Descriptive catalogue of the pathological preparations in the museum of the Medical College, Calcutta / by Joseph Ewart.

DESCRIPTIVE CATALOGUE

OF THE

PATHOLOGICAL PREPARATIONS

IN THE

MUSEUM OF THE MEDICAL COLLEGE, CALCUTTA.

By JOSEPH EWART, M.D.

BENGAL MEDICAL SERVICE.

PROFESSOR OF PHYSIOLOGY AND COMPARATIVE ANATOMY IN THE CALCUTTA MEDICAL COLLEGE, AND CURATOR OF THE MUSEUM.

LONDON:

SMITH, ELDER AND CO., 65, CORNHILL.

1865.

CONTENTS.

GENERAL PATHOLOGY.

SPECIAL PATHOLOGY.

§ XXI. Of the Bones. (Dry Preparations)—*continued.*

PREFACE.

The Museum of the Calcutta Medical College comprises a series of preparations illustrative of Human, Comparative, and Pathological Anatomy. The last mentioned division is that which has been treated in the following pages. This—the Pathological Department—was originally founded upon the collection of morbid specimens belonging to the Medical and Physical Society, which had been mainly formed by the undermentioned officers of the Bengal Medical Service:—Messrs. J. Barber, J. Toulmin, D. S. Young, T. Tweedie, G. Angus, J. Grierson, R. M. Ronald, H. H. Spry, A. K. Lindsay, R. M. Martin, J. Tytler, J. Grant, H. Crockett, R. N. Burnard, H. H. Goodeve, T. A. Wise, T. Ward, W. Mitchelson, W. Bell, J. C. Boswell, F. H. Brett, W. Darby, W. L. McGregor, M. Julien Desjardins, R. Tytler, K. McKinnon, J. Burnard, C. J. Fuller, D. Stewart, F. Corbyn, P. Bramley, G. Waddelly, W. S. Anderson (Madras), and Dr.

Twining.* It was subsequently enriched by the contributions of Dr. Allan Webb, who not only laboured himself, but endeavoured to enlist the services of others. He was supported by the Council of Education and the Medical Board, who requested the medical officers serving under them in the widely scattered regions of our Eastern Dependencies to contribute morbid specimens to the Museum; and during Dr. Webb's curatorship, this appeal was cordially responded to. Owing, however, to the damage done to preparations by their removal to and from their places for purposes of demonstration, and to the extreme humidity and heat of the climate, many of his treasures have disappeared; but those which remain preserved are among some of the finest and most prized possessions of the Museum.

Though the Museum has long been known to be exceedingly rich in Pathological lore, it has, from the absence of a well-arranged descriptive Catalogue, practically continued a sealed or closed book to ordinary inquirers and observers. It was whilst searching for some of Dr. Webb's valued preparations, that the magnitude and true import of this want first dawned upon me. The only guides were the MS.

* Preface to *Pathologia Indica*. By Dr. Allan Webb.

records in which the specimens had been entered and numbered according to the date on which they had been transmitted for preservation in the Museum. Under such circumstances, the loss of time and labour that were inevitably entailed in finding any particular preparation can be readily conceived.

My constant aim in compiling the Catalogue has been to open up the resources of the Museum, or to facilitate reference to its contents by a systematic method of classification, arrangement, and naked-eye descriptions, in order that the Professors, Students, and Medical Visitors may easily learn *what can* and *what cannot* be observed therein. Further, my main object has been to raise the all-important science of Pathology to that position in the education of our Students, which it is fully entitled to occupy, and to invite the co-operation of all who are interested in converting our collection into an enduring monument of professional reference and instruction. With a view to assist contributors in making their selections for the department of General Pathology, many of the diseased conditions still unrepresented have been specially indicated in the table of contents and body of the work.

The Catalogue embraces the description and classification of *thirteen hundred and twenty-two* preparations,

three hundred and fifty-seven of which are included under General, and *nine hundred and sixty-five* under Special, Pathology. For these descriptions, with the exceptions acknowledged in the body of the volume, I am alone responsible. They were made with the preparations before me; and whenever doubts existed, the jars were opened, and their contents submitted to more minute anatomical and microscopical examination. The Catalogue also contains an enumeration of *seventy-two* Wax Models, *sixty-nine* of which were made by Mr. Towne, of Guy's Hospital, London, *twenty-one* Earthen Models, and *seven* Stuffed Monsters.

In conclusion I have here to acknowledge the deep debt of gratitude I owe to my excellent friend Dr. Norman Chevers, Principal of, and Professor of Medicine in, the Medical College, for the weighty official support and encouragement which he has invariably afforded me during the progress of the work. Being himself a distinguished Pathologist, he at once realized the great importance of the undertaking to the noble Medical School over the interests of which he presides.

31*st January*, 1865.

GENERAL PATHOLOGY.

§ I.—Hypertrophy.

1 A FULL view of the interior of the hypertrophied bladder. The muscular structure is thickened and lying underneath the mucous membrane in bundles. Where these fasciculi are numerous, the internal surface of the organ is raised, and where they are deficient, it is depressed. Consequent on these alternate elevations and depressions of the muscular coat, the interior of the viscus presents a series of pits or pouches. The lining membrane, particularly over the bundles of muscle, is prolonged into processes resembling *valvulæ conniventes*. These consist of two layers of membrane between which a lamina of muscular tissue is interposed. The length of a fasciculus,—measuring from the external surface of the muscular coat to a point where the muscular tissue becomes invisible between the two mucous layers of one of these prolongations,—is fully three quarters of an inch. The mucous coat is universally thickened; but its surface is smooth and velvety. From stricture of the urethra.

2 Bladder and penis, with the urethral canal and vesical cavity laid open. The viscus is greatly contracted, and its walls are enormously thickened. The

rugæ and sulci caused by irregularities in the increased growth of the subjacent muscular fasciculi are well marked. The prostate is enlarged, and the corresponding portion of the urethra dilated. From stricture of the urethra.

A hypertrophied uterus with the right broad ligament attached. A part of the anterior wall has been removed to afford a complete view of the cavity of the organ, and the thickness of its parietes. The measurement, from the internal opening of one Fallopian tube to that of the other, is about five inches; and, from the fundus to the os, upwards of six inches. The walls of the viscus are about three quarters of an inch in diameter. The superior part of the lining membrane is tolerably smooth and regular, especially near the left side of the fundus. Towards the right side it is rather uneven. The remainder of the mucous membrane, extending from the cervix to within two inches of the fundus, is almost entirely covered by a ragged false membrane analogous to that which is often detached and expelled during dysmenorrhœa.

4 A hypertrophied heart. The cavity of the left ventricle is exposed. The parietes, which are kept apart by the insertion of a glass rod, measure fully an inch in thickness. The muscular structure is firm and compact. The *carneæ columnæ*, *chordæ tendineæ* and the curtains of the mitral valve are proportionately increased in size. The aortic valves are agglutinated together and thickened, leaving an elliptical opening held open by a red glass rod. The valves were, in a great measure, competent to prevent much regurgitation during the diastole; but their partial union by organized material rendered their accurate apposition to the walls of the aorta, during the systole, an impossibility—thus opposing an insuperable obstacle

to the transmission of the blood from the ventricle into the aorta. Hence, the compensatory hypertrophy of the muscular structures of the left ventricle, thickening of the chordæ tendineæ and the curtains of the mitral valve without dilatation.

5 Heart of D. N. Robinson who died in the Medical College Hospital, on the 5th. of April, 1864. The left ventricle is considerably hypertrophied. There is no valvular disease ; but much atheromatous degeneration of the arteries was discovered. The coronary arteries are opened to illustrate their alteration in calibre and inordinate thickness from atheromatous deposit, which was also manifested in the Circle of Willis. There was found an old apoplectic clot near the surface of the posterior part of the right hemisphere. A sac filled with greenish coloured fluid—the remains of an apoplectic effusion, also existed in the right corpus striatum.

Presented by Professor Norman Chevers.

6 Enormous hypertrophy and increased density of a portion of the calvarium. Behind the frontal eminences, the section is very dense, and measures almost three quarters of an inch in thickness.

7 Remarkable hypertrophy of the bones of the skull of a child who died with hydrocephalus.

8 Hypertrophy of the lower third of the right humerus. (*Syphilitic.*)

9 Section of tibia showing nodular hypertrophy of its external or cortical structure (*Syphilitic.*)

10 A portion of elephantiasis scroti. The integument is increased in thickness. The subcutaneous areolar tissue is also much hypertrophied. It measures two and a half inches in diameter. " Here there has been augmented growth of the pre-existing structures, with the development of new elementary parts identical in

character and constitution to the normal tissues." (Ewart.)

11 Elephantiasis of the scrotum and penis. The skin and subcutaneous structures are hypertrophied. The prepuce is studded over with condylomatous excrescences. "As in the preceding specimen, so in this, the hypertrophy consists of increased growth of the existing elementary tissues, and of the development and exaggerated growth of new parts identical to these." (Ewart.)

§ II.—Atrophy.

12 Atrophied ovaries with uterus and urinary bladder attached. The ovaria are flattened and attenuated. Neither of these exceeds the *twenty-fourth* of an inch in thickness.

13 Atrophy of the heart consequent upon confirmed and old standing adhesion of the pericardial parietes together. The *left ventricle* is held open by a glass rod. The material agglutinating the pericardial surfaces to each other consists of three alternating layers of white and brown coloured structure. It is cartilaginous in consistency, and, inclusive of the thickened pericardium, measures *about half an inch* in thickness, whilst the subjacent wall of the left ventricle varies only from the *sixteenth to the eighth of an inch* in diameter. The *carneæ columnæ, chordæ tendineæ* and curtains of the mitral valve are also much attenuated. The aortic valves are healthy. The *right auricle* is kept open at a point where a portion of the parietal layer is separated from the visceral lamina. Here the auricular wall is only the *sixteenth* of an inch in diameter, whilst the altered and thickened external pericardium is fully thrice as thick.

14 Atrophy of the left lobe of the liver. It is not more than one quarter of its normal size. The whole of the structures appear to have dwindled away as if from inanition. (Webb's *Pathologia Indica*, No. 1534, p. 264.)

15 An atrophied spleen taken from an aged dropsical patient. It is about two inches and a half long and scarcely an inch in thickness. The notch is half an inch in depth. There are two rudimentary fissures on its convex border. The capsule is slightly wrinkled from shrinking of the parenchyma and there are a few opaque spots upon it; but it is, generally, quite healthy in appearance.

Presented by Mr. Uddey Chunder Dutt.

16 Portion of an emphysematous lung. "A considerable number of the air cells has disappeared from atrophic decay, and lobules originally containing many air cells are now represented by transparent sacs varying in size from a millet seed to that of a bean." (Ewart.) From a Hindoo girl.

Presented by Sub-Assistant Surgeon Tameez Khan.

17 Atrophy of the testes from the pressure of two adventitious growths in a case of elephantiasis scroti.

Presented by Professor Allan Webb.

18 Extreme atrophy of the testes in a Hindoo boy sixteen years of age. They seem to be mere flattened expansions of the cords, being about three quarters of an inch long and a quarter of an inch thick.

Presented by Professor Allan Webb.

19 Extreme atrophy of the calvarium. Both tables and the intervening osseous tissue are remarkably attenuated, and the external and internal surfaces are smooth and shining. The parietal and frontal bones are not more than the tenth or eighthof an inch in thickness.

Presented by Professor H. H. Goodeve.

20 Preparation exhibiting atrophy and absorption of the neck of the left femur, and also of a considerable quantity of the bone forming the cotyloid cavity entailed by the disease consequent upon long-standing fracture of the head of the *os femoris*.

Presented by Professor Edward Goodeve.

21 Atrophy of the heart. The walls of both ventricles are so extremely attenuated that they do not exceed the average thickness of the auricles. "This singular change is accompanied with fatty degeneration, and appears to depend upon the diseased and aneurismal condition of the coronary artery (indicated in the specimen by the insertion of a black rod into it), upon which, of course, the nutrition of the organ depends." (*Pathologia Indica*, p. 15.)

22 Heart showing fatty atrophy of the right ventricle. There is considerable excess of adipose tissue on the outer surface, which is seen by the unaided eye, encroaching upon the province usually occupied by muscular fibres. Deeper seated portions "presented under the microscope an immense number of fat globules, in the room of the striped muscular fibres." (Walker).

Presented by Professor Allan Webb.

23 Fatty atrophy of the heart. The parietes of the organ are of a pale yellow colour. Both ventricles are opened exposing attenuated *musculi papillares*, *chordæ tendineæ*, and curtains of mitral and tricuspid valves.

Presented by Dr. Eatwell, of Pubna.

24 Extreme mollities or fatty atrophy of the right fibula. The whole of the earthy matter of the shaft has disappeared, and at the extremities of the bone, some has been absorbed and replaced by fat. The

shaft is now represented by a mere string of fibrous tissue. There is caries of the outer head of the corresponding tibia implicating the marginal portions of the knee-joint.

§ III.—Repair and Reproduction.

(A.) Organization of Blood. (Not Illustrated.)

(B.) Process of Healing.

(*a.*) *By Primary Union.* (Not Illustrated.)

(*b.*) *By Scabbing.* do.

(*c.*) *By Adhesion.*

25 Stump of a case of Syme's operation at the ankle-joint showing that adhesive union has taken place between a large portion of the incised surfaces.

Presented by Professor J. Fayrer.

(*d.*) *By Granulation.*

26 Stump removed by a second operation after failure of primary amputation at the ankle-joint, owing to deficiency in the quantity of the soft parts and necrosis of the ends of the bones. The incised soft parts have been undergoing repair, partially by adhesion, but chiefly by granulation. The roughened and necrosed bones can be felt through the granulating surface.

