua, nor has the injection of its vessels displayed any increased vascularity.

2719. A fœtus, almost completely developed, but compressed and dried, so that little more than the bones remain to indicate its previous form. It is reduced to a flattened irregular mass, about four inches long, and from two to three inches wide. The general form of the head, and the outlines of its several bones, as well as some of the ribs, the fore-arms and hands, the knee-joints and parts of the lower extremities, are distinct; but the parts between them are shrivelled and partly "ossified."

The fœtus was removed by operation from the Fallopian tube (as it was believed) of a woman, in whom it had been retained for more than fourteen years beyond the ordinary period of gestation. The patient recovered, and lived for a long time afterwards at Hamburg, where the operation was performed. The preparation had been for many years in a museum in that town, before it was brought to England, and purchased by the College.

2. *Retention of the Fœtus.*

2720. A section of a fœtus, which, after arriving at maturity, was retained for fifty-two years beyond the ordinary period of utero-gestation. It was

enclosed in an osseous sac, a part of which is adherent to its arm and trunk. The fœtus was rolled up, and compressed into a firm globular mass; but, on unrolling it, the forms of all its limbs and features have become distinct; and, except by its being rendered firm and dry by the compression, its tissues appear scarcely altered. The skin was in many parts adherent to the interior of the cyst, and was torn in separating them.

Presented by William Lawrence, Esq.

2721. An arm and leg of the same fœtus, together with a portion of the osseous cyst, in which they are tightly impacted and adherent to its walls. The walls of the cyst are a line in thickness, and appear to be composed of true bone.

Presented by William Lawrence, Esq.

2722. Some of the bones of a leg and arm, from the same fœtus.

The following account of the case is from "The History of a Child retained in the Mother Fifty-two Years after the usual period of Utero-Gestation," by R. B. Cheston, M.D., F.R.S.; in the "Medico-Chirurgical Transactions," vol. v., London, 1814:—

The patient, when she was twenty-seven years old, became pregnant with her fourth child. She completed the ordinary period of gestation with no unusual symptoms, and at its termination signs of labour commenced. Her pains were lingering and continued for three days, without any progress towards the delivery of the child, and then, returning at intervals, gradually abated. She continued weak and ill for three months, then recovered her strength, and, except that her abdomen remained large, suffered no inconvenience, and lived an active life. In her eightieth year she had a slight paralytic seizure, and soon afterwards died with gangræna senilis.

The upper part of the vagina was found in a natural state. The edges of the os uteri were very thin. The "substance of the uterus, though diminished in thickness, still retained somewhat of its natural structure; its internal surface exhibited very clear remains of the plaited appearance which characterizes the cervix for about three inches, when it became contracted to an obtuse point, with an aperture which just admitted the round end of a probe to pass onwards in a straight direction." The Fallopian tubes were healthy; but the ovaries could not be found.

The osseous sac containing the fœtus was adherent to the surrounding parts; it "resembled a human cranium of a middle size, but rather round than oblong, weighing, with its contents, three pounds, one ounce, four drachms."

"The position of the child in the cyst was very similar to that which it holds in the uterus, in which the body and limbs are brought nearly into a globular form. The spine was incurvated, the head bent forwards upon the chest and the pelvis upon the abdomen, and the limbs folded between the pelvis and head. All the parts were most

forcibly squeezed together by the bony cyst ; hence the limbs were all distorted and deformed, and the figure of every part variously affected. Towards the middle of the tumour, the body and limbs, when carefully separated, were found in the most complete state of preservation ; the skin, adipose tissue, and muscles retained much of their natural consistence and characteristic appearances ; but parts were much less distinct on the circumference, from the strong adhesion of the bony covering to the whole surface of the mass. The cyst grew so firmly to the child, that it could only be separated by very forcible means.....It seemed that the cyst had absorbed the integuments and muscles of the parts which were situated in contact with it ; thus, in one of the arms, which occupied this position, I found that half of the limb, which was turned towards the centre, as full and plump as usual, while the other portion, lying towards the circumference, had lost all the soft parts down to the bone, which was in contact with the cyst, and firmly compressed by it through its whole extent. The scalp, on which there were some trifling remains of hair, had lost its firmness and consistence, so as to separate from the cranium on the slightest touch. The integuments of the face, body, and limbs still retained so much of their natural plumpness, that, by the compression, the contiguous parts were reciprocally indented. The contents of the thorax and abdomen retained much of their natural appearance, and not the least tendency to putrefaction could be observed in any of them. The brain was rather more firm than in its recent condition, and nearly of its natural colour. The lungs were in a compact state. The liver was of a dark brown or umber colour, and the intestines deviated but little from their usual membranous appearance, though compressed together into an irregular mass.....Of blood, there was not the slightest appearance. The muscles, instead of being of a bright red and fleshy, were of a brown hue ; and the integuments possessed a very light brown or yellowish tint.....The bones were brown and drier than usual ; they separated very easily from the periosteum and epiphyses. Of the membranes, placenta, or navel-string I could not discover any remains, excepting the insertion of the latter into the body of the child."

Presented by Dr. Cheston.

2723. A portion of the skin and subjacent muscles of a calf, which was retained in the uterus two years beyond the ordinary period of gestation. All the tissues appear fresh and healthy. *Hunterian.*

2724. One of the feet of the same calf, the tissues of which are equally sound. *Hunterian.*

2725. The os uteri of a cow, whose uterus had contained twin calves for nearly two years. When the cow was killed, the calves were found almost fully developed, but much compressed against each other. Their flesh

was dry, but not putrid, nor in any other way altered. The umbilical cords were dry and flattened, the fœtal membranes and cotyledons had separated from the uterus. The uterus had become very thin, and contained no fluid. The amnion and chorion were dry, tough, and black, and adhered to the uterus and to the calves by a very thick viscid substance, like half-dried glue. The os uteri was small, and plugged up with very firm jelly-like substance, which extended for some distance into the neck of the uterus.

The right ovary, with two corpora lutea, is preserved in the "Physiological Series," 3691A. The cow had twice before borne single calves. She was six years old when killed.

Presented by William Lynn, Esq.

2726. Portion of the horn of the uterus of a sheep, containing the head and one of the feet of a lamb, which remained in the uterus beyond the ordinary period of gestation, and became adherent to the surrounding uterine wall. *Hunterian.*

2727. Section of the wall of the same uterus, exhibiting strong and well-organized adhesions between its inner surface and the skin of the neck of the lamb. *Hunterian.*

2728. Another section, exhibiting similar adhesions between the uterus and one of the hind-legs of the lamb. *Hunterian.*

2729. "A part of the uterus of a sow, in which the young pig had died and become rotten, by which the mother also died" (*Hunterian MS. Catalogue*).

2730. Part of one of the horns of the uterus of a sheep, distended by the bones of a lamb which died at an early period of gestation. The soft parts have been almost completely removed from the bones; the textures of the horn of the uterus appear healthy.

Presented by Sir Everard Home.

2731. Part of an uterus, containing the bones of a lamb which died in it at an early period of gestation. The soft parts have been completely removed from the bones during their retention in the uterus, and the bones look as if they had been cleanly macerated. *Presented by — Hallam, Esq.*

2732. "The greater part of the bones of a mature fœtus, which were taken from an abscess near the umbilicus of a woman about twenty-six years old, at St. George's Hospital. The fœtus had been retained about four years after its death, which was ascribed to its mother's sudden anxiety and exertion in having let a favourite bird escape from a cage."

Presented by John Gunning, Esq.

2733. "A child, which was expelled by the rectum similar to a natural labour, 1792" (*Hunterian MS. Catalogue*). The tissues are softened, and many of them appear to have been putrid. The full period of gestation had been arrived at; but nothing is known of the circumstances in which the child passed into the intestine.

3. Retention of the Placenta.

2734. Part of an uterus, to the upper and left wall of the cavity of which a portion of placenta remained adhering after delivery. At the part to which the placenta is attached, the uterus is less contracted than in the rest of its walls; so that the portion of placenta appears lodged in a deep pit, to which there is a corresponding elevation outside the uterus.

Presented by — Delisser, Esq

4. Rupture of the Uterus.

2735. "The lower half of a gravid uterus, which had arrived at the full period of gestation. On the patient accidentally falling, her labour pains came on; and before she could be delivered the uterus burst, and the child's

arm made its escape out of the uterus, but did not pierce the peritoneum at the part where it was reflected over the bladder, uterus, and inside of the pelvis" (*Hunterian MS. Catalogue*). There are two distinct lacerations of the uterus, one on the left lateral wall, four inches long and nearly vertical, the other on the right and posterior wall, near the cervix, of the same length, but transverse. Parts of the bladder and rectum are preserved *in situ*, and are healthy; the aperture in the latter appears to have been made after death.

2736. The right half of an uterus, which was lacerated in parturition at the full period of gestation. There are two lacerated apertures in the wall of the uterus, one at the side, nearly three inches in diameter, the other posteriorly, about an inch in diameter, and both low down in the cervix. Blood is effused on the borders and outer surfaces of the lacerations, and there is lymph on the adjacent part of the peritoneum. The os uteri is widely dilated; the bladder is contracted and healthy. *Hunterian.*

2737. Part of an uterus, which was lacerated in parturition at the full time of gestation. The laceration is through the anterior wall, an inch and a half from the os uteri, and just above the part at which the peritoneum is reflected from the posterior wall of the bladder. It is transverse, and between three and four inches in length; its margins are smoothly rounded, as if it had existed for some days before the patient's death. The walls of the uterus, also, are contracted, and its great veins are empty and collapsed.

The child was found in the cavity of the abdomen.

Hunterian.

5. *Fistulæ and other consequences of Injuries in Parturition.*

2738. An uterus, with the vagina, external organs, and bladder. There is an irregular aperture of communication, nearly two inches in diameter, between the vagina and bladder, through their adjacent walls. This

aperture was the consequence of ulceration following extensive injury of the parts in parturition. In the subsequent contraction and adhesion of the parts, the walls of the bladder, which formed the borders of the aperture, appear to have been drawn backwards, so that the ureters (indicated by bristles) now open on the upper wall of the vagina, one on each side of the laceration. The remaining part of the cavity of the bladder is healthy, but closely contracted. The interior of the vagina is ulcerated and incrustated with lymph and calcareous matter. The uterus, ovaries, and external organs are healthy. *Hunterian.*

2739. An uterus, with parts of the rectum, vagina, and bladder, exhibiting the effects of injuries received in parturition forty-one years before death.

The following description of the appearances found in the first examination of the parts was probably written by Mr. Hunter. It is included in a "Case of Laborious Parturition, with the Consequences," by M. Wilkinson, Surgeon, Sunderland; in the "Memoirs of the Medical Society of London," vol. iii., p. 480, 1792:—

"A communication was formed between the rectum and bladder, sufficient to allow my thumb to pass. The fore part of the vagina and posterior surface of the bladder just above the opening of the ureters, as also the whole of the urethra, were gone, and the remaining part of the anterior surface of the vagina adhered across the os tincæ to the posterior surface, so that the os tincæ was wholly obliterated, and, on introducing the finger into the vagina, it was conducted forwards to the fundus of the bladder, which was pretty perfect."

The patient was thirty-two years old, and had a small pelvis. In labour with her first child, she made no water for two days. The child's head was opened, and the delivery effected with long-continued and great violence. Sloughing followed, and she suffered greatly for six weeks. The vagina protruded, and she passed her fæces through it; but she lived forty-one years after the injury.

Hunterian.

2740. An uterus and vagina, with parts of the bladder and rectum. About an inch from the orifices of the vagina and rectum there is an oval aperture of communication between the two canals. The aperture is nearly an inch in diameter, and has smoothly rounded borders, with numerous prominent folds of the mucous membrane around it. All the other parts are healthy.

From a middle-aged woman; the consequence of tedious and mismanaged parturition.

She continued for several months afterwards to pass the greater part of the fæces through the orifice of the vagina.

From the Museum of Robert Liston, Esq.

Specimens of the Effects of Injury and Disease during Gestation and Parturition in other parts of the Museum :—

206, 1181, 1968.

SERIES LX.—DISEASES OF THE BREAST.

1. *Obstruction and Dilatation of the Ducts of the Mammary Gland.*

2741. Part of a breast, exhibiting several branches of lactiferous tubes dilated and filled with coagulated milk, and large arteries running tortuously about them.

From the Museum of Sir A. P. Cooper.

2742. One of the lactiferous tubes of a woman eighty-five years old, the main branches of which were distended to their present large size by mucus.

From the same Museum.

2743. Part of the breast of an old woman, exhibiting the greater portion of the large lactiferous tubes filled with a pale, solid, soft substance, described as "sebaceous matter."

From the same Museum.

2744. "Section of a tumour in the breast, removed by Mr. Morgan, in Guy's, in which the lactiferous tubes were filled with a deposit from chronic inflammation, which succeeded lactation, and continued for some years, but had suddenly increased before the operation" (*Sir A. Cooper's MS. Catalogue*).

2745. A thin section of the same breast.

From the same Museum.