27 Secondary amputation of the right lower extremity below the knee performed on account of the large extent of the skin of the stump sloughing off after the primary amputation, exposing the ends of the tibia and fibula, portions of which are quite denuded of periosteum. The soft parts are undergoing repair by granulation ;

and from the cut surface of the medullary part of the tibia granulations are visible.

Presented by Professor J. Fayrer.

(*e.*) *By Cicatrization.*

28 Genital organs of a man who had been successfully operated upon for elephantiasis scroti. The testes are completely enveloped in the contracted cicatrix and retracted over the pubis. There is also an equally perfect cicatrix over the penis.

Presented by Professor J. Fayrer.

29 A club-foot, the result of extreme contraction of the cicatrix of an extensive and deep burn over the instep, and inferior part of the anterior aspect of the leg sustained many years prior to death. The dorsum of the foot is drawn up by the contracted cicatrix, and firmly opposed to the front part of the lower leg; so that the patient must only have impressed the heel upon the ground during locomotion. The new tissue is dense and unyielding.

(C.) Reproduction of Parts.

30 A preparation showing perfect ossific union of a fracture of the first lumbar vertebra, and complete division of the spinal cord opposite the seat of injury without any appearances of reparation.

Presented by Professor Allan Webb.

31 Fracture of the left femur below the trochanters. A section shows that perfect bony union has been established.

32 Section of the femur of a hog, which had been fractured at its middle part. The broken ends have over-ridden each other, but complete osseus reparation has been effected.

33 Fracture of the left femur at the junction of the middle with the lower third. Section shows that, though the fractured extremities have over-ridden much, and been maintained in an unfavourable position, bony union has taken place. The lower fractured end has been pushed up behind the upper broken extremity three or four inches; yet their ends have been blocked up and smoothed off by the development and growth of new bone, and the opposed surfaces of both are joined by new cancellated structure, the opposing periostea having become absorbed after having contributed to the formation of an osseous substitute. The deformity consists in thickening and irregularity at the seat of injury and repair, and bending or twisting of the femur forwards and outwards.

34 A very large accumulation of new bone occupying the upper part of the middle third of the right tibia, the consequence of an abscess in the bone. It is quite as large as the head of a child. It measures *seventeen* inches round transversely to the axis of the shaft of the tibia, and *twenty-two* inches round in its longest circumference or parallel to the shaft of the bone. It is grooved externally for the reception of the fibula which has been considerably bent by the pressure of the growing mass. Here the new bone is comparatively smooth and thick. In front, and on the inner aspect, it is more irregular, nodulated, and perforated. One opening is large enough to admit a child's fist. Looking into the cavity from this point, numerous truncated developments are seen. Longitudinal section brings these still more clearly to view. Amputation was successfully performed below the knee. From a native.

Presented by Dr. Duka, of Monghyr.

35 A large development of new bone at the lower third of the right tibia, the consequence of abscess in the interior of the same. It is much nodulated and perforated with numerous holes, involving complete destruction of the ankle joint and osseous union with the lower *four* inches of the fibula. Its cavity is very irregular, and occupied by bony processes. It measures, transversely round, *fifteen* inches, and longitudinally, or round its longest circumference, twenty inches. . From a native.

(D.) Transplantation or Grafting of Parts. (Not illustrated.)

(E.) Effects of Foreign Bodies. (Not illustrated.)

§ IV.—Process and Effects of Inflammation.

(A.) Productive.

(*a.*) *Effusion of Lymph and Blood.*

36 "Abundant deposition of lymph upon the pulmonary pleura and diaphragm, forming a fringe as thick as the finger upon the free edges of the lungs, and coating the surface in a less degree above," supposed to have been caused by the extension of tubercular disorganization at the apex communicating with the cavity of the pleura. (Webb's *Pathologia Indica*, *No.* 829, *p.* 137.)

37 Deposition of lymph on the pulmonary pleuræ in a case of phthisis.

Presented by Dr. P. F. H. Baddeley.

38 Tunica vaginalis of a hydrocele laid open. It is much thickened and hypertrophied, and its internal surface roughened and irregular from lymph deposit. A strong band is seen stretching across from the tunica

vaginalis propria to the tunica vaginalis reflexa. The testis occupies the upper and back part of the hydrocele.

39 Larynx and portion of the trachea and pharynx of a European child aged nearly *five* years, showing deposits of lymph, or the false membrane of croup. These are well illustrated in the larynx and in the upper part of the pharynx.

Presented by Mr. W. Martin, 29th November, 1853.

40 An enormously hypertrophied tunica vaginalis. In some parts it is almost an inch in thickness, but the average of the remainder is about a quarter of an inch. When removed it contained a transparent fluid supported by a most beautiful hyaline-looking membrane, in the meshes of which lymph was also observed. This membrane has now fallen back upon the walls of the sac. Each of the seven rods is inserted underneath a portion of it. "On microscopical examination it was found to consist of nuclei and fine fibres of newly organized fibrine. The thickened tunica vaginalis is composed of coarse white fibrous tissue. It is very dense, unyielding and inelastic." (Ewart.) Taken from an elephantiasis scroti.

Presented by Professor J. Fayrer.

41 Uterus inflamed and covered, externally, with layers of lymph. The *lal chittra* stick now in the cavity of the organ had been employed to produce criminal abortion. The consequent inflammation of the substance of the uterus and of the peritoneum was the immediate cause of death.

Presented by Baboo Dwark Nath Bhose.

42 Uterus inflamed and softened. Its appendages and the neighbouring intestines are covered with lymph resulting from puerperal peritonitis.

Presented by Professor Allan Webb.

(*b.*) *Organization of Lymph and Blood.*

43 Heart of a native woman, aged 45 years, a beggar, who died in Dr. Chevers' ward on the 7th March, 1864, after eight months' illness, showing subacute endocarditis affecting the left ventricle, also thickening of the mitral and tricuspid curtains. The organized deposit, which is mainly of old standing—though some of it is clearly recent—is situated underneath the lining membrane of the ventricle. Isolated deposits of the same character, both old and recent, were seen in the right auricle. There were also found, after death, inflammatory hydropericardium, congestion and œdema of the lungs, bronchitis, hydrothorax, extreme cirrhosis of the liver and general anasarca.

Presented by Professor Norman Chevers.

44 Heart lying within a bag of false membrane situated between the visceral and parietal layers of the pericardium, and quite distinct from either.

Presented by Professor Edward Goodeve.

45 Universal adhesion of the pericardium in a native prisoner, at Mozufferpore, who died with symptoms of pleurisy and hydrothorax.

Presented by Dr. Simpson, of Tirhoot.

46 Penis and testes after the removal of a scrotal tumour. The exterior of the tunica vaginalis and corpus cavernosum of each side is seen to be covered by a layer of flocculent lymph undergoing organization.

Presented by Professor J. Fayrer.

47 Portion of the skull of a half-caste woman, with deficiency of bone to the extent of a florin in the situation of the centre of the sagittal suture. Externally, the bony margin is finely bevelled off down

to the dense fibrous membrane which is firmly adherent to the pericranium above, and to the dura mater below. It is supposed to have been the result of a fracture of the skull some years back, the gap having been partially repaired by the deposition and organization of lymph into a strong lamina of adventitious structure.

Presented by Professor Norman Chevers.

(c.) *Adhesion.*

48 Pericarditis, apparently recent. Patches of organizing and organized lymph are distributed over the parietal and visceral layer of the pericardium. Over the right ventricle some of these exudation deposits are filiform or shreddy in character, and were evidently advancing to perfect the union of the two surfaces when death supervened. They are of a brown colour, distinctly contrasting in this respect with the opaque and altered appearance of the sac. The muscular structure of the heart is atrophied.

49 Advancing adhesion of the pericardium, which is laid open, exposing the surface of the heart everywhere, covered with filamentous shreds of organized lymph. These were originally connected with the external serous layer, but they have been torn asunder in opening the sac. The organization of the effused lymph is shown to be complete at the apex, close approximation of the two serous layers having been effected by the contracting adventitious tissue. The whole of the false membrane is of a brown colour.

Presented by Sub-Assistant Surgeon J. Hinder.

50 An excellent specimen of adhesion of the pericardium. The *left ventricle* is opened longitudinally. The section proceeding from without inwards shows, *first*, a thick opaque white lamina corresponding to the external pericardium; *secondly*, two brown-coloured

layers, one belonging to the external, the other to the internal pericardium; *thirdly*, an opaque white layer in the situation of the visceral pericardium, and lying in contiguity to the muscular structure of the heart. The thickness of these parts is *half an inch*, whilst that of the ventricular wall nowhere exceeds a *quarter of an inch*. The *right ventricle* is also held open, and here a portion of the visceral has been forcibly separated from the parietal pericardium, showing the shaggy character of the torn adventitious structure. The thickness of the morbid structures is a *quarter of an inch*, whilst that of the ventricular wall is scarcely more than the *tenth of an inch*. From a native who died from fatty degeneration of the kidneys, &c.

Presented by Mr. Geo. Daly.

51 A very beautiful preparation showing the effects of acute inflammation of the pleura and pericardium. "The left lung is united to the pericardium by layers of coagulable lymph of great thickness," shreds of which are seen covering the pulmonary pleura. On section the lung is observed to be fleshy in consistence—a condition which has been produced by the compression to which it has been subjected by the effused fluid. This is particularly noticed at the base, where the whole structure presents a yellowish appearance contrasting remarkably with the grey pulmonary tissue above it. The visceral pericardium is roughened by the deposition of recent lymph.

(*d.*) *Granulation.* (*Vide* 26 and 27.)

(B.) DESTRUCTIVE.

(*a.*) *Softening.*

52 Spinal cord of a patient who died from paraplegia on the 28th February, 1863. The patient, aged forty,

a Maltese, was admitted for chancre into the Medical College Hospital, on the 28th December, 1862. On 3rd February, 1863, after a severe febrile attack, attended with extreme prostration, his lower extremities, and the trunk as high up as the level of the nipples, became paralyzed. There was paralysis both of sensation and motion which continued to the day of his decease. For the last few days of his life he suffered from low fever and delirium. *The cord in the lower part of the cervical, and upper part of the dorsal regions was found extensively softened.* Brain, thoracic, and abdominal viscera healthy.

Presented by Professor S. B. Partridge.

53 A section of liver in the vicinity of a hepatic abscess, illustrating the softening or diminished cohesion which precedes suppurative disintegration. "All the vessels greatly congested; the lobules look like dark spots with a white edging around them." (Webb's *Pathologia Indica*, No. 650, p. 259.)

Presented by Professor Allan Webb.

54 Preparation showing softening and destruction of the cord at the commencement of the cauda equina.

(*b.*) *Degeneration.*

55 Portion of a liver showing two small localized portions of softened and degenerated tissue. The central part was fluid, semi-purulent-looking; but presented nothing, on microscopical examination, excepting granular material, and a few fat granules and particles. Further outwards, or nearer the circumference of the altered structure, there was a great quantity of granules, many more fat particles, and a few atrophied and shrivelled hepatic cells altogether devoid of nuclei and coloured contents. Beyond the region of this degenerated liver tissue, which was not, in either of

the two localities, larger than a bean, the hepatic cells contained only a small excess of oil globules.

Presented by Professor J. Ewart.

(*c.*) *Absorption.*

56 Partial section of five dorsal vertebræ indicating a curvature with its concavity pointing forwards due to the degeneration and interstitial and molecular absorption of the intervertebral cartilage with the greater portion of the body of one vertebra.

57 Carious degeneration of two dorsal vertebræ with interstitial absorption of the intervertebral cartilage. Partial reparation by anchylosis has taken place on the right side.

(*d.*) *Suppuration.*

58 Abscess of the ovaries. Both organs are excavated by destructive suppurative disease, and the opened Fallopian tubes leading from them are ragged and irregular on their internal surfaces, from participation in acute inflammation. The internal surface of the fundus of the uterus is softened, partly disorganized and shreddy. The remainder of the cavity is whiter, and of a more spongy character than the outer lamina of the muscular tissue. The os uteri is large enough to admit the tip of the little finger. The uterus and its cavity are as large as the organ usually is about the second or third month of utero-gestation.

59 The cerebellum, in the centre of which a part of the substance of the same has been destroyed by the formation of an abscess.

60 A preparation showing the cavity of a circular abscess about two inches in diameter in the anterior lobe of the left hemisphere of the brain. From a female who died in the lunatic asylum.

Presented by Dr. S. Cantor.

61 Longitudinal section of the tibia, of the soft parts and knee-joint, demonstrating the oval-shaped cavity of an abscess in the cancellated structure of the upper third of the shaft of the tibia. About three inches of the bone are necrosed.

Presented by Professor Allan Webb.

(*e.*) *Ulceration.*

62 Ulcerative destruction of the articular cartilages of the knee-joint. The internal semilunar cartilage is completely destroyed, and the external one is undergoing disintegration and removal.

Presented by Professor J. Fayrer.

63 Upper third of the humerus showing suppurative disintegration and ulceration of the cancellated structure of the bone, and, partially, of the articular cartilage. The same appearances were present in the neck of the corresponding scapula. From a patient who died, after a second amputation, with pyæmia and secondary abscesses in the lower lobes of the lungs.

Presented by Professor J. Fayrer.

64 The bones forming the shoulder-joint, illustrating destruction of the capsular ligament, the superior segment of the glenoid cavity, the coracoid process and contiguous portion of the scapula from inflammation and ulceration.

Presented by Professor R. O'Shaughnessy.