2746. Another similar section of the same. The appearances of all the sections indicate that in a circumscribed portion of the mammary gland there has been a dilatation of the lactiferous tubes with a nearly uniform consolidation and hardening of the tissue between them. All the specimens exhibit on one side the open orifices of transversely divided tubes, and the channels of some divided longitudinally and emptied of their contents; and, on the other side, the tubes similarly enlarged, but filled with a firm substance distending them in the form of sacculi, or varicose vessels. The texture of the walls of the tubes appears thin and healthy.

From the Museum of Sir A. P. Cooper.

2747. Section of a breast, similarly diseased; with the distended ducts emptied and exposing large orifices on the surface of the section. The indurated substance, in which the dilated ducts lie imbedded, is in this, as in the preceding specimen, exactly circumscribed, so that it has all the external appearance of a tumour.

From the same Museum.

2748. A thin section of a diseased breast (either the same as that last described, or very like it), of which Sir A. Cooper says, in a description of a drawing of it, "It is a preparation of a scirrhus tumour* of the breast, showing bodies in it which appear like bone, but which Dr. Prout analyzed and found to be animal matter, partly oily, united with the phosphate and carbonate of lime. They are contained in the lactiferous tubes, of which sections have been made in preparing this specimen."

From the same Museum.

* Sir Astley Cooper, in his descriptions of his preparations and drawings, did not limit this term to the hard cancerous tumours, but appears to have employed it for any firm tumour of the breast. The specimen just described is certainly not a cancer; and in his description of No. 2772 he speaks of warts growing over a *scirrhus tumour*, though in his description of No. 2773, which is a part of the same specimen, he calls it a *chronic mammary tumour*. At the end of this Series are numerous specimens of earthy matter deposited in the lactiferous tubes, or in masses, in tumours sometimes called *scirrhus*, sometimes *chronic*. Having been dried, it is impossible now to say what they are: they are, therefore, placed among "Uncertain Tumours;" but it is most probable that they are circumscribed portions of indurated mammary gland, in which calcareous matter has been deposited in the diseased ducts or in the indurated tissue.

2. *Simple Cysts in the Mammary Gland.*

2749. Part of a breast, in which there are several cysts, probably formed from dilatation and thickening of the walls of obstructed lactiferous tubes. They are disposed irregularly in the mammary gland; are round and oval in form, and measure from a quarter of an inch to two inches in diameter; all of them have well-defined membranous walls, from half a line to a line in thickness, with smooth and polished internal surfaces.

From a lady forty-seven years old. She had had children, and had suckled them; and menstruated regularly both before and after the removal of the disease. The tumour existed a year before its removal, and grew rapidly without pain; it was hard, but moveable. Nine years after the operation the patient was quite well.

From the Museum of Sir A. P. Cooper.

2750. A similar preparation, with fewer, and for the most part smaller, cysts.

From the same Museum.

2751. A similar preparation. Bristles are passed for a short distance into the ducts in the nipple; none of them reach the cysts. The substance of the gland around appears uniformly indurated. *From the same Museum.*

2752. Part of a breast, in which a similar, but very thin-walled, membranous cyst is imbedded in the substance of the mammary gland below the nipple. The cyst is of a somewhat oval form, with a smooth and polished inner surface and well-defined walls, with slightly projecting incomplete partitions; it measures three and a half inches in its chief diameter.

From the same Museum.

2753. Portion of a breast, in which there is a cyst of irregular form, and about an inch and a half in diameter, just below and by the side of the nipple. The cyst has distinct thin membranous walls, and is closely connected with the tissues around it; the greater part of its inner surface is smooth and

polished, but on one spot it appears thinly covered with lymph. The nipple is shrunken and deeply retracted, but not directly towards the cyst.

Presented by Sir William Blizard.

2754. Several small cysts, from a breast. They are spherical or oval, and measure from one to three lines in diameter. They have thin, transparent, membranous walls; are smooth internally; and are filled with soft pearly-white substance like spermaceti, deposited in grains and little flakes. The specimen was described as "pearly hydatid."

From the Museum of Sir A. P. Cooper.

2755. Portion of a breast, in which a small cyst, like those last described, has been laid open. Its contents and walls are shown, as well as the cavity in the breast in which it is imbedded.

From the same Museum.

2756. A portion of the same breast, with a cyst, from which the contents have been removed, and lie loose in the bottle; other cysts are shown at the back of the preparation.

From the same Museum.

2757. A similar specimen, with a single empty cyst, presenting the same general characters.

From the same Museum.

3. *Cysts in the Mammary Gland, containing Solid Organized Growths*
(*Sero-Cystic Sarcoma*).

2758. Section of a breast, in which there is a cyst exactly like the larger cysts described in several of the preceding specimens, but having a low, broad-based, lobulated, soft growth, cauliflower-like, or like a small group of close-set warts, attached to a large portion of its inner wall, and projecting into its cavity. The cyst is situated just beneath the skin, half an inch from the nipple, but close to the base of the chief lactiferous ducts. Its lining membrane has a light rusty colour, as if it had contained a bloody fluid.

From the Museum of Sir A. P. Cooper.

2759. Another section of the same breast, exhibiting the remainder of the same cyst, and around it the sections of several others of the same kind, but much smaller. One of these smaller cysts is empty, the others appear to be filled by growths from their walls.

From the Museum of Sir A. P. Cooper.

2760. Part of a mammary gland, in which a cyst has been formed just below the nipple. The cyst, now collapsed, is about two inches in diameter. It has distinct walls, about a quarter of a line in thickness; it is polished, though wrinkled, internally, and is closely united externally to the adjacent substance of the gland. From a small portion of the internal surface of the cyst there has grown an irregular soft fungous mass, which is attached to the cyst by two narrow bases, and projects far into its cavity. The surrounding mammary gland appears healthy. The cyst is said to have contained a coffee-like fluid.

Removed from a woman thirty years old. Bloody serous fluid had been discharged from the nipple for several months before the operation.

From the same Museum.

2761. Part of a breast, in which a cyst, like those last described, is situated just below the nipple. The skin around the nipple has been raised and reflected, and the surface of the section just beneath it exhibits many small apertures, considered to be the orifices of lactiferous tubes filled with some soft yellowish substance. One half of the cyst is nearly filled with a round soft growth from its walls.

From the same Museum.

2762. Section of a breast, in which a cyst, of the same kind as those last described, is nearly filled with several similar close-packed growths from parts of its walls. The attachments of most of the growths are broad, and extend over a considerable portion of the surface of the cyst; in other parts, though the surfaces of the cyst and the growths are very near each other, the line of separation between them may be traced. The substance of the growths is soft, obscurely fibrous, and vascular; numerous blood-vessels in them have been injected from those of the

surrounding parts and the walls of the cyst. Besides this chief cyst, there are, adjacent to it (at the back of the preparation), several smaller cysts of the same kind, with similar growths from their walls filling, more or less completely, their cavities. The nipple and the skin around it are healthy.