65 Preparation showing partial ulceration of the articular cartilages of the knee-joint.

Presented by Professor J. Fayrer.

66 A portion of the sigmoid flexure demonstrating extensive ulceration of the mucous membrane. A part of the small intestine, from the same subject, containing lumbrici, is preserved.

67 A portion of the colon showing extensive serpentine ulceration of the mucous membrane. The intervening lining tunic, and the muscular and peritoneal coats are attenuated.

68 Ulcers in the stomach. These are circular in form, and possess thick, indurated borders. One is situated in the lesser curvature, about three inches from the pyloric orifice, and has eaten through all the coats. Two others exist at the pylorus; of these one has completely perforated the whole of the parietal layers: the other has advanced as far as the muscular tunic. There is an analogous circular ulceration of the mucous membrane of the duodenum.

Presented by Professor Edward Goodeve.

§ V.—Mortification.

(*a.*) *From Inflammation.*

69 Specimen showing necrosis of the inferior third of the tibia and fibula, accompanied by gangrene of the soft parts supervening upon an attack of malarious fever. The limb was amputated at the junction of the superior with the middle third of the leg. There was no bleeding, owing to plugging up of the large blood-vessels. A small portion of the tibia exfoliated, but the patient made an excellent recovery.

70 Necrosis of the condyles of the femur and head of the tibia, with complete destruction of the articular and semilunar cartilages of the knee-joint.

Presented by Professor J. Fayrer.

71 Longitudinal section of the upper third of the humerus of a native aged thirty-two, showing disintegration of the cancellated texture from osteomyelitis.

It was filled with pus, and a considerable portion of the osseous structure has undergone mortification. From a patient whose arm was removed at the shoulder-joint, and who died from pyæmia.

Presented by Professor J. Fayrer.

72 Large intestine with gangrene of the cœcum, and contracting dysenteric ulcers.

Presented by Professor Edward Goodeve.

73 About four inches of the meso-colon completely denuded, by sloughing dysentery, of mucous membrane, exposing the circular layer of muscular fibres, lying in thickened fasciculi. The submucous areolar tissue has also been more or less detached; a part of this, however, remains, giving the surface a shreddy appearance. Towards the lower part of the preparation several circular excavations are seen penetrating the muscular tunic; others somewhat irregular and partially occupied by slough, and adjacent to the peritoneum, are observed.

74 Moist gangrene of the left foot. The skin of the dorsum and sole is as black as pitch. About the line of demarkation the integument is destroyed by ulceration exposing the mortified parts below.

75 A preparation demonstrating extensive sloughing ulceration in a case of acute dysentery. Large masses of the mucous membrane of the sigmoid flexure and the colon are in progress towards detachment. Several sloughs have been separated and expelled. In most instances, however, the sloughs are either suspended loosely from the ulcers, or firmly imbedded in them.

76 A large slough from the intestine. A portion of it protruded from the rectum two or three days before it was evacuated. The central part of the slough seems to consist of the entire circumference of the mucous membrane and submucous areolar tissue. The ter-

minal parts are of the same composition, but the canal is incompletely represented.

Presented by Professor Edward Goodeve.

77 A dysenteric slough, measuring a yard and a half in length. Four inches and a half of it protruded from the rectum prior to death. The uterus, ovaries, and vagina are *in situ*. The lower end of the sloughed mucous membrane is attached at its inferior end about an inch from the anus.

Presented by Professor Edward Goodeve.

78 A portion of the gangrenous gut of an oblique inguinal hernia, preserved to demonstrate the extensive disorganization which has taken place both in the incarcerated intestine and in that which is in close contiguity to the same.

Presented by Professor R. O'Shaughnessy.

(*b.*) *From Pressure.* (Not illustrated.)

(*c.*) *From Mechanical Injury.*

79 Gangrene of the fore-arm and hand in a boy twelve years old, who had sustained a compound fracture of the arm in a fall from a tree. There was entire separation of the soft parts near the elbow-joint. The bones were sawn through a month after the accident, leaving a good stump which healed up by granulation.

Presented by Professor R. O'Shaughnessy.

80 Gangrene of the hand and fore-arm, following compound fracture and dislocation at the wrist-joint.

Presented by Professor R. O'Shaughnessy.

(*d.*) *From Heat.* (Not Illustrated.)

(*e.*) *From Cold.* (Not Illustrated.)

(*f.*) *From Chemical Action and Escharotics.*
(Not Illustrated.)

(*g.*) *Obstruction of Large Vessels, Embolism.*

81 The aorta from below the origin of the renal arteries, the external, and the trunks of the internal iliac vessels, the right femoral with trunks of the profunda and popliteal arteries, taken from a man who died from extensive gangrene, involving the whole of the right leg and the lower third of the thigh. "The body was injected with dark-coloured injection, which permeated all the vessels of the unaffected or left side. It also entered the right internal iliac, which was nearly twice the size of the corresponding vessel on the opposite side. But no injection passed into the external iliac of the affected side, which with the femoral, profunda, and popliteal were contracted and cord-like to the touch. These vessels are opened, displaying a cord of organized fibrine extending their whole length. This was firmly adherent to the lining membrane; it completely blocked up the vessels. A similar state of things doubtless existed in the principal vessels of the leg." (Ewart.)

Presented by Professor J. Fayrer.

82 Gangrene of the right foot of a native child, aged five years, from embolism, during an attack of remittent fever of sixteen days' standing. Bullæ are seen on the dorsum and sole of the foot.

Presented by Sub-Assistant Surgeon Chand Bysack.

(*h.*) *From Internal Degeneration.*

83 Toes which have fallen off from gangrena senilis.

84 Dry gangrene of the left fore-arm. The integuments of the hand and fingers are of a red-brown

colour, and much shrivelled. The general shrinking extends as far as the wrist, where the end of the ulna is protruding.

Presented by Professor R. O'Shaughnessy.

(*i.*) *From Contact with Gangrenous Parts.*

(Not Illustrated.)

(*k.*) *From Obstruction of Small Vessels.*

(Not Illustrated.)

(*l.*) *From Toxæmia, Pyæmia, or Ichoræmia.*

85 Sloughing or gangrene of a portion of the substance of the spleen in a man who had complete destruction of the articular cartilages of the left knee-joint, with partial disintegration of the corresponding semilunar cartilages, and caries of the condyles of the femur and head of the tibia. The gangrene was caused by pyæmic poisoning of the blood.

Presented by Professor Allan Webb.

(*m.*) *From Defective Nutrition.*

86 The entire cuticle of the index finger with the nail, which peeled off from defective supply of the nutritive juices. The connection of the nail with the epidermis is well illustrated.

Presented by Professor J. Fayrer.

87 Epidermis of a gangrenous finger which had exfoliated *en masse*. The relation of the nail to the epidermis is as well demonstrated in this as in the preceding preparation.

Presented by Professor J. Fayrer.

88 Gradual decay and gangrene of the toes, two of which have dropped off, leaving an open ulcerating surface.

Presented by Professor J. Fayrer.

§ VI.—Degenerations of Tissue.

A. Albuminous Degeneration.

(*a.*) *Molecular.*

(1). *Typhus Deposits.* (Not Illustrated.)

(2.) *Syphilitic Deposits.* (Not Illustrated.)

(3.) *Tuberculous Deposits.*

(*a.*) *Miliary.*

89 A lung crammed with miliary tubercles.
Presented by Dr. Chuckerbutty.

90 Tubercular deposit in the lower portion of the ileum, with considerable elevation and honeycombed ulceration of the Peyerian patches. In the mucous membrane between these agminated glands there is a great number of small tubercles about the size of millet seeds.

91 Tubercular deposits in the ileum and cœcum. Peyer's patches are very much raised and honeycombed from ulceration. (*Typhoid.*) The isolated tubercles now visible vary in size from a millet seed to that of a small pea. They have attained the greatest size in the mucous membrane between the ulcerated glands of Peyer.

92 Tuberculosis of the small intestine of a patient who died from dysentery characterized by an excessive discharge of blood. The mucous membrane is studded over with miliary-looking tubercles.

93 Section of a lung studded with miliary tubercles, around which grey pneumonic consolidation has taken place. Over the seat of pneumonia the pleura is

thickened and covered with films of recently effused lymph.

94 Section of a lung studded over with miliary tubercles. Some of these are isolated; others exist in clusters or groups. They vary in size from mere visible points to that of a pin's head. They are situated in the pulmonary parenchyma, displacing the respiratory tissue or air cells. They are of a light brown colour, contrasting equally with the grey lung substance and with the opaque white vessels and air passages. The lung is consolidated from these tubercles and the pneumonic exudation existing around them. The superimposed pleura is thick, opaque, and covered with shreds of recently effused lymph. The pericardium is also seen thickly coated with fibrine, presenting a brown ragged appearance.

Presented by Dr. Clark.

95 Portion of a brain showing arachnitis lighted up by an immense number of miliary tubercles, varying in size from a mere point to that of a millet seed. The surface of the convolutions presents a finely granulated appearance, partly from tubercles in the pia mater and partly from the effects of inflammation in this membrane and the arachnoid. The tubercles are most abundant and largest along the external margins of the sulci, just where the pia mater dips down between the convolutions. Here, even in this long-steeped specimen, there is indicated the relics of what was originally intense engorgement of the blood-vessels and stagnation of the blood within them, in the form of reddish-brown lines. It is here also where the greatest alteration from inflammatory exudation is seen. The convolutions are glued together by this lymph-deposit, which contrasts strongly with the grey substance of the adjacent convolutions. In

some places the convolutions have been slightly separated, showing that there had been extravasation of blood from the vessels of the pia mater.

Presented by Professor Allan Webb.

(β.) *Yellow.*

96 Tuberculosis of the lungs, liver, and spleen of an Oran-Otang. In the lungs the deposit is of a yellow colour, contrasting remarkably in this respect with the dark brown appearance of the pulmonary structure. The surface and section are consequently mottled. The scrofulous deposits vary from the size of a millet seed to that of a small pea. The spleen and liver also contain tubercular material having similar physical characteristics.

97 Tubercular deposits in the muscle of a pig. Two complete sections are exposed including skin, subcutaneous fat, and muscle. The yellowish deposits occupy circular cavities in the substance of the muscle. They vary from the size of a millet seed to that of a small pea.

98 Tuberculosis of the rectum and sigmoid flexure in a European artilleryman who died from phthisis. The submucous areolar tissue is irregularly infiltrated with scrofulous material, raising the mucous membrane in nodular eminences. The whole of the internal surface of the gut is of a chocolate colour.

Presented by P. F. H. Baddeley, Esq.

99 Tubercular deposit in and beneath the peritoneum. The membrane is dull, opaque, and elevated over the tubercles, which vary in size from that of a pin's head to that of a pea. In some of the largest of these deposits the peritoneal substance is abraded, exposing the yellow-coloured strumous deposit below.

100 Strumous deposits in the visceral and parietal layers of the peritoneum. Over the intestine preserved the depositions are rounded, prominent, acuminated, and of a light yellow colour. In size they vary from a pin's head to that of a small bean. They are covered by an attenuated lamina of peritoneum. The deposits in the parietal peritoneum are diffused, being disposed of in patches which are more or less coalescent, and, at first sight, resemble an accumulation of lymph. There were similar appearances on the surface of the stomach and the abdominal aspect of the diaphragm. The lungs are thickly studded with tubercles and excavated by numerous vomicæ.

(γ) *Tuberculous Tumours.*

(δ) *Circumscribed.*

101 A portion of the spleen of a native female in which a circumscribed mass of strumous deposit was found in the parenchyma. The section exposing this is now closed, to give a more complete inspection of a group of tubercles underneath the capsule in this situation. Both lungs were found crammed with tubercles.

102 A portion of the lung of a child in which a section of an encysted collection of strumous material as large as a hazel-nut is made. This cyst is full of tubercular matter and breaking-down pulmonary tissue. "It is projected beyond the surface of the organ, at which point thick layers of adhesive matter have been thrown out, to prevent its effusion into the chest, to which the lung would appear to have been universally adherent, and below also to the diaphragm" (Webb's *Pathologia Indica*, No. 261, p. 138). There are miliary tubercles visible underneath the pulmonary pleura. The existence of local developments of emphysema in the imme-

diate vicinity of lung tissue, partly consolidated by tubercle, and the consequent pneumonic consolidation, is beautifully illustrated in this preparation. Two bronchial glands in process of disorganization from the infiltration and softening and degeneration of strumous material are exhibited *in situ*. They seem excavated; the floors of the cavities being ragged from shreds of perishing glandular connective tissue.

103 A section through a mass of tubercular matter, apparently encysted, in the muscle of the pig.

104 The liver of an East Indian, containing tuberculous nodules varying in size from that of a pea to that of a walnut. These depositions consisted of amorphous granules, shrivelled, small, angulated, and decaying strumous cells, and a few acicular crystals. There is also demonstrated in the organ a ragged cavity, which was originally filled with coagulated blood. There was found a considerable extravasation of blood into the cavity of the peritoneum; probably the result of violence.

Presented by Khettur Mohun Dutt.

105 Sections of two kidneys, showing large localized strumous deposits, some of which are more or less degenerated and softened. In those parts where they are situated, they have led to the complete destruction of all the renal structure. Thus the deposits of opaque yellow tubercular material are well defined and circumscribed. Those undergoing softening and liquefaction appear as if they were encysted. These depositions are almost wholly confined to the cortical portions of the organs. From a mulatto male, who had been twice operated upon for stone, and died, anasarcous with albuminuria.

Presented by Professor Norman Chevers.

(ε) *Diffused.*

106 Tubercular ulceration of the mucous membrane of the small intestine, with scrofulous enlargement of the corresponding mesenteric glands. About the centre of the posterior aspect of the preparation there is a large diffused deposition of tubercular material in the glands between the peritoneum and the muscular coat of the intestine.

Presented by Professor Edward Goodeve.

107 Strumous enlargement of the mesenteric glands. Sections of three of these are presented to view. The entire structure seems to be uniformly increased in dimensions from the diffused interstitial deposition of tubercular matter. No tubercles existed in the lungs.

Presented by Dr. T. Oxley, of Singapore.

108 Diffused strumous degeneration of the mesenteric glands of a native adult. Only a portion of the original large mass is preserved.

Presented by Professor Norman Chevers.

109 Very extensive diffused strumous degeneration of the mesentery.

Presented by Professor Norman Chevers.

(ζ) *Degeneration of Tubercular Deposit.*

110 Bronchial glands infiltrated with tubercular material, which has undergone black pigmentary degeneration. On microscopical examination, black granules, paler granules, small oil globules, and tubercle cells were found in considerable quantity. An excessive deposit of pigmentary substance existed in the lungs. This consisted of fine black granules and oil globules.

Presented by Professor J. Ewart.

111 Specimen showing calcareous degeneration of enlarged strumous mesenteric glands. One of the concretions, an inch long and half an inch in thickness, is suspended by means of a piece of string.

Presented by Professor Edward Goodeve.

112 Scrotum of a native, having several tubercular-looking excrescences on its surface, all of which are hard and stony, owing to their having undergone calcareous degeneration.

(*b.*) *Celloid.* (Not illustrated.)

(*c.*) *Fibroid.*

113 A spleen, weighing twenty-six ounces, with chronically thickened capsule, a large proportion of which is so affected. The remaining part of it is partially studded over with isolated deposits of small size. "The foreign material is everywhere found to consist of coarse fibrous tissue, with a few scattered granules." (Ewart.) Patient died after protracted epistaxis with fever and low pneumonia.

Presented by Professor Norman Chevers.

114 "Fibrous degeneration of the muscles of the calf of the leg. By far the greatest portion of the muscular structure has disappeared, and been principally replaced by white fibrous streaks of tissue and fatty substance." (Ewart.)

Presented by Professor J. Jackson.

115 An enlarged spleen, with localized thickening of the capsule. The altered capsule is fully *three-quarters of an inch* in thickness, and about three inches in its longest diameter. On one side facing the hilum its extension is abruptly limited; but on the other side its edges taper off, and the section shows that this gradual

diminution of thickness extends some distance into the capsule. The origination of the fibroid deposit in the substance of this investment is here well demonstrated. "The altered capsule consists of an external and internal dense and hard lamina of coarse fibrous tissue, enclosing a thick deposit of recently organized lymph." (Ewart.)

116 A very fine specimen of hobnail liver. The organ is much diminished in all its dimensions from advanced contraction of the fibrine effused in the neighbourhood of Glisson's capsule and between the hepatic lobules. The decrease in size is most marked in the attenuated left lobe.

117 A spleen, the upper part of which is covered with a hard white mass about *five inches* in its longest and *three* in its shortest diameter, removed from a man in the dissecting room. The thickened and indurated capsule consists of "white fibrous and yellow elastic tissue not very well defined, united by a well-marked, clear blastema." The remainder of the investment is slightly thickened, and rendered uneven by the shrinking of its parenchymatous contents.

Presented by Mr. Dumree Tewarry.

118 A small spleen, from which a part of the capsular investment has been carefully removed to show its thickness, which uniformly measures almost a *quarter of an inch*. It is as hard, firm, and unyielding as cartilage. There is corresponding increased distinctness of the trabecular processes, with deficiency of the spleen pulp. The parenchyma must have been completely bound down, so as to preclude the possibility of much expansion; so that the reservoir function of the organ must have been very imperfectly performed, during the period the thickening and induration lasted.

(*d.*) *Membranous.*

119 Thickening of the left pleura to about the sixth of an inch from the deposition and organization of fibrine. In the specimen there is seen an enormous cavity, bounded by altered pleura. The interior is roughened from irregularly deposited laminæ of lymph. The cavity during life contained pus and air, a communication having become established between it and a tubercular excavation at the apex of the corresponding lung. From a native prisoner, who died from phthisis.

Presented by Sub-Assistant-Surgeon J. Durant.

120 A very fine preparation, illustrating firm adhesion of the left lung to the walls of the thorax by fibrous deposit which has undergone calcareous degeneration. The adhesion extends as far as the tenth rib; and here there can be observed lying between the ribs and the lung a thick plate of mineral material.

Presented by Dr. Chuckerbutty.

(*e.*) *Waxy, or Amyloid.*

121 Sections of a portion of liver which is far advanced in waxy, lardaceous, or amyloid degeneration. It is homogeneous in appearance and consistency, and quite altered in texture.

(B.) Fatty Degeneration.

(*a.*) *Of Cells.*

122 A portion of a liver which was enormously enlarged from the universal engorgement of the hepatic cells with fat granules and oil globules. The organ was so much augmented in size as to press upon the *vena cava* at its passage through the diaphragm, thereby occasion-

ing partial occlusion of the vessel. From a patient of the native hospital who was suffering from elephantiasis scroti.

Presented by Professor Allan Webb.

(*b.*) *Of Muscle.*

123 Four fragments of muscle from the plantar region in which extreme fatty degeneration was manifested. "The structure of the muscle was very pale, bloodless, and possessing more than the ordinary quantity of fibrous streaks. Under the microscope, it was observed that the primitive fibres had almost completely lost their striated character, the striæ having become replaced by fat, which could be plainly seen in the form of small globules arranged in linear rows along the long axis of the muscular fibres both within and without the sarcolemmæ." (Ewart.)

Presented by Professor J. Fayrer.

124 A portion of the right ventricle of the heart, showing fibrous and fatty degeneration of the carneæ columnæ. The walls are very much impregnated with fat. There is no valvular disease whatever; but the organ is augmented in size from the accumulation of superimposed fat.

(*c.*) *Of Blood-vessels.*

125 Specimen showing constriction of the aorta of a young person, and atheromatous degeneration of the internal coat of the same, and of the trunk of the pulmonary artery.

Presented by Professor Norman Chevers.

126 Aorta with atheromatous and fibrinous deposit, and portions of false membrane, from a native. Where the atheromatous degenerations have taken place, there

are depressions indicating the situation where disintegration of the lining membrane has been accomplished.

Presented by Mr. Minas.

127 Atheromatous degeneration of the ascending aorta of a man who had been a confirmed drunkard, and who died from delirium tremens. The lining membrane is raised by the patches of deposit, but no disintegration of the epithelial tunic has taken place.

Presented by Dr. Green, of Howrah.

(*d.*) *Of Bone.*

128 Longitudinal sections of two metatarsal bones removed from a native male about twenty-five years of age, whose corresponding toes had dropped off from dry gangrene; and of another metatarsal, and the attached phalangeal bones of the same foot, illustrating extensive fatty degeneration induced by imperfect nutrition consequent on arteritis and complete blocking up of the principal vessels by fibrine. The cancellated structure is almost wholly occupied by fat. The cortical layer of the bone is much attenuated. So soft were these bones that the sections now presented to view were as easily made with a scalpel as if they had been made through a piece of cheese. On microscopical examination, a great quantity of fat globules was found. The soft parts of the Haversian systems were almost completely replaced by this fat. The foot was removed by Dr. Fayrer on the 17th February, 1864. No ligatures were required, and no sutures were employed.

Presented by Professor J. Fayrer.

129 Several fragments of bone removed from the same patient, as Nos. 81, 123, and 128, demonstrating very advanced fatty degeneration.

Presented by Professor J. Fayrer.

130 Part of the first phalanx of the great toe of a woman aged fifty, with fragments sliced away from the head of the first metatarsal bone, displaying an immense deposition of yellow-coloured fat occupying the soft parts of the cancellated structure. The cortical portion of the bones has been almost completely destroyed by fatty degeneration. The sections now presented were made with the scalpel as easily as if the bone had been replaced by cartilage.

The patient had undergone an operation in the Gow Khana hospital eight or nine months ago. The wound healed, but the cicatrix has been subject to ulceration and pain ever since. Dr. Fayrer removed the diseased parts on 8th March, 1864, leaving sufficient integument to cover the bone thoroughly.

Presented by Professor J. Fayrer.

131 Leg amputated below the knee on account of the supposed removal of the largest part of the foot by an alligator. There is a cauliflower-looking excrescence as large as an orange over the situation of the astragalus. A section of the tibia, astragalus, and os calcis has been made, showing advanced fatty degeneration in each of these bones.

(C.) Calcareous Degeneration.

(*a.*) *Of Blood-vessels.*

132 The heart and aorta of a native female in the decline of life, the subject of tertiary syphilis, showing general dilatation, and extensive calcareous degeneration of the entire aorta as far as the cœliac axis. The woman always sat up with her head hanging down, and it was evident during life that the brain was not duly supplied with blood.

Presented by Professor Norman Chevers.

133 The heart and great vessels showing hypertrophy with dilatation of the left ventricle, and calcareous degeneration of the valves and the aorta. One of the semilunar valves consists of a tongue of chalky material which has been torn down from its normal situation as indicated by the presence of a small piece of black glass rod. There is thickening of the mitral. From a muscular European seaman who died of acute dysentery, but in whom regurgitant disease of the aortic valves was clearly distinguished during life.

Presented by Professor Norman Chevers.

134 Hypertrophy without dilatation of the left ventricle from the obstruction caused by the existence of large nodules of calcareous deposit in the aortic valves.

Presented by Professor Edward Goodeve.

135 Extensive atheromatous and calcareous degeneration of the ascending, arch, descending and thoracic aorta. In many parts, the lining membrane is quite disintegrated. There is considerable dilatation of the ascending aorta.

Presented by Professor Norman Chevers.

(*b.*) *Of the Cardiac Valves.*

136 Calcareous degeneration of the semilunar and mitral valves of a man who died suddenly. The deposit is confined to the curtains of the mitral, and the fibrous portion of the aortic valves. The same condition exists around the orifices of the coronary arteries, and, in another small spot on the surface of the aorta. With these exceptions, the vessel appears to be in a healthy state. From a European settler at Malacca.

Presented by Dr. J. A. Ratten.

137 Heart, the left ventricle of which is hypertrophied. There are hard calcareous deposits on the aortic valves.

The endocardium of the left ventricle is thickened. The sinuses of Valsalva are inordinately dilated; but the lining membrane of the aorta is healthy.

Presented by Professor Edward Goodeve.

(c.) *Of the Tunica Vaginalis.*

138 Extensive calcareous degeneration of the tunica vaginalis from a case of elephantiasis scroti. The mineral material exists in plates which are so numerous as to give the sac the appearance of a shell slightly intermixed with organic or fibrous texture.

Presented by Professor J. Fayrer.

139 Calcareous degeneration of the tunica vaginalis. The granulated deposits are beautifully illustrated in the central portion of the specimen. They are of a yellow colour, and contrast remarkably with the intervening dull opaque tunica vaginalis reflexa.

140 Enormously thickened left tunica vaginalis, the interior of which is lined by masses of calcareous material. The right sac is also thickened, having an altered and roughened internal surface. In both the testis lies at the inferior and posterior part of the swelling.

141 Calcareous degeneration of the tunica vaginalis. The inside of the sacs is roughened and rendered more or less villous from the deposition of lymph.

(d.) *Of the Dura Mater.*

142 Calcareous degeneration of the dura mater. This was associated with necrosis of the superimposed calvarium.

143 Calcareous degeneration of the dura mater over the right anterior lobe of the cerebrum. From the dissecting-room.

(*e.*) *Of Cysts.*

144 Larynx, portion of the trachea and œsophagus, and enlarged thyroid gland of an old woman. The walls of the small cysts, of which it is mainly constituted, are hard and cartilaginous in consistency. The lateral lobes are about four inches long and an inch and a half in thickness. The central lobe is proportionately enlarged. The white or faintly yellow-looking nodules indicate large cells or small cysts whose walls have undergone partial calcareous degeneration.

(*f.*) *Of the Ovary.*

145 Section of an ovary showing calcareous degeneration of its stroma.

(*g.*) *Of Tubercular Deposits.*

146 Calcareous deposit in the apex of the lung of a patient who died from abscess of the liver.—(*See also Nos.* 111 *and* 112.)

Presented by Dr. Beatson, of the General Hospital.

(*h.*) *Of Morbid Growths.*

147 Two fibrous tumours springing, by narrow pedicles, from the external surface of the fundus of the uterus. One, on the left side, is oval, small (2 in. by $1\frac{3}{4}$ in.), and consists of fibrous tissue concentrically disposed. The other, on the right side, is oval, larger, measuring 3 in. by $2\frac{1}{2}$ in., and of stony hardness from almost complete calcareous degeneration. So abundant is this earthy deposition that the section now presented was made with difficulty with the saw. Near the roots of the tumours there existed, in addition to fibrous, a considerable admixture of unstriped muscular tissue.

At this point their peduncles are manifestly continuous with the external substance of the uterus. Both growths are scantily supplied with blood-vessels. The uterus is atrophied, its cavity almost entirely obliterated, and the Fallopian tubes and ovaries mere streaks of fibrous tissue.

Presented by Mr. Khettur Mohun Dutt, Student.

148 Fibro-cartilaginous tumour removed from some part of the mouth. The circumferential portion of the growth is composed of fibro-plastic material, whilst the centre has undergone calcareous degeneration.