From the Museum of Sir A. P. Cooper.

2763. Another portion of the same breast, exhibiting the other half of the large cyst and the morbid growths from its walls. The broad base, and the irregular lobular form of the largest of the growths, are here more distinctly shown.

The patient was an unmarried lady, forty-eight years old. The tumour was punctured a year before its removal, and serous fluid, with fungous matter, was discharged. After this it continued to discharge a bloody serum, and granulations protruded from the aperture. At each period of menstruation the breast became painful and swollen; the discharge was increased in quantity, and more bloody; at other times there was no pain. The disease did not return after removal.

From the same Museum.

2764. A portion of the breast described in vol. i., p. 75, No. 171, exhibiting parts of several small cysts, like those in the specimens last described, and filled with similar growths. A bristle is passed from the nipple into a dilated lactiferous tube.

From the same Museum.

2765. The other section of the breast, described in vol. i., p. 75, No. 170. It exhibits one large and several smaller cysts, like those already described, and all containing soft and lobulated growths which nearly fill their cavities. Some of these growths have been turned out of the cavities of the cysts to display the narrow pedicles by which they are attached to the walls: others appear to have broad bases. They are all composed of thick clusters of small, flattened, leaf-like, pedunculated, and vascular processes, some of which hang loosely, and some are so closely set that they form nearly solid masses. The lactiferous tubes appear generally dilated.

From the same Museum.

2766. Sections of part of a breast, and of a tumour immediately below the

nipple. The section has been made through the axis of the nipple, and bristles are placed in the lactiferous tubes. The tumour is about three-quarters of an inch in diameter, and appears to consist of a distinct, smoothly-walled, membranous cyst, filled with a lobulated growth, like those already shown, but paler and much firmer, and very like the solid fibro-cellular tumours of the breast. The texture of the surrounding mammary gland appears quite healthy.

Some history of the case is given in Sir E. Home's "Observations on Cancer," London, 1805; case v., p. 45. The tumour was very moveable. The first sign of the disease was occasional bleeding from the nipple; some time after which the tumour was first felt.

Hunterian.

2767. Part of a large and finely lobulated growth, with a pale firm texture, like that last described, which was attached to the walls of a cyst in the breast. The greater part of its surface is formed by clusters of thin leaf-like growths, attached by narrow pedicles to the chief mass.

From the Museum of Sir A. P. Cooper.

2768. The other half of the breast and tumour described in vol. i., p. 76, No. 172. The tumour shows the gradual stages of transition from a collection of cysts, containing growths such as are displayed in the preceding specimens, to a solid lobulated tumour. The general mass has an oval outline, and measures about four inches in width and two and a half in depth. The greater part of it is composed of many cysts, like those recently described. Most of these are very closely placed together, and are completely filled with lobed and nodulated growths of a pale, homogeneous, and in some parts nearly transparent, substance, of various firmness in different parts, and apparently the less vascular the more its firmness. The cysts are of various sizes, and irregularly partitioned. One of them measures nearly two inches in one diameter; others are half an inch, or less, in diameter. In the largest of them, the structure of the contained growth has been displayed by separating the parts, or lobes, of which it is composed; showing that it consists of variously lobulated and branched, or leaf-like flattened, portions, attached together and to the

walls of the cyst by narrow pedicles, and very closely compacted. In many of the cysts, though they are intimately united with one another, the line of boundary between the wall of the cyst and the surface of the growth contained within and filling it is evident; but in some parts of the tumour no such distinction can be discerned, although even where it is most compact and solid its grouped lobular structure indicates that these portions also had the same origin; but that, as the contained growth increased, it became firmer, less vascular, and more uniform, and at length coalesced in one solid mass with the wall of the containing cyst.

From the Museum of Sir A. P. Cooper.

2769. Part of a breast, in which there appear to have been several distinct cysts of the same kind as those already described, and all so filled with large and firm lobulated growths from their internal surfaces that they formed one nearly solid tumour. The growths, many of which have been partly separated, are firmer and more closely compacted than those in the preceding specimens; and it is only in a few places, at the upper and lower parts of the specimen, that the spaces between them and the walls of the cysts containing them can be traced. In their texture the growths closely resemble portions of the solid tumours shown in Nos. 2772, 2777, &c.; they are firm, compact, but not hard, and present a uniform whitish basis, which appears irregularly striated with short and variously arranged white fibres; yet they present some traces of the minutely lobulated and foliated arrangement of their parts.

From the same Museum.

2770. Sections of a similar tumour, removed from a woman's breast. The upper section shows more plainly than the preceding how, as the growths within the cysts increase, become firmer, and acquire a more distinctly fibrous structure, they coalesce with the walls of the cysts, and form a solid growth partitioned into lobes by the remaining walls of the cysts.

Presented by Sir Everard Home.

2771. Section of a similar tumour of the breast, of very large size. It is

nearly spherical, and measures about five inches in diameter. The central and greater part of it is composed of a pale, but vascular, firm, and obscurely fibrous substance, very compact, and traversed by undulating and circling fibrous lines, which imperfectly divide it into lobes of various sizes and shapes. At the circumference it presents several large flattened cysts, completely filled with firm lobulated growths, like those last described. The texture of these growths is like that of the central solid part of the tumour, only less compact, and less distinctly fibrous; and, in the solid part of the tumour, there are sufficient traces of the lobular arrangement to prove that it had the same origin in growths within cysts; but that the cysts and their contained growths have now coalesced and become much more compact. *From the Museum of Sir A. P. Cooper.*

4. *Fibro-Cellular Tumours of the Breast (Chronic Mammary Tumour).*

2772. Section of a breast, and of a large tumour in it, with their vessels minutely injected. The tumour is of oval form, and measures upwards of three inches in its greater diameter; its surface is knobbed, and its section shows that it is composed of numerous round and oval masses closely united, with thin partitions of fibro-cellular tissue. In texture it is compact and firm, but not hard; it exhibits in each of its component portions an appearance of minute wavy fibres traversing a pale, pink and white, opaque, homogeneous basis. The injection of its blood-vessels, and the many orifices of divided vessels, show that the tumour was moderately vascular—about as much so as the mammary gland in which it is imbedded; at the back of the preparation a large artery is exposed, ramifying on the surface of the tumour, and sending considerable branches into it. The tumour is circumscribed; the tissues near it are healthy, and loosely connected with it. On the skin over it, but not immediately connected with it, there is a large warty growth, consisting of numerous short blunt processes closely set together and covered with thick cuticle.