149 Cartilaginous tumour removed from the inside of the mouth. Towards its circumference, it consists principally of cartilage, with a small proportion of fibrous tissue. In the central region this has degenerated into calcareous substance.

(D.) Pigmentary Degeneration.

(*a.*) *Red.* (Not Illustrated.)

(*b.*) *Yellow.* (Not Illustrated.)

(*c.*) *Brown.* (Not Illustrated.)

(*d.*) *Green.* (Not Illustrated.)

(*e.*) *Black.*

150 Portion of lung containing a large quantity of black pigmentary deposit.

Presented by Professor J. Ewart.

151 Portion of a lung largely infiltrated with black pigment. The corresponding bronchial glands, which have been lost, were as black as pitch. During the life of the subject from which this preparation is taken,

an abscess opened in the neck externally and communicated with the lungs, pericardium, and œsophagus. The trachea was ulcerated and the œsophagus sphacelated.

Presented by Professor J. Ewart.

§ VII.—Tumours and other Allied Morbid Growths.

(A.) Cystic Tumours.

1. *Simple or Barren Cysts.*

(*a.*) *Gaseous.* (Not Illustrated.)

(*b.*) *Serous.*

152 Small kidneys filled with small transparent serous cysts.

153 Encysted tumour, with serous contents, pressing upon the carotid sheath near the bifurcation of the common carotid artery. The growth simulated aneurism. It occurred in a very old man who died shortly after his admission into the Medical College Hospital.

Presented by Professor J. Fayrer.

154 A serous cyst in the thyroid body, the contents of which had undergone purulent degeneration. The cavity measures an inch in its longest, and three quarters of an inch in its shortest diameter. The cyst is centrically situated. The internal surface of its wall is tolerably smooth in some parts, and more or less puckered and irregular in others.

155 A unilocular globular cyst removed from the female mamma, about four and a half inches in diameter, with a portion of the superimposed skin *in situ*. Its wall—

the inner surface of which is smooth—is about the sixteenth of an inch in thickness.

156 An enormous unilocular ovarian cyst, which contained pale straw-coloured serous contents. The wall of the tumour consists of two laminæ, both together being about a couple of lines in thickness. Its internal surface is regular and smooth.

(*c.*) *Synovial.*

157 A large bursa from the front of the patella. It contained thickened synovial fluid. Its walls are cartilaginous in consistency and fully half an inch in diameter.

Presented by Professor S. B. Partridge.

(*d.*) *Mucous.* (Not Illustrated.)

(*e.*) *Sanguineous.* (Not Illustrated.)

(*f.*) *Oily.* (Not Illustrated.)

(*g.*) *Colloid.* (Not Illustrated.)

158 Two kidneys, the cortical structure of which is studded over with transparent cysts, varying in size from a millet-seed to that of a kidney-bean and hazel-nut. Both organs are contracted from advanced granular degeneration.

159 Two kidneys with countless sero-gelatinous-looking cysts, many of which are as large as grapes. The *cortical* structure is almost completely occupied by these growths, and in the *medullary* division there are several as large as walnuts. Both organs are slightly enlarged.

160 Two slightly enlarged kidneys completely occupied by cystic disease.

161 A kidney containing a great number of translucent cysts, both in the cortical and medullary substance. The pelvis is much dilated.

(*h.*) *Lactiferous.* (Not Illustrated.)

(*i.*) *Seminal.*

162 A unilocular cyst situated on the external aspect of the investing membrane of the testis. Its fibro-cellular wall is not more than half a line in thickness. The agglutination of its posterior wall to the outer surface of the tunica albuginea is clearly demonstrated. Its internal surface is smooth and velvety.

(*k.*) *Tubercular or Strumous.*

163 A portion of lung containing a cyst about the size of a hazel-nut. A section is made near the surface, so as not to interfere with a mass of tubercular matter which fills its cavity.

164 Section of a pulmonic cyst holding tubercular material, which is seen lying somewhat loosely in its cavity.

2. *Compound or Proliferous Cysts.*

(*a.*) *Cysts with others in or upon their Walls.*

165 An ovarian cyst with several tumours springing from its internal surface. It also contains a quantity of hair, which is lying in detached balls, and agglutinated to the parietes of the parent growth.

166 An ovarian tumour consisting of one large cyst, from the interior of which several pedunculated tumours are suspended. The uterus and appendages are preserved *in situ*. The right ovary is considerably enlarged

owing to a large proportion of nuclei and granules in its stroma.

167 A large multilocular ovarian tumour. It consists of several small cysts, varying from the size of a hazel-nut to that of an orange. One of the parent cysts is as large as a man's head. The walls are very thick, dense, and strong.

(*b.*) *Cysts with Vascular growths on their inner Walls.*
(Not Illustrated.)

(*c.*) *Cysts with Cancerous growths on their inner Walls.*
(Not Illustrated.)

(*d.*) *Dermoid Proliferous Cysts.*

168 A very excellent specimen exhibiting the early appearance and connections of dermoid ovarian growths. Two cysts, as large as hen's eggs, spring from the right ovary. These contain hair and a soft cheesy substance consisting of oil globules and epithelial scales. The dense fibrous character of the parietes of the growth now distended with this material is well demonstrated; the floor of that which has been almost emptied of its contents is formed by this hairy and fatty matter. The section shows that the remainder of the ovary is honeycombed by primitive cysts varying from the size of a pin's head to that of a bean. From the upper surface of the left ovary several small cysts are seen springing, resembling nothing so much as a cluster of Cabool grapes.

Presented by Mr. Vanderstratten.

169 A dermoid or fatty multilocular cyst removed by ovariotomy on the 28th July, 1863. The specimen is of peculiar interest, owing to its large size, and its consisting of several loculi, characters seldom presented

by this variety of ovarian tumour. When emptied of most of its contents, except the almost solid fat of one of its compartments, which was about the size of a child's head, it weighed 19 lbs. 4 ozs. In some of the cysts—some of which are barren, others proliferous—hair and teeth are imbedded in the fatty substance. Two teeth are indicated by the presence of a red glass rod.

Before the operation, the tumour measured nineteen inches in a vertical, and twenty in a transverse, direction, and the woman's abdomen measured 3 feet 7 inches in circumference. During the operation, the upper and back part of the tumour was found to have undergone malignant degeneration, which involved in it some of the adjacent viscera from which a mass of encephaloid, the size of a child's head, was removed. The growth was first noticed three years previously, but it remained stationary till within the last ten months, during which period it assumed the present dimensions. The woman was twenty-seven years of age, and sank sixteen hours after the operation.

Presented by Professor E. Charles.

(*e.*) *Sebaceous and Epidermic Cysts.*

170 Subcutaneous cyst removed from the right eyebrow of a European. It contained sebaceous and fatty material.

Presented by Professor J. Fayrer.

171 A portion of an encysted tumour of ten years' standing, lying immediately beneath the skin of the shoulder. "The proper wall of the cyst consists of an external lamina of a rich vascular plexus supported by fine areolar tissue. It varies from $\frac{1}{8}$th to $\frac{1}{4}$th of an inch in thickness. The outer surface of this layer is just underneath the cutis vera, whilst on the inner

aspect it is seen to be connected to the lining membrane by a thin stratum of connective tissue. The internal membrane is constituted of a basement membrane thickly covered by nucleated epithelium. Its surface is granular. Portions of these granular eminences were found to be composed of fat globules and albuminous deposit. The contents of the cyst yielded a number of exudation and pus corpuscles. A rounded cord runs across the specimen, probably the remains of an obstructed duct or follicle." (Ewart.)

Presented by Dr. Herbert Baillie.

172 Subcutaneous cystic tumour of a globular shape, as large as an orange, containing sebaceous and fatty contents of a more or less fluid consistence.

173 Portion of the walls of a subcutaneous cyst with sebaceous contents. The internal membrane is much pitted and corrugated.

174 Globular cyst lying immediately below the skin, a portion of which is preserved. The interior of the growth is somewhat roughened. Shreds of lymph are suspended from its walls, the product of inflammation prior to its extirpation.

175 Two globular subcutaneous cysts, each measuring about an inch and a half across. To the *uppermost one* a portion of integument is attached, the cutis vera of which is lying in accurate apposition to the growth. The cystic wall is composed of two distinct layers, viz., an *external translucent lamina* of white fibrous tissue, about the fourth of a line thick, and an *internal dull, leaden-coloured lamina*, which is smeared over its inner surface by a melanotic looking pigment. The interior is irregular, and encroached upon by cords or laminated shreds suspended from the parietes. The *lower* cyst is formed by a single layer of dense, strong, fibrous tissue, enclosing a material of an opaque colour

—a mixture of fat and cholesterine and degenerated scales.

176 A cyst about three-and-a-half inches in diameter. Its parietes consist of dense fibrous tissue. The original opening made into it for purposes of examination is now closed. It was filled with fatty and sebaceous contents.

177 A well-defined subcutaneous cyst filled with fat and cholesterine, which are now solidified in the preparation.

(*f.*) *Dentigerous Cysts.* (Not Illustrated.)

(B.) Fatty Tumours.

178 A fatty tumour. Surface and section are of a pale lemon yellow colour. It is composed of fine areolar tissue, the spaces of which are distended with oily material.

179 A fatty tumour removed from the arm, lying between the integument and the muscles. It is constituted of many nodules of adipose tissue. At the inferior part of the preparation there are two elongated masses, now attached by means of a hair. These originally formed part of the growth.

180 A large bilobed fatty tumour removed from the neck. A section of one of the lobes brings into view a series of adipose collections enclosed in spaces bounded by an increased growth of fibro-cellular tissue. The swelling had existed for fourteen years, and it was deeply attached to the transverse processes of the cervical vertebræ.

181 A fatty tumour, of a pyramidal shape, removed from the breast. It is about the size of a large orange. It is entirely made up of small aggregations of fatty substance, each of which is bounded by delicate areolar tissue. The external aspect of the growth resembles

nothing so much as clusters of grapes when these are assuming a yellow colour.

182 A fatty tumour consisting of two portions, separated by a fissure for one-half of their extent, but connected by adipose substance throughout the remainder of their length. In the latter part of the growth there are several small nodules. The fatty matter is of a pale yellow colour.

Presented by Professor S. B. Partridge.

183 A small fatty tumour removed from the back of the elbow, containing more than the usual admixture of fibro-cellular tissue.

Presented by Professor S. B. Partridge.

184 A fatty tumour containing a considerable quantity of fibro-cellular structure.

Presented by Professor S. B. Partridge.

185 A fatty tumour removed from the abdomen. The navel and neighbouring integument remain *in situ*. "This is, properly speaking, an 'out-growth' of the ordinary adipose tissue, since it lacks the definition of outline which characterizes an isolated and independent tumour." (Ewart.)

186 A fatty tumour removed from the abdomen. It consists of two principal divisions connected to each other by fibrous tissue.

187 A fatty tumour removed from the pudendum. The subcutaneous cellular tissue is thickened. Underneath this hypertrophied structure, nodular accumulations of adipose structure are demonstrated.

188 A large pendulous fatty tumour removed from the neck of a native, aged seventy-five years. The duration of the growth was eight years. It was connected to the upper part of the chest and lower part of the neck by a broad fold of integument. The lower part of the body of the tumour reached as far as the pubis.

Presented by Professor R. O'Shaughnessy.

(C.) Fibro-Cellular Tumours.

(1.) *Polypi.*

189 A gelatiniform nasal polypus about the size of a walnut, with pedicle at the upper part.

190 A nasal polypus, the narrow neck of which is observed at the upper part of the preparation.

191 A gelatiniform nasal polypus.

Presented by Professor J. Fayrer.

195 A large gelatiniform nasal polypus with a long narrow pedicle.

Presented by Professor J. Fayrer.

(2.) *Cutaneous Outgrowths.*

196 Elephantiasis of the labia majora. The left labium had been once removed on account of this disease, but the outgrowth returned at the line of cicatrization. Both the affected labia were entirely excised at the second operation. The patient made a good recovery.

Presented by Professor J. Fayrer.

197 Elephantiasis of the labia, nymphæ, and clitoris of a native woman, aged thirty. It weighed 1 lb. 13 oz. when removed, and was of two years' standing.

Presented by Professor S. B. Partridge.

198 Two enormous elephantoid outgrowths removed from the labia of a native of Bengal.

199 A very large elephantoid outgrowth removed from the labium pudendi of a native. The surface of the integument covering it is much puckered and nodulated.

Presented by Professor Allan Webb.

(3.) *Keloid.*

200 A keloid outgrowth about four inches long, two inches broad, and one inch thick, formed in the

cicatrix of a burn. The contrast between the white surface of the growth and the small portion of integument which has been removed with it is very striking. It consists of fibro-cellular structure.

(D.) Fibrous Tumours.

201 Section of a fibrous tumour in the fundus of the uterus. It is globular. It is covered internally by thickened mucous membrane, and externally by an attenuated lamina of uterine structure. It has encroached considerably upon the cavity of the organ. What remains of the same is exposed between the two red glass rods. "The growth is composed of fibrous tissue, unstriped muscular fibre, and at one part a small quantity of calcareous matter." (Ewart.) There are two smaller tumours of the same kind springing from the posterior part of the fundus. The ovaries are much atrophied, and altogether devoid of Graafian vesicles. The stroma has simply wasted and dwindled away.

Presented by Khetter Mohun Dutt, Student.

202 Fibrous tumour within the orbit, springing from the sclerotic and pressing upon the upper part of the anterior third of the globe of the eye. A section of the growth and eyeball is presented behind.

203 A fibrous tumour removed from behind the ball of the eye of a native of Ghazeepore.

Presented by Professor J. Fayrer.