The tumour was described by Sir A. P. Cooper as a "Chronic Mammary Tumour."

It almost exactly resembles the solid and more homogeneous parts of the specimens in

the last part of the preceding section, but no cyst-walls can be distinctly seen ; if they ever existed, they have now completely coalesced with the growths within them.

From the Museum of Sir A. P. Cooper.

2773. "Warty excrescences of the skin growing over a scirrhus tumour of the breast" (*Sir A. Cooper's MS. Catalogue*).

They are another part of those shown in the preparation last described.

2774. Section of a breast, and of a large tumour formed beneath, but not in the substance of, the mammary gland. The tumour is probably of the same kind as that last described, but it presents some differences of apparent structure, connected perhaps with its more active growth. It has an irregular oval form, and measures six inches in one, and five in each of its other diameters. It is deeply knobbed on its outer surface, and its cut surface shows numerous long, large, and variously curved bands of fibres partitioning it into round and oval portions, which are very closely held together. The central and greater part of the tumour is firm, opaque-white, tough, traversed by fine fibres, and altogether like the tumour last described ; but at and near its circumference it is much softer, glistening, and nearly transparent, almost like firm vitreous humour, pinkish-white (in the recent state), and with hardly any appearance of the fine, wavy, opaque-white fibres which are seen in the central portions. The integuments and all the adjacent tissues are healthy, the tumour being connected to them by only a thin layer of fibro-cellular tissue which invests it, and forms a kind of loose capsule to it.

Presented by B. Travers, Esq.

2775. Two sections of a large tumour, removed from a breast. It is probably of the same kind as that last described, but has a less fibrous appearance. It is chiefly composed of a pale, soft, and succulent, but compact substance ; lobed, nearly uniform in texture, glistening and glassy on its cut surface ; and it was tinted in various shades with a pale flesh colour. In each section a part of the tumour, not definitely separated from the rest, is white, and much tougher and denser ; and there are obscure

appearances, as of partitions proceeding from this into the other parts. In each, also, there are portions of ochre-yellow substance irregularly diffused; and near these the tumour is soft, as if it had ulcerated.

From the Museum of George Langstaff, Esq.

2776. Section of a breast, and of part of a tumour, formed in the mammary gland. The texture of the gland is not involved in the tumour, but is pressed aside, and the tumour is invested with a distinct thin capsule of cellular tissue. The tumour is very like the last but one. It appears to have been of an irregularly oval form, and between two and three inches in diameter; it is composed of several distinct lobes closely connected together; the structure of all its portions is compact, with traces of fine, wavy, white fibres traversing a homogeneous pale basis; and it has a few small cysts scattered irregularly through its substance. The adjacent tissues are healthy.

The following case from Sir Everard Home's "Observations on Cancer," London, 1805, p. 41, probably relates to this preparation; and may serve to illustrate Mr. Hunter's opinions respecting the diagnosis between tumours of this kind and cancerous tumours:—

"A lady, twenty-three years of age, had a tumour in the breast which was hard to the feel, and gave her pain occasionally. It had been noticed for about a year, and gave her a great degree of anxiety. Mr. Hunter was consulted, and gave it as his opinion that the tumour should be extirpated, as the only means of relieving the patient, believing it to be of a scirrhus nature. In compliance with his advice, the operation was performed. Upon examining the tumour afterwards, it was found to be a hard solid tumour, perfectly distinct from the parts which enclosed it, having an investing membrane, to which it had only a slight attachment. He was, therefore, of opinion that this tumour would never have become cancerous."

Hunterian.

2777. Section of a tumour, from a breast, called in Sir A. P. Cooper's Catalogue "chronic mammary tumour." In its general characters it is like the three just described, but is tougher, denser, and more uniform than any of them. It consists of a firm and very compact, but not hard, white substance, obscurely and irregularly fibrous, partitioned into lobes of various sizes and shapes; and it presents on its cut surface sections of one

or two small smooth-walled cavities in it. The outer surface of the tumour is knobbed and irregular; but it is definitely circumscribed, and appears to have been connected with the mammary gland by loose fibro-cellular tissue.

From the Museum of Sir A. P. Cooper.

2778. A similar tumour, from a breast, in which it had been observed for twelve years. It is nearly round and smooth on its outer surface.

From the same Museum.

2779. Sections of a small, round, smooth tumour of the same kind. It exhibits the same general characters of structure, and is invested with a thin capsule of fibro-cellular tissue. There are appearances of several small cavities on its cut surface.

From the same Museum.

2780. Part of a breast removed by operation, in which there are several small round tumours, like the preceding, closely clustered together. It is not improbable that these tumours were originally contained in cysts which have been dissected from them. The sections of some of them present a granulated appearance, as if small grains of a firmer and yellower substance were imbedded in them.

Presented by Sir Everard Home.

2781. Sections of a small tumour, of the same kind, exhibiting a more distinct appearance of fine opaque white fibres, undulating through a homogeneous and slightly transparent basis.

From the Museum of Sir A. P. Cooper.

2782. Two thin sections of a tumour, like the preceding, dried after the minute injection of the blood-vessels, and showing that the tumour is much less vascular than the surrounding tissues.

From the same Museum.

2783. Section of a tumour of the breast. It consists of a pale firm substance, with numerous small thinly and smoothly walled cysts in its interior, and with one cyst of the same kind, an inch in diameter, lying near it.

Hunterian.

5. *Cancer of the Breast.*5 a. *Hard Cancer: Scirrhus.*

2784. Section of a breast, and of a large mass of hard cancer in it. The tumour is of irregular shape, knobbed on its outer surface (which is intimately united to all the adjacent tissues), but, on its cut surface, presenting no appearance of being composed of lobes. At the upper part it appears to have extended to the very surface of the skin, projecting there with an uneven superficially knobbed surface. The whole substance of the tumour appears equally dense, compact, and hard; it has an obscurely fibrous appearance, as if short and fine fibres were irregularly inlaid in a pale and uniform basis. That part of it which lies at the surface, involving the integuments, is more vascular than the rest, and than the surrounding tissues. The nipple is deeply retracted within a fossa of the integuments drawn in around it: its base is intimately adherent to the tumour. At the back of the preparation some of the tumour is dissected out from the adjacent tissues.

From the Museum of Sir A. P. Cooper.

2785. Section of the skin from a breast, and of a small, round, hard, cancerous tumour closely adherent to the skin, about an inch from the nipple. The nipple is retracted, and a thin tough band of tissue, connecting its base with the cancerous tumour, is displayed, "to show the cause of the retraction of the nipple" (*Sir A. P. Cooper's MS. Catalogue*).

From the same Museum.

2786. Section of a breast, and of a small hard carcinomatous tumour immediately beneath the deeply retracted nipple. Several round cords, supposed to be thickened lactiferous ducts, have been dissected out on one side of the tumour. They contained a whitish fluid.

Hunterian.

2787. Section of a breast, in which a long narrow mass of hard cancer, obscurely fibrous, and with little seed-like masses and minute cells thinly scattered through it, has been exposed by dissection of the surrounding substance. The nipple is very deeply retracted, and is hard from cancerous deposit. The skin, also, and the areolar tissue of the breast (the ligamenta suspensoria of Sir A. Cooper), are thickened and indurated. From the lower part of the chief cancerous mass a long narrow cord, composed of the lymphatic vessels affected by the disease, extended to the axilla. Part of this cord is preserved.

From the Museum of Sir A. P. Cooper.

2788. Section of a breast, with a tumour, in which "the cancerous suppuration had taken place." The substance of the tumour, which is situated just below the deeply retracted nipple, is soft and broken, so as to present many cavities and slight fissures, with a generally granular and grumous aspect. In its form and intimate connection with the adjacent tissues it is like a hard cancer.

Hunterian.

2789. Section of a breast, in which there is a large, compact, and hard cancerous tumour. It is nodulated on its outer surface, but on its cut surface has no appearance of being composed of separate lobes. It has a well-defined outline, and is closely attached to both the skin and the great pectoral muscle. Irregularly scattered through a part of the substance of the tumour are several small cavities of various form, and having walls, in some smooth, in others irregular, as if composed of softened cancerous matter. Near some of these small cavities the cancer is more vascular than it is elsewhere; and this is especially the case near its outer subcutaneous surface. The skin over the tumour is contracted, wrinkled, and superficially ulcerated.

From the Museum of Sir A. P. Cooper.

2790. Parts of the integuments of a breast, and of a large hard carcinomatous tumour, to which they are closely adherent. A great extent of the

integuments is superficially ulcerated. The border of the ulcer is sinuous, but not elevated; its base is irregular, in parts sloughing, in others appearing to be merely excoriated. The ulceration has extended into the axilla, in which there were several carcinomatous glands.

From the Museum of George Langstaff, Esq.

2791. Section of the breast of a man, in which there is a large ulcer, which probably originated in a lens-shaped, hard, cancerous tumour, or degeneration of the skin and mammary gland. The outline of the ulcer is nearly circular, but somewhat sinuous; it has a smooth, slightly convex, elevated surface, and some hard nodules at its margin, which are round, slightly elevated, flattened, and depressed at their centres. The ulcerated surface is nearly five inches in diameter, and appears to have been very vascular; the substance immediately below it is soft, but that at a greater depth is compact and hard. The lower surface of the diseased structure adheres to the great pectoral muscle, in which some large and tortuous arteries are injected.

From the Museum of Sir A. P. Cooper.

2792. Section of a cancerous breast, with part of the subjacent walls of the thorax. The section, besides showing very well the structure of hard cancer, serves to display the deeply retracted nipple, with the borders of the surrounding skin almost united over it, and a superficial ulcer by its side—the invasion of the pectoral muscle by the cancerous tumour—the conversion of a part of the muscle into a substance like that of the cancer—and the intimate adhesion of the whole diseased mass to the surface of the ribs.

From the same Museum.

2792A. Another part of the same breast, exhibiting other ulcers of the integuments, and extensive softening of the cancerous mass.

From the same Museum.

2793. Section of a breast, and of a hard cancer in it, dried after the minute injection of the blood-vessels. The substance of the tumour, part of which is said to have ulcerated, appears to have been highly vascular,

and numerous vessels are shown tending towards it from the subjacent tissues. At one part the skin appears ulcerated, and is more vascular than elsewhere. *From the Museum of Sir A. P. Cooper.*

2794. Section of a breast, with a hard carcinomatous tumour formed deep beneath the skin. One of the axillary glands, enlarged and indurated, is connected with the breast. The skin over the tumour has been superficially ulcerated in consequence of the application of "Plunkett's powder."* *Hunterian.*

5 b. *Medullary Cancer of the Breast.*

2795. Section of a large tumour, removed from a breast. The substance of the tumour is compact, nearly pure white, and altogether closely resembles that of the white substance of the brain. It consists of several distinct portions, united by thin layers of cellular tissue. It appears but little vascular, for, of the injected blood-vessels, scarcely any can be traced beyond the layers of cellular tissue uniting the several portions of the tumour. In a few parts small cavities, with polished internal surfaces, are scattered irregularly in the morbid substance.

From the Museum of Sir A. P. Cooper.

2796. Section of a breast, in which a large, but distinctly circumscribed, oval mass of soft medullary substance is imbedded in the mammary gland. In the interior of the tumour there are several small oval cysts, some with irregular, others with smoothly polished, walls. The adjacent substance of the gland appears healthy.

The patient died of hemorrhage after the operation.

From the same Museum.

* See Hunter's Lectures, "Works," vol. i., p. 625, quoted, in vol. i., p. 58, together with some remarks by Mr. Hunter on the action of arsenic as an escharotic in connection with a case in which a whole breast with a carcinomatous tumour separated by sloughing.

5 c. *Uncertain Tumours of the Breast.*

2797. Section of a breast, and of a large (fibrous or hard cancerous?) tumour in it. The tumour is round, flattened below, and nearly uniform and smooth on all its surfaces. It appears to have been loosely connected with the adjacent tissues; its texture is pale, nearly white, and very firm, except in three small places, in which its substance has become flocculent and shreddy, so as to form imperfect cavities. In some parts, also, it has an obscurely fibrous aspect, and an appearance of imperfect partition into spherical portions. The nipple is very deeply retracted, and appears involved in the substance of the tumour. The skin around it is excoriated and very vascular. *From the Museum of Sir A. P. Cooper.*

2798. Section of a breast, with a hard and large carcinomatous (?) tumour in the substance of the mammary gland. *Hunterian.*

2799. Portion of a breast, with a spheroidal tumour, three inches in diameter, below the nipple. The substance of the tumour appears to be medullary, and it has within it a single cavity, nearly two inches in diameter, which has distinct membranous walls and a smooth lining. The nipple is completely retracted. *Presented by Sir William Blizard.*

2800. Section of part of a breast, and of a small round compact tumour, apparently not cancerous, below the nipple. Between the tumour and the nipple, a thin irregular plate of bone-like substance is shown, projecting as if it had formed a part of the investment of the tumour.

From the Museum of Sir A. P. Cooper.