204 A fibrous tumour about the size of an orange lying in close contact with a portion of the intestine which now remains attached. The white glistening bands of fibrous structure, taking a circular direction and enclosing many small spaces, is well shown. The material filling up these spaces is of a dull, opaque,

and very light brown colour. The growth is connected to the gut by a band of thickened fibrous tissue.

Presented by the Civil Surgeon of Rampore Bauleah.

205 A fibrous tumour removed from the dorsum of the foot, with the superimposed skin. Its structure resembles that of the preceding specimen.

Presented by Professor R. O'Shaughnessy.

206 A fibrous tumour of the testicle. Section shows that the fibrous tissue is arranged in circular bundles enclosing small spaces, some of which are now empty; but the majority are filled with a brown homogeneous looking substance. There is a great preponderance of fibrous structure.

Presented by Dr. C. Palmer, of Jessore.

207 A number of fibrous tumours removed at the *post mortem* examination of a female who died in the Medical College Hospital. Some of these are situated in the substance of the uterus. But most of them are placed between the organ and the investing peritoneum. They are composed of fibrous tissue, nuclei and cells, and a few unstriped muscular fibrils.

Presented by Professor D. Stewart.

208 A fibrous tumour expelled from the uterus. Section illustrates its finely reticulated fibrous arrangement.

Presented by Dr. Herbert Baillie.

209 A fibrous tumour removed from the lower jaw.

Presented by Dr. T. W. Wilson.

210 A fibrous tumour connected to the fundus of the uterus by fibrous structure. The os uteri is obliterated. From a subject in the dissecting room.

211 A fibrous tumour.

Presented by Professor J. Fayrer.

212 A fibrous tumour removed from a patient in the Medical College Hospital. It is about the size of a small orange. Its outer layer is made up of dense,

opaque, unyielding fibrous texture, and measures three quarters of an inch in thickness. The interior of the growth consists of coarser fibrous tissue.

Presented by Professor J. Fayrer.

213 A small fibrous tumour.

Presented by Professor J. Fayrer.

214 A fibrous tumour. Sections illustrate its fibrous character.

Presented by Professor J. Fayrer.

215 A fibrous tumour removed from the posterior aspect of the neck of a native of Bengal. It measures about eight inches in length, six inches in breadth, and about the same in thickness. It is firm, hard, and unyielding, being mostly constituted of white fibrous tissue.

Presented by Professor S. B. Partridge.

216 A fibrous tumour from the left hemisphere of the brain of an Abyssinian Mahommedan, aged forty, who died from apoplexy. It consists of fine fibrous structure, interlacing most intricately in all directions, and containing within its meshes an albuminous blastema in which there are nuclei and fibre-cells. The meshes holding this stroma vary from mere visible points to that of a pin's head.

Presented by Sub-Assistant-Surgeon Tameez Khan.

Varieties of Fibrous Tumours.

(1.) *Fibro-Cystic Tumours.*

217 A fibro-cystic tumour removed from the sheath of the right brachial artery and median nerve of a native woman, aged twenty-five years. A portion of the section has undergone softening and degeneration resulting in the extravasation of blood. The patient made a good recovery.

Presented by Professor J. Fayrer.

218 A fibro-cystic tumour removed from the right breast of a native woman about sixty years of age. It weighed four pounds thirteen ounces. The growth was removed on the 5th of October, and the patient died from the shock, and fatty degeneration and consequent incompetency of the muscular structure of both ventricles of the heart. The liver was soft and fatty. The other viscera were healthy.

Presented by Professor J. Fayrer.

219 Section of a compound fibro-cystic tumour removed from beneath the skin of the axilla of a girl, aged four years. "The cysts contained a straw-coloured fluid rendered somewhat cloudy and opalescent by the presence of fat and granular matter, the latter showing a great disposition to collect together in patches under the field of the miscroscope. In the walls of the cysts there is a great quantity of white fibrous tissue." (Ewart.) The axillary artery and nerves had to be carefully dissected out of the pedicle of the tumour. The patient was doing well when she was unfortunately carried off by an attack of epidemic cholera.

Presented by Professor J. Fayrer.

220 A small fibro-cystic tumour, as large as a pigeon's egg, removed from the neck. There are many small cysts, bounded by strong bands of fibrous tissue, filled with solid material, and varying in size from a pin's head to that of a bean. One cyst is empty.

(2.) *Fibro-Calcareous Tumours.*

221 Sections of two fibrous tumours in the walls of the uterus. They have undergone almost complete calcareous degeneration. The *uppermost* one is about the size of a pigeon's egg. The *inferior* one is about as large as an orange. There is a small growth at the side as large as a hazel-nut and as hard as a stone.

Each of these tumours is surrounded by a lamina of uterine structure. The remains of the cavity of the organ is held apart by a glass rod.

(3.) *A Subcutaneous Fibrous Tumour.*

222 A subcutaneous fibrous tumour, round in shape, measuring fifteen inches in circumference, closely adherent to the skin of the leg, with ulceration of the surface to the extent of two and a half inches. Section presented an opaque white material, excepting immediately underneath the ulcerated part, where it possessed a reddish colour. It is composed almost exclusively of fibrous tissue and nuclei and fibre-cells. In consistency it is somewhat hard and resisting throughout.

Presented by Professor R. O'Shaughnessy.

(4.) *Deep-seated Fibrous Tumour.*

223 A reniform-shaped and deep-seated fibrous tumour removed from between the intermuscular spaces in the anterior part of the thigh, measuring four by three inches. The section resembles that of a kidney in presenting two divisions somewhat similar in appearance to the cortical and medullary portions. "The *cortical* division was found to be composed of fibres, an aggregation of minute cells destitute of nuclei (*nuclei*) and a little larger than blood corpuscles, and a few small fusiform cells evidently undergoing developmental elongation into fibrils. The *medullary* division consisted almost exclusively of white fibrous tissue." (Walker.)

Presented by Professor R. O'Shaughnessy.

(E.) Cartilaginous Tumours.

224 A cartilaginous tumour. The circumferential portion of the section is constituted of pure cartilage.

The central part has undergone softening, degeneration and conversion into several cavities, all of which are surrounded by a lamina of organized lymph deposit.

225 A cartilaginous tumour of the lower jaw with four teeth attached. The cartilage is enclosed in spaces formed by white glistening fibrous tissue.

226 A cartilaginous tumour of the lower jaw. Delicate glistening bands of fibrous tissue are seen intersecting the matrix of cartilage. Six teeth are imbedded in the buccal aspect of the growth.

227 A cartilaginous tumour removed from the mouth. The cartilage is enclosed in spaces bounded by fibrous tissue.

228 A cartilaginous tumour of a finger, the nail of which is greatly hypertrophied.

Presented by Professor J. Fayrer.

229 A cartilaginous tumour removed from the upper jaw. There are two molar teeth, one canine and four incisors, embedded in the buccal aspect of the growth, which is composed almost exclusively of cartilage.

Presented by Professor S. B. Partridge.

(F.) Osteo-cartilaginous Tumours.

230 An osteo-cartilaginous tumour from the radius.

231 An osteo-cartilaginous tumour removed from the upper jaw.

232 An osteo-cartilaginous tumour of the lower third of the femur.

233 An osteo-cartilaginous tumour connected with the phalangers of the thumb.

(G.) Osseous Tumours.

234 A section of a large osteo-fibromatous tumour of the right side of the lower jaw, involving the whole

of the body and a considerable portion of the ramus. The extirpation of the growth appears to have been accomplished by disarticulation of the right condyle and division of the left body beyond the first molar tooth. It consist of osseous and fibrous tissue, the latter being somewhat cystic in arrangement.

235 A firm, hard, cartilaginous and osseous tumour. It occupied the whole of the left upper jaw of a native of China. It was successfully removed.

236 A cartilaginous tumour of the thigh containing a large quantity of bony or osseous deposit.

Presented by Professor J. Fayrer.

237 A large osteo-enchondromatous tumour growing from the upper two-thirds of the radius.

Presented by Professor J. Fayrer.

238 Exostosis of the lower jaw of a native, aged twenty-seven years. The disease was of *ten* years' standing. The whole of the growth, with a portion of the jaw, was successfully removed.

239 A bony tumour on the left side of the dorsal vertebræ, which pressed upon and obstructed the descending aorta.

Presented by Mr. Brett.

240 A bony tumour springing from the right superior maxillary bone. It has raised the upper floor of the orbit, and now occupies one half of the orbital cavity. It fills up the right nasal passage, and encroaches upon the antrum.

Presented by Professor Allan Webb.

241 Two exostoses at the upper part of the right humerus. The large one is placed externally, the smaller one internally. There is a bony growth on the outer aspect of the lower half of the ulna, over which the radius has become considerably bent.

(H.) Glandular Tumours. (Not Illustrated.)

(J.) Vascular Tumours.

242 Section of a vascular tumour as large as a walnut removed from the upper and outer part of the left arm of a native of Jessore. It had been growing three years. It had bled a great deal at various times; and during the four days prior to its extirpation, it bled almost constantly, owing to the unskilful application of a horse-hair ligature, which partially strangulated the growth and opened some of the vessels. Only three ligatures were used at the removal of the growth, "which consisted of a rich network of vessels supported by fine delicate fibro-areolar tissue; and at those points where blood had become extravasated, there existed a great number of blood corpuscles, many fat globules, and a few exudation corpuscles." (Ewart.)

Presented by Professor J. Fayrer.

243 A section of a pendulous fibro-vascular tumour removed from the region of the left anterior superior spinous process of the ileum of an old woman, aged sixty, residing at Colootollah. It consists of an extremely fine net-work of areolar tissue and minute vessels, the openings of which and of the larger trunks are plainly seen.

244 Aneurismal tumour by anastomosis occupying the situation of the middle and ring fingers of the right hand. The arteries and superficial veins are enormously enlarged. They are injected with vermilion.

Presented by Professor J. Jackson.

(K.) Recurrent Tumours. (Not Illustrated.)

(L.) Epithelial Tumours.

245 An innocent epithelial growth of the leg of six years' standing. It presents a number of small nodular protuberances. It is about four and half inches in length and three and a half in breadth. Its general surface is raised from a half to three quarters of an inch above that of the surrounding integument. The excrescences are of a reddish brown colour. The neighbouring skin is almost wholly destitute of pigment. The growth increased more rapidly during the six months prior to its successful removal than during any previous period of similar duration.

Presented by Dr. F. Murray, of Beerbhoom.

(*a.*) *Warts.*

246 Syphilitic warts removed from the perineum.

(*b.*) *Condylomata.*

247 An epithelial tumour of the prepuce and adjoining integument. Section demonstrates the disposition of the condylematous excrescences of which it is constituted.

Presented by Mr. Chunder Chowdry.

248 An epithelial tumour of the penis involving the glans, prepuce, and the neighbouring integument. The corpora cavernosa are intact. The growth consists of large nodular or condylomatous excrescences.

(*c.*) *Horny Growth.*

249 A horny growth about four inches in length, half an inch thick at the apex, and an inch thick at the base, and slightly curved near the central part. Removed from the posterior portion of the thigh of a patient in the native hospital.

Presented by Professor Allan Webb.

(M.) Myeloid Tumours.

250 A fibro-cartilaginous and myeloid tumour of eight years' standing, removed from the lower jaw of a native, aged thirty-two years. "It contained cartilage-cells, fibres, fusiform or fibro-plastic cells, free nuclei, cells with many well-developed nuclei, and laminated cells." (Ewart.) The growth was removed on the 18th December, 1863, and discharged cured on the 25th February, 1864.

Presented by Professor J. Fayrer.

250a A myeloid tumour connected with the body, angle, and ramus of the lower jaw. It is about *an inch and a half* to *two inches* in diameter, irregularly spheroidal in shape, and of a somewhat firm consistence. The tumour is only partially covered by a thin fibrous membrane, which is intimately associated with the periosteum. The bone itself has been so involved as to present a ragged and atrophied appearance near the situation of the molar teeth which are wanting. The skin over the tumour has ulcerated to a great extent, exposing its external surface. On microscopical examination, the following elements were found to constitute the growth by Sub-Assistant-Surgeon Nil Madhab Mookerjee, immediately after it had been removed by Professor Allan Webb:—

1. Fusiform or fibro-plastic cells.
2. Free nuclei.
3. Cells with many well-developed nuclei.
4. Laminated cells.

Presented by Professor Allan Webb.

(N.) Cancerous Tumours.

(1.) *Epithelial Cancer.*

251 A small epithelial cancer removed from the lower lip of a European sailor, thirty-five years of age. The growth was of eight years' standing, and it was probably for some years quite innocent in character. The wound healed; but the man soon returned to hospital with a large swelling underneath the angle of the jaw, which proved to be a rapidly growing medullary cancer. This opened, fungated, and caused several attacks of hemorrhage. The patient died from asthenia, with pulmonic symptoms, and one lung was discovered to be gangrenous.

Presented by Professor J. Fayrer.

252 Epithelioma of the ball of the eye, springing by a broad base from the sclerotic adjacent to the cornea, which, with the iris, are uninvolved in the disease. "The growth consisted principally of laminated capsules, large epithelial cells, free nuclei, and granular matter." (Ewart.)

Presented by Professor J. Fayrer.

253 An epithelial growth (cancerous).

Presented by Professor J. Fayrer.

254 Epithelial cancer over the middle finger of the left hand in a state of ulceration.

Presented by Professor J. Fayrer.