2801. A thin section of a "scirrhus breast,"* dried, and exhibiting deposits of earthy matter in small portions of the lactiferous tubes.

From the same Museum.

* See the note at p. 327.

2802. A similar preparation. *From the Museum of Sir A. P. Cooper.*

2803. A similar preparation. *From the same Museum.*

2804. A thin dried section of a "scirrhus breast," exhibiting a more extensive deposit of earthy matter in the branches of the lactiferous tubes.

From the same Museum.

2805. A similar preparation, with the earthy matter forming two small irregularly shaped masses. *From the same Museum.*

06. A dried "chronic tumour," from a breast, in which a large quantity of earthy matter has been deposited. *From the same Museum.*

2807. Section of a "chronic tumour," from a breast, in which there is deposited an irregular granulated mass of earthy matter.

From the same Museum.

2808. Another section of the same tumour and mass of earthy matter.

From the same Museum.

2809. Portion of a breast, dried, and exhibiting a small oval mass of earthy matter in its substance near the nipple. *From the same Museum.*

6. *Entozoa in the Breast.*

2810. Part of a breast, in which, close by the mammary gland, and resting on the surface of the great pectoral muscle, is a thick-walled opaque cyst, in which it is probable that an acephalocyst hydatid was contained. The specimen was called "hydatid in the breast."

From the Museum of Sir A. P. Cooper.

7. *Diseases of the Blood-vessels of the Mammary Gland.*

2811. "Artery of the nipple ossified" (*Sir A. Cooper's MS. Catalogue*). A portion of the artery, between five and six inches long, has thin plates and rings of earthy matter in its walls.

From the Museum of Sir A. P. Cooper.

2812. A similar preparation.

From the same Museum.

Specimens of Injuries and Diseases of the Breast in other parts of the Museum :—

Foreign Bodies, 67, 69.

Atrophy, 1657.

Sloughing, 140.

Cysts, 151, 152.

Sero-cystic Tumours, 168 to 178.

Fatty Tumour, 186.

Fibro-cellular Tumours, 207B, 208, 209 (?), 211, 212, 216.

Fibrous Tumour, 223.

Hard Cancer, 233 to 238, 242 to 247, 251.

SERIES LXI.—ANATOMY OF STUMPS AFTER AMPUTATIONS
OF LIMBS.

THERE is none of the preceding Series in which many of the following specimens could find an appropriate place. On this ground, as well as because of the many interesting facts which they together illustrate, they are here collected in one Series. They have, besides, a peculiar value as illustrations of the local consequences of one of the most frequent capital operations in surgery. In this view they may be said to have a great historical interest. Such a collection of specimens of extensive and fatal necrosis following amputation will probably never again be formed; yet these were obtained in the practice of a few of the

best surgeons of their time in the course of half a century. The rarity of such consequences of amputation must be ascribed to the simpler and less irritant plans of treatment, both local and general, which the promulgation of Mr. Hunter's doctrines tended to produce, and of which his pupil, Mr. Edward Alanson,* may be regarded as the earliest, and probably the most influential, teacher.

2813. A scapula, with the stump of an arm, smoothly and roundly cicatrized after amputation at the shoulder-joint. The arm was amputated several years before death; the direction of the axis of the cicatrix is from before backwards, and it is nearer to the inner than to the outer part of the stump. There is no puckering of the skin, and the surface of the cicatrix is smooth and shining. *Presented by Sir William Blizard.*

2814. The stump of a fore-arm, amputated near the wrist. All the muscles and tendons, nerves, and vessels, are fixed at the very ends of the bones, some even passing a little over their margins to be inserted in the tissue of the cicatrix by which they are covered. Two of the large nerves are traced to the end of the stump, and are very slightly enlarged at their extremities.

The wound healed well after the amputation, and the patient suffered no subsequent inconvenience.

From the Museum of George Langstaff, Esq.

2815. The stump of a leg, amputated just below the tubercle of the tibia. The ends of the bones are smoothly rounded, and are covered with a thin layer of fibrous tissue, on which the cicatrix of the integuments is depressed and closely adherent. The nerves are enlarged at their extremities. Part of the popliteus muscle is shown, but scarcely a trace of muscular fibre can be discerned in it.

The patient had severe pain in the stump for many years, and could not wear an artificial leg.

This and most of the following preparations of stumps from Mr. Langstaff's Museum

* In his "Practical Observations upon Amputation and the after Treatment," London, 1779, 8vo.; and 1782, 8vo.

are further described in his "Practical Observations on the Healthy and Morbid Conditions of Stumps," in the "Medico-Chirurgical Transactions," vol. xvi., p. 129, London, 1830.

From the Museum of George Langstaff, Esq.

2816-2817. The stumps of two legs, which were amputated. In one of them the cicatrix is almost complete, but the cuticle is not formed on it, and there is some prominence of the ends of both the bones; in the other, a part of the healthily granulating surface remains; but in this, in which the amputation appears to have been performed higher up, the bones do not project.

The patient's feet had sloughed off after being frozen, and the stumps would not heal; they were therefore both amputated.

Presented by Sir William Blizard.

2818. The stump of a finger, covered with a mass of exuberant granulations; it was amputated a second time. *Hunterian.*

2819. A portion of the stump of a thigh, from a person who died, about ten days after amputation, with inflammation of the femoral artery and vein. The sciatic nerve is shown attached near to the granulating surface of the stump by a thin layer of tissue, as if its fasciculi had retracted within its neurilemma. Its end is not enlarged. *Presented by Joseph Swan, Esq.*

2820. The stump of an arm, amputated above the elbow. The humerus projects half an inch beyond a deep sloughing ulcer of the integuments and other parts surrounding it; its extremity has necrosed, and was in process of separation, a groove having formed above it in which some granulations are imbedded. The ends of the nerves and vessels are traced close to the surface of the ulcer; those of the nerves are not enlarged.

From the Museum of George Langstaff, Esq.

2821. The stump of a thigh, a month after amputation. A thin circle of the end of the bone has necrosed; all the soft tissues have separated from it; a shallow groove is formed above it; and above the groove new bone is

deposited on the surface of the shaft. The integuments have cicatrized, except over the end of the bone, where there is an aperture opposite the medullary canal. The extremity of the femoral artery is closed, and a small firm decolorized clot of blood is partially adherent to its walls, at a short distance from its closed end. The peroneal and posterior tibial nerves are united at their ends to the substance of the cicatrix behind the femur, and are slightly enlarged.

The bone protruded from the stump, and a vascular growth, which was very painful and bled frequently, projected from its medullary canal. Numerous collections of matter formed among the muscles of the stump, and with these the patient died.