255 Portions of an epithelial cancer of the rectum, removed from a native on the 1st March, 1864, aged fifty-six years. It presents a somewhat condensed cauliflower appearance, and is soft in consistency. "It contained a large number of nucleated cells, with fine granular matter between their nuclei and cell walls,

many free nuclei, granules, some caudate and endogenous cells." (Ewart.)

Presented by Professor J. Fayrer.

256 An epithelial cancer from the penis of a Hindoo, aged twenty-four, from the district of Burdwan. "On microscopical examination, it was found to consist of many nucleated cells, free nuclei, fibres, and laminated cells." (Ewart.) It was removed by the ecraseur. Not a drop of blood was lost. The patient betrayed no marked cachexia, but the glands in the groin were slightly enlarged.

Presented by Professor J. Fayrer.

257 A cauliflower epithelial tumour of the prepuce, and of a small portion of the integument of the dorsum penis. The anterior part of the glans, in which the meatus urinarius is seen, is free from disease.

258 An epithelial cancer of the prepuce. The glans penis and other soft parts remain unaffected.

Presented by Professor R. O'Shaughnessy.

259 An epithelial cancer of the prepuce.

260 Epithelioma of the scrotum, measuring about three inches in length, two in breadth, and one inch in thickness. Its surface is uneven, and presents a cauliflower appearance.

Presented by Professor J. Fayrer.

261 An epithelial cancer removed from the lip of an aged native of Hooghly. The growth is about four inches long, two broad, and one inch thick. Its external surface presents a series of excrescences placed against each other like the stones of a pavement.

Presented by Dr. C. Palmer.

262 An epithelial cancer of the colon. Its surface is ragged and uneven. The disease apparently involves the whole of the coats of the gut.

(2.) *Scirrhus.*

263 Section of a small scirrhous tumour of the right mamma of a native, aged forty years. It is of stony hardness.

264 Scirrhous tumour of the right mamma. In several parts the growth has become softened, degenerated, leading to the formation of ulcerated excavations. The growth was removed on the 28th November, 1863. The patient was an Eurasian, aged sixty. The disease first made its appearance a year before her admission in the form of a small hard nodule, situated at the outer side of, and in close proximity to, the nipple. There was no enlargement or hardening of the axillary glands. On the 2nd December, 1863, there was slight erysipelatous inflammation in the neighbourhood of the wound, which yielded to the local application of nitrate of silver. From that time she progressed favourably, until the 16th of December, when she was attacked with colliquative diarrhœa, under which she sank on the 18th idem.

Presented by Professor S. B. Partridge.

265 Section of scirrhus of the left mamma, about the size of an orange, and of six months' duration. The patient was thirty-five years old. The growth was removed on 23rd November, 1863, and the woman discharged on 29th December. It consisted of hard cancerous material, fibrous and glandular structure, more or less interspersed with isolated masses of adipose tissue.

Presented by Professor J. Fayrer.

266 Scirrhous hardening and enlargement of the posterior lip of the os uteri. A polypus had been previously removed from the uterus.

267 A large scirrhous tumour with healthy skin, removed

from the mamma. A section shows a considerable quantity of white glistening fibrous tissue encircling spaces in which there is an opaque substance contained. In about a third of the section the tumour is nodulated. Strong bands of fibrous tissue run between the nodules. Near the centre and towards the circumference the altered structure of the mammary gland is seen.

268 A large scirrhous tumour removed from the female breast. The healthy nipple and skin excised with the malignant mass remain. The true scirrhus growths project backwards into the cavity of a cyst, the posterior wall of which rested on the pectoral muscles. These nodular projections, each of which is limited or bounded by an envelope of fibrous tissue, vary from the size of a hazel-nut to that of a hen's egg.

269 A small scirrhous tumour, with a portion of healthy skin *in situ*, removed from the female mamma; behind there is presented a section of the posterior part of the generally dense structure of the growth. Anteriorly a considerable quantity of the integument has been detached to bring clearly into view the great number of malignant nodules which lie immediately beneath it.

270 A portion of a scirrhous tumour removed from the breast. It is characterized by the presence of a great abundance of fibrous tissue, enclosing, in a cystoid manner, a yellow or brown coloured material. The skin is preserved, in the centre of which there is a ragged ulcer about an inch in depth.

271 A scirrhous tumour of the antrum Highmoriani. The cavity is increased to thrice its natural size. In some parts the bone has been completely absorbed, and greatly attenuated or atrophied in the whole of its remaining extent.

272 A scirrhous tumour removed from the upper jaw, containing a large development of white glistening

fibrous tissue, in the interstices of which the cancerous stroma is situated.

273 An excellent illustration of schirrus of the breast, with skin and nipple free from disease. The section shows an unusual preponderance of dense, unyielding, fibrous tissue, enclosing small nodular masses. A portion of the integument has been detached, exposing an aggregation of these hard stony protuberances, resembling clusters of grapes.

274 A scirrhous tumour of the right mamma, with a portion of skin and the nipple. The gland structure is not altogether destroyed. A part of the integument has undergone ulceration.

(3.) *Medullary Cancers.*

(*a.*) *Firm Variety.*

275 A fungating medullary tumour of the right female mamma of one year's duration. Behind, in the centre of the breast, it has undergone softening, degeneration, and conversion into a cavity.

Presented by Professor J. Fayrer.

276 Medullary tumour of the mamma of six months' duration, from an Eurasian female, unmarried, and aged about twenty-six years. The growth consisted of granular, nuclear, and double nucleated cells, free nuclei and endogenous cells. On admission, the patient appeared in perfect health, with the exception of this tumour. After its removal the wound healed rapidly, but the disease returned about a fortnight after complete cicatrization had taken place. It increased with amazing rapidity, fungated and bled profusely. She died after an attack of hæmorrhage, on the 22nd February.

277 Medullary cancer of the liver of a Hindoo woman,

seventy years of age. The volume and weight of the organ are normal. It contains, towards the upper part of the right lobe, and especially near the sharp edge and right side, a great many white cheesy nodules, some of which are merged in one another, and others single or isolated. On the superior surface of the left lobe, a few small nodules are seen. The *lobus quadratus* and anterior part of the longitudinal fissure are almost wholly occupied by medullary cancer. The *lobus spigelii* and *lobus caudatus* present a few smaller parts of the same character. Various sized masses of malignant deposit also exist on the right side of the gall-bladder. All these deposits dip down deeply into the substance of the organ. Coats of the gall-bladder are thickened, but the ducts are pervious and intact. A fungoid growth, as large as a common filbert, is found attached by a broad base to its inner wall, and projects into its cavity. When cut into, it was found to be soft, of a cauliflower-looking appearance, pulpy, and highly tinged with blood, some of which had evidently become extravasated.

Presented by Sub-Assistant-Surgeon Tameez Khan.

278 General and extensive medullary cancer of the mesentery and mesenteric glands.

Presented by Professor Norman Chevers.

279 A firm medullary tumour removed from the arm. Its section is now of a brown colour, and striated with bands of white fibrous tissue. In the central part, it is softer and more spongy in character. Its surface is somewhat nodulated.

280 A tumour of the female breast, *eleven* inches long and *nineteen* in circumference at the base, and weighing *ten pounds*. Dr. Walker reported that this growth was an example of firm encephaloid, "as seen with the naked eye."

281 Firm encephaloid tumour of the body of the lower jaw, on the left side, with two molar teeth *in situ*. No milky juice exuded on squeezing the growth. "The cells found were rounded, oval, caudate, quadrangular, and irregular in form, and nucleated, the nuclei being usually rather small and single. In a few, however, the cells enclosed double nuclei. A quantity of free granules also existed." (Walker.)

Presented by Professor Allan Webb.

(*b.*) *Spongy Variety.*

282 Medullary cancer of the breast of a native woman, commencing to fungate through several breaches which have been established in the integument, removed at a second operation. The first growth looked like cystic disease, consisting of fibrous tissue, gland structure, and cysts containing broken-down tissue mixed with pus and sanies. The patient was discharged apparently cured on the 15th July, 1863, having been in hospital since the 13th June. At the first operation the nipple had been preserved, the diseased part below only having been extirpated. She returned to hospital in August, 1863. The entire breast with the spongy medullary growth was now removed, forming this preparation. She continued under observation till the 20th November, when the cancer again appeared, and was rapidly increasing when she left the hospital.

Presented by Professor J. Fayrer.

283 Spongy carcinoma medullare of the ball of the eye leading to its complete disorganization. The section shows portions of the sclerotic and choroid pigment.

284 A tumour removed from the upper lip. A section of the growth demonstrates the fine spongy arrangement of its texture.

285 A spongy, shreddy, and grumous medullary cancer

removed from the cheek of a native seventy years of age. The growth first appeared as a simple fibrous tumour ten years prior to its extirpation. It was only during the last eight months of its existence that it began to increase rapidly, and to assume a fungating aspect. In that period, large quantities of blood escaped from the ulcerations, and the smell of the discharges became intolerable. The weight of the mass caused additional distress. From these causes, the patient experienced great suffering and debility, to alleviate which the tumour was excised.

286 A spongy, medullary cancer removed from the testicle. The external inch of the circumference of the growth is of a spongy texture throughout; but the central nucleus is firm and unyielding. The integument, in some parts, is destroyed by ulceration.

Presented by Professor Allan Webb.

287 A spongy and shreddy medullary tumour removed from the mamma of an East Indian aged sixty years. Its external aspect is nodulated; it measures three inches, vertically, and four and a half inches transversely. It is somewhat elastic to the touch. The tumour was five years in growing. "On microscopical examination, it was found to be composed of fusiform cells with very large nuclei, free nuclei of various sizes, fat granules and blood corpuscles, &c." (Walker.)

Presented by Professor R. O'Shaughnessy.

288 A medullary cancer of the prostate gland. The urethra and bladder are attached. The spongy character of the growth involving the prostate and neighbouring parts is demonstrated.

Presented by Dr. R. Brown, of Sylhet.

289 A medullary tumour removed from the breast. In some portions its section presents a fine spongy appear-

ance. There is a melanotic discoloration of the skin in the immediate vicinity of the nipple.

(*c.*) *Brain-like Variety.*

290 A section of a part of a tumour of the left mamma illustrating destruction of the glandular structure by cancerous infiltration, subsequent degeneration, softening, and ulceration. There is also a section of an axillary gland of the same side a large portion of which is occupied with brain-like material. The patient insisted on leaving the hospital whilst the return of the disease in the wound and in the axillary glands was making rapid advances.

Presented by Professor J. Fayrer.

291 Brain-like cancer over the external aspect of the metacarpal bone of the little finger. The cerebral-looking fungations bled much prior to the amputation of the hand at the wrist.

Presented by Dr. Herbert Baillie.

292 Section of brain-like cancer of the inguinal glands. The growth had begun to fungate through the skin of the groin as demonstrated in the preparation.

293 An encephaloid tumour between the ball of the eye and the orbit, pressing upon and causing flattening of the optic nerve prior to its penetration of the sclerotic.

294 An encephaloid tumour causing complete destruction of the parts in the interior of the globe of the eye. The growth presents a fungating mass projecting half an inch beyond the cornea, the outline of which, at its sclerotic border, is plainly recognized. A small portion of the optic nerve is preserved. This, with the neighbouring sclerotic coat is infiltrated with malignant material and disorganized.

295 A brain-like cancer, about the size of a small orange, removed from the eye.

296 An encephaloid and much nodulated tumour, about the size of a large orange, removed from the leg.

297 An encephaloid tumour, removed from the arm, measuring about 6 inches in its longest, and 4½ inches in its shortest diameter. It presents a few nodular collections of brain-like cancerous material.

298 Encephaloid disease of the upper jaw and palate, consisting of large masses of medullary material. The section indicates implication of the bones in the processes of degenerative change.

299 Encephaloid disease of the head of the tibia. The cancellated structure and medullary cavity of the upper third of the bone is completely infiltrated with cancerous material. The periosteal layer of bone is wanting for about four inches at the situation where the growth first protruded and involved the soft parts. These are now occupied by a fungating mass which projects three quarters of an inch above the surface of the integument. The osseous structure is most disorganized near the junction of the epyphysis with the shaft of the tibia. The disease occurred in a native, fifty years of age, and was only of one year's standing.

Presented by Professor R. O'Shaughnessy.

300 Two fungating encephaloid tumours projecting considerably above the integument, and connected with the soft parts covering the olecranon process of the ulna. They are lobulated. The patient was a Mahommedan, forty years of age. The disease had only lasted six months. During its extirpation, resection of the elbow-joint was performed, because it was thought that the head of the ulna participated in the morbid growth.

301 An encephaloid tumour removed from the back of a native. The mass consists of a group of nodules,

the surface of which somewhat resemble the cerebral convolutions.

Presented by Professor J. Fayrer.

302 A large encephaloma involving the whole of the soft parts in the femoral aspect of the knee-joint, and also those surrounding the anterior and lateral aspects of the inferior third of the femur. The interior of the knee-joint is also implicated. A longitudinal section of the tumour, anteriorly, illustrates the brain-like character of the growth. The bone, part of which is denuded of periosteum, is roughened and somewhat cribriform in the lower two inches of the shaft and inferior extremity. Posteriorly, large nodules are seen filling up the popliteal space, and displacing the healthy parts in that region.

Presented by Professor J. Fayrer.

303 A lobulated medullary tumour of the testis in the inguinal canal.

Presented by Professor J. Fayrer.

304 A vertical section of the head and face of a patient who died from extensive encephaloma of the upper jaw and contiguous parts.

Presented by Professor Allan Webb.

305 A portion of the left fore-arm of a female patient, showing reproduction of encephaloid cancer, after its removal, in the original situation of its growth, and the extension of the disease down to the ulna.

Presented by Professor Allan Webb.