From the Museum of George Langstaff, Esq.

2822. Part of the stump of a thigh, from a man seventy years old, whose leg was removed for gangræna senilis seven weeks before death. A ring at the sawn end of the bone has necrosed, and was in process of separation, a groove and new bone being formed above it. The integuments over the bone are ulcerated. The coats of the artery are "ossified," and both it and the vein are filled with firm clots of blood, which extended as high as the origins of the external iliac vessels. It was not necessary to tie any artery after the amputation.

The case is further detailed in Mr. Langstaff's Catalogue, London, 1842, 8vo., p. 122.

From the same Museum.

2823. The stump of a leg, which was amputated nearly midway between the knee and the ankle. The fibula was sawn through about three inches higher than the tibia. The end of the stump is extensively ulcerated, and large portions of both the bones are exposed, necrosed, but with little apparent progress towards separation.

This stump was removed by a second amputation, and the patient did well. A large vessel in the substance of the bone bled freely in the second amputation, and it was necessary to stop it with a wooden peg placed in its orifice.

From the Museum of Robert Liston, Esq.

2824. The stump of a femur, amputated thirty years before death. The end of

the bone is covered with granulations, which form part of a granulating ulcer at the end of the stump. A spiculum of new bone projects from its posterior surface. The posterior tibial and peroneal nerves are enlarged, and bulbous at their extremities; one of them is retracted nearly two inches above the end of the bone; they are both firmly united to the substance of the cicatrix. The femoral and popliteal artery, and some of its branches, are injected; the trunk is small, the branches as large as usual, or larger.

The patient was seventy years old when he died of apoplexy. The stump never completely healed, and he often suffered severe pain extending upwards from it to the hip in the course of the sciatic nerve; he also often had hemorrhage from it.

From the Museum of George Langstaff, Esq.

2825. A knee-joint, with the stump of a tibia and fibula, from a man fifty-nine years old, whose leg was amputated twenty years before death. The upper parts of the muscles of the leg, the branches of the sciatic nerve, the popliteal artery and vein, and several of their branches, are all connected in a mass of tough white tissue of cicatrix, by which also the ends of the bones are thinly covered. The muscular fasciculi are pale, soft, and widely separated by fat; the ends of the nerves (so far as they are exposed) are bulbous. The cartilages of the femur and patella are irregularly thinned, and in some parts fibrous.

The stump in this case did not heal well, and frequently ulcerated near the ends of the bones; it was occasionally, also, the seat of severe pain.

From the same Museum.

2826. The end of the stump of a femur. The posterior tibial and peroneal nerves are shown, each having a bulbous enlargement at its lower end, which is connected by a band of fibrous tissue to a strong process of bone, an inch long, which has grown out from the posterior surface of the end of the femur. This process is directed straight backwards; another of smaller size is directed obliquely upwards and backwards. The end of the stump of the femur is smoothly rounded, and its medullary canal is covered with a thin layer of bone.

The limb was removed twenty years before death for scrofulous disease of the knee-joint. It was long in healing; the bone projected from it, and the patient suffered greatly from it for many years. He died with phthisis.

From the Museum of George Langstaff, Esq.

2827. A similar preparation, in which the cicatrix of the integuments is also preserved. The ends of the posterior tibial and peroneal nerves are united in one large bulb, and the popliteal artery and vein are obliterated about two inches above the surface of the stump. The end of the femur is covered with a thick cicatrix, upon which the integuments are deeply depressed; its margins are rounded, and two strong processes of bone, like those last described, are attached to its posterior surface near the linea aspera. One of these processes is said to have greatly irritated the muscle with which it was in contact. *From the same Museum.*

*Conditions of the Bones of Stumps.**

2828. The stump of a femur, the end of which is rounded and covered with porous, light, new bone, chiefly accumulated at its posterior part.

Presented by Sir William Blizard.

2829. A similar specimen, in which, moreover, the wall of the bone is expanded and porous for some distance above its sawn extremity.

Presented by Sir William Blizard.

2830. The stumps of a tibia and fibula, after an amputation at the lower part of the leg. The edges of the sawn ends of both bones are rounded off, and they are surrounded and united together by light and finely cancellous new bone.

Presented by Sir William Blizard.

* Some of these conditions are shown in the preceding specimens; some among the Diseases of Bone, as referred to at the end of this Series; and many more among the specimens from No. 3478 to No. 3505 in the Floor Cabinets, which correspond with this Series, and are arranged according as they exhibit Hypertrophy, Atrophy, Morbid Thickening, and excessive Growths of Bone from Inflammation, Ulceration, and the effects of Necrosis.

2831. The stumps of a tibia and fibula, many years after the amputation of the leg near its middle. The ends of both are smooth and diminished in size, and they are united by a thin plate of bone. The tibia is chiefly reduced in size by the removal of the anterior part of its extremity, while new bone has been formed upon the posterior part. Both bones are light and greasy, and their walls are thin.

From the Museum of Robert Liston, Esq.

2832. The stump of a femur, of which a small portion of the sawn extremity died, and was in process of exfoliation. The tissue of the rest of this extremity is expanded, porous, and soft; and for a considerable distance above it the whole surface of the shaft is covered with irregular deposits of light and finely porous new bone, chiefly abundant at the part from which the dead bone was being exfoliated.

Presented by Sir William Blizard.

2833. The upper part of a femur, after amputation at the junction of the middle and lower thirds. The extremity of the bone has suffered necrosis. A considerable portion of the shaft has also perished, but there is no distinct line of demarcation between the dead and living bone. A very large quantity of new osseous tissue is formed around the original shaft, and some as high as the lesser trochanter. The greater part of the new bone forms a case of irregular form and thickness, surrounding the original shaft, but not adhering to it; some, however, is adherent to the original shaft, and seems to have been deposited upon it before it perished, and to have perished with it.

Presented by Sir William Blizard.

Specimens of Stumps after Amputation in other parts of the Museum :—

28, 29, 30, 35, 552, 553, 555, 557, 558, 604, 616, 656, 658, 659, 665, 666, 667, 3478 to 3505.

END OF VOL. IV.

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THE UNIVERSITY OF CHICAGO
DEPARTMENT OF THE HISTORY OF ARTS
AND ARCHITECTURE
OFFICE OF THE CURATOR
540 EAST 58TH STREET
CHICAGO, ILL. 60637

Dear Mr. [Name]
I have your letter of the 12th inst. regarding the
loan of the [Name] to the [Name] and am
pleased to hear that you are interested in
the [Name] and would like to see it.
I am sorry that I cannot see it at the
moment, but I will be glad to see it
when you are in Chicago.

I am sure that you will find it very
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