306 Brain-like cancer removed from the orbit. Its anterior aspect is expanded, and characteristic of the extension of the disease, when emerging from a confined space. From a view of the posterior aspect, none of the original textures of the eyeball can be distinguished.

(*d.*) *Cystic Variety.*

307 A cystoid medullary tumour from the arm. Its surface is mapped out into large nodules bounded by deep sulci. Section shows that the interior of the growth is constituted of a large number of sacs or cysts. These are formed by a circular arrangement of the fibrous tissue. The cancerous material having undergone degeneration, softening and liquefaction has readily escaped from these opened cysts, leaving them empty.

308 A medullary tumour of the parotid gland about the size of a pear. The cancerous matter is contained in cysts varying from the size of a pea to that of a hazel-nut. The contents of one of the larger cysts having become softened and liquefied, have escaped during maceration.

309 A large medullary tumour removed from the breast, consisting of a number of nodules, each of which is a cyst containing cancerous matter, which is decidedly encephaloid in character. One third of the growth appears in fungating masses, externally to the integument.

(*e.*) *Bloody Variety.*

310 A fungating medullary carcinoma of the scalp. Though this preparation is one of the oldest in our museum, it still retains the darkness of structure which was caused by the extravasation of blood into its substance.

311 An ulcerating fungus hæmatodes of the left hand. It has been injected. The points at which the injection has escaped indicate the situation where the hæmorrhage occurred during the life of the patient.

312 An ulcerating and fungating tumour of the left foot. The large toe has been removed. The growth, which is circular, and measures about three inches in

diameter, is raised an inch above the skin, and involves the metatarsal bone of the great toe.

313 Fungus hæmatodes of the right hand of a native aged forty-two years. The hand was removed at the wrist. A small, hard, incompressible tumour about the size of a filbert had been excised from the region of the metacarpal bone of the ring finger three years before. The constitution of the patient suffered greatly from the unhealthy ichorous and sanguineous discharge. The ultimate result of the operation is not recorded.

314 Fungus hæmatodes of the right hand. The disease seems to have involved the metacarpal bone, and the soft parts surrounding the same. There is a large excavation indicating the situation from which blood and the discharges escaped.

Presented by Professor R. O'Shaughnessy.

315 Fungus hæmatodes of the eye. The dark colour of the external fungations is still preserved.

Presented by Dr. Herbert Baillie.

316 Fungus hæmatodes of the prepuce and glans penis. The surface of the growth is lobulated and fissured. It is covered with many dark-coloured spots, indicating the points at which the extravasation of blood had occurred in the substance of the tumour. The surface is partially broken down by ulceration of the cancerous tissues.

Presented by Dr. Herbert Baillie.

317 Fungus hæmatodes of the left eye and orbit removed after death. The encroachment of the fungating mass has led to the destruction of the soft parts of the cheek and the upper eyelid. The posterior part of the growth had destroyed a part of the orbital plate. The remainder of it has been detached to expose the tumour underneath.

Presented by Professor S. B. Partridge.

(*f.*) *Melanotic Variety.*

318 Melanosis of the palm of the right hand, which was amputated at the wrist-joint. A section shows the deep black colour of the substance of the growth. "It consisted chiefly of large cells which had a great quantity of pigment granules and oil globules between the cell-walls and nuclei, of free oil globules and granules; and of large elongated nucleated cells containing oil globules and pigment granules in great abundance." (Ewart.) The history and condition of the patient at the time of the operation run as follows :—

Bamah, a Hindoo servant, aged twenty-six years, was admitted into the Native or Chandnee Hospital on the 13th May, 1864. She is a spare, healthy-looking young woman, and states that the disease commenced spontaneously four months ago, by a small vascular brown-looking painful tumour upon the middle portion of the palmar surface of the third metacarpal bone of the right hand. It gradually increased, and has now attained the size of a sliced apple, occupying nearly the whole of the palm of the hand. The surface is irregular and convex; the base broader, and quite firm, discharge brown and fetid; pain constant, and always increasing at night; and the metacarpal bones seemed to be involved in the disease. The motions of the fingers are not affected. The stump healed up kindly and the patient left the hospital with it perfectly cicatrized.

Presented by Dr. Herbert Baillie.

319 Melanosis of the sole of the left foot of a native, aged fifty, removed on the 13th of May. Discharged with the wound healed on 1st July, 1863.

Presented by Professor J. Fayrer.

320 A very unique specimen of melanosis of the ball of the eye, causing complete disorganization of the organ. The section is now of a chocolate colour.

321 A small melanotic tumour of the finger. It is circumscribed, the surrounding skin being raised and indurated. Beyond the immediate influence of the irritation the integument is healthy. The growth is of a black colour.

322 A melanotic tumour from the lip of a cow. It is eight inches long, seven broad, and four inches thick. Its section is of a jet black colour.

Presented by Dr. G. Daly.

323 A great number of melanotic growths attached to the pleura costalis of the horse. The convexities of the tumours are of a deep black colour, whilst some of the sulci are white or opaque. Many similar growths were found underneath the skin.

Presented by G. Holmes, Esq., Veterinary Surgeon.

324 A melanotic tumour of the left foot. The growth, which has been ulcerating, is situated in the soft parts underneath the metatarsus.

Presented by Professor J. Fayrer.

325 Epithelial melanosis. Its surface is composed of a series of elongated processes which are of a deep black colour.

Presented by Professor S. B. Partridge.

326 A melanotic encephaloid tumour growing over the external malleolus of the right leg. On the surface of the fungoid mass some of the pigment is of a jet black colour.

Presented by Professor S. B. Partridge.

(4.) *Alveolar Cancer.*

327 An alveolar or colloid cancer of the mesentery removed from a native female. It consists of a great

number of small sacs or cysts filled with a gelatinous, straw-coloured material. The growth occupied the whole of the anterior of the abdomen, pushing up and displacing the intestines. It was fixed on each side, a little below each kidney, by roots about three inches in length, which resembled fine adhesions.

Presented by Dr. Cheek, of Bancoorah.

§ VIII.—Blood Diseases.

(A.) Rheumatism. (Not Illustrated.)

(B.) Gout. (Not Illustrated.)

(C.) Syphilis. (Not Illustrated.)

(D.) Glanders. (Not Illustrated.)

(E.) Malarious Fevers. (Not Illustrated.)

(F.) Typhus Fever. (Not Illustrated.)

G.) Typhoid Fever. (*Vide* Sp. Path. of Ileum.)

(H.) Scarlatina. (Not Illustrated.)

(I.) Small-pox. (Not Illustrated,)

(K.) Cholera. (Not Illustrated.)

(L.) Scurvy. (Not Illustrated.)

(M.) Ricketts. (Not Illustrated.)

(N.) Mollities Ossium. (Not Illustrated.)

(O.) Pyæmia.

328 The external iliac vein containing a coagulum. At the upper part of the specimen this is hollowed

out, and a little lower down an adhesive band is exhibited stretching across the vessel, which must have completely blocked up its channel during life. Below this point the coagulum is smaller, and does not nearly fill the vein. The thickening of the upper two inches is well marked, contrasting remarkably with the remainder. From a man who died with pyæmia.

Presented by Professor J. Fayrer.

329 A portion of the femoral vein from the same subject with a coagulum *in situ*. Purulent matter was found between this and the parietes of the vessel, which were much thickened. This and the preceding specimen were taken from a man who had sustained an injury to the left tibia. The veins leading from the inflamed bone, and also the popliteal vein, were arterial in the thickness of their coats, and completely occupied by creamy, laudable looking pus.

Presented by Professor J. Fayrer.

330 The kidneys illustrating abscesses both in the cortical and medullary portions, the result of pyæmia.

Presented by Professor J. Ewart.

(P.) Antimortem Coagula.

331 Heart and right lung. The right ventricle and the ramifications of the pulmonary artery are laid open to their minute divisions, showing the existence of antimortem coagula in them. From a native prisoner who died phthisical and with an abscess between the bladder and the rectum.

Presented by Dr. Beatson, of the General Hospital.

332 Section of a firm, solid antimortem coagulum from the right ventricle of a man who had an adherent pericardium.

Presented by Professor J. Ewart.

§ IX.—Entozoa.

(A.) Cestoidea.

333 A collection of hydatids.

334 Two acephalocysts from the spleen of a patient in the native hospital.

335 Portion of a cyst of a tumour displaying a clustering mass of small hydatid cysts in various stages of development.

336 A hydatid cyst as large as the fœtal head in the right lobe of the liver of private James Middleton, H.M's. 51st Light Infantry, who died at Shyra Gully, nine miles from Murree, in August, 1863. The cyst has led to the absorption of part of the right lobe, only a small lamina of hepatic parenchyma being now seen surrounding part of the tumour. Dr. Lyons reports as follows:—

"The subject of the hydatid in the liver was private Middleton of H.M's. 51st Light Infantry. He took ill on the night of — August, 1863, and died within nine hours. The cause of death was considered (after the autopsy) to have been rupture of the hydatid cyst, which was supposed to have been owing to a shock, rather than a fall, which the man sustained two or three days before, while sitting astride on the branch of a tree. The shock was of some force. At the time 'he felt something had given way in his inside,' and his testicles were slightly hurt. The symptoms on admission into hospital were coma, with stertorous breathing, feeble action of the heart, with loss of pulse, deep but slow inspiration. On auscultation of the chest, puerile respiration and the absence of the respiratory murmur were noticed. There were no

morbid sounds over the heart. Pupils were contracted. The treatment was cold douche to the head and stimulation. The man rallied a little, and latterly was capable of being roused when spoken to in a loud voice, and indicated the umbilical region as the seat of pain; he was not able to reply to questions. The prostration was extreme, the pulse extinct, and the man rapidly sank.

"At the autopsy (every organ but the spinal cord was examined), the only appreciable cause of death was discovered in the liver, which was the seat of an enormous sacculated cavity extending throughout the entire thickness of the right third of the right lobe, and reaching a couple of inches below its inferior margin. The lining membrane of the cavity is of great thickness and strength. Lying loosely within it was an opaque milk-white sac of great delicacy, and ruptured, but it was partially filled by a transparent and clear fluid. There was no purulent admixture. A peculiar grey, granular sediment was noticed on the sac. The substance of the liver was healthy, without a trace of recent or remote inflammation. But there were strong and extensive adhesions to the neighbouring parts. A portion of the transverse colon was adherent to the lower surface of the preparation.

"The man was of moderate muscular development, and, on reference to his Medical History Sheet, the surprising fact was discovered that since his enlistment in 1855, he had only been eleven days in hospital for intermittent fever, two years ago. He was known as a healthy man, and none of his comrades could remember that he ever complained of pain in the right side."

Presented by Dr. R. F. Lyons, Assistant-Surgeon, 101st Regiment.

337 Tænia solium expelled by a drachm dose of Kameyla

powder, on the 6th January, 1859. The head is not preserved.

338 Tænia solium without the head and neck.

339 Tænia solium armata with the whole of the long neck. The head is not displayed.

340 Portion of tænia inermis with short thick neck and dark-coloured head displayed. The entozoon after removal from the body at the *post mortem* examination, was exceedingly active in its movements and mounted on talc prior to death; hence the unusual appearance of the proglottides. The four suckers were distinctly seen with a magnifying lens. The rostellum and hooks were not discoverable.

Presented by Professor Norman Chevers.

341 Tænia serrata.

342 Bothriocephalus latus; head not present.

343 Peculiar parasite discovered by Dr. W. H. Kirton, Civil Surgeon of Mozuffernuggur, N.W.P. Dr. Kirton writes as follows;—

"February 1864.—On examining the body of a full-grown fox, in reference to a question concerning the visceral anatomy of the digitigrade carnivora, it was found that a number of parasites of a singular form and habit infested the small intestine of the animal. These parasites, in general appearance, were elongated and worm-like. They presented fusiform pointed bodies marked by transverse wrinkles or folds, having at the extremity short tapering necks, joined to round or disc-shaped heads. They varied from an inch to near four inches in length, and were covered by a soft elastic membrane of a greenish yellow colour. Their bodies, when not distended with food, were flattened from side to side. Unlike any intestinal entozoon previously seen, they did not appear to exercise any powers of locomotion, but by means of a kind of

sucker, or some similar contrivance, placed on the head, maintained fixed or permanent positions in the intestine. The head of each was, moreover, enclosed in a distinct pouch or cavity, formed by a circumscribed dilatation of the coats of the intestine, to the inner surface of which it firmly adhered. The body of the worm alone occupied the tube of the intestine, where its movements were restricted to slow undulations and contractions; the neck lay in a narrow opening communicating between the pouch and the bowel.

"The juices and soft matters of the intestine freely entered pouches. The walls of the pouches formed projecting tumours on the outer surface of the intestine. About twenty of these tumours existed, chiefly situated near the duodenum, each associated with a separate parasite. They were of firm consistence, the tissues being indurated, and varied in size from a few lines to near half an inch in diameter. Some were rounded, some ovoid, and a few nodulated. Externally they were covered by the peritoneum, while internally the pouches were lined by the mucous membrane of the bowel. The intestine near some of the tumours was slightly congested and thickened, but not otherwise distorted. The formation of the tumours was attributed to the irritation excited in the part by the presence of the parasites.

"The parasites presented traces of segmentary structure, and were provided with an alimentary canal in the abdominal cavity. Owing to the disposition of the transverse folds, the bodies of the parasites after death assumed curved or crescentic forms. None were found loose or detached in the intestine, but tæniæ in different stages of growth existed at a lower part in the viscus."

Presented by Dr. W. H. Kirton, of Mozuffernuggur.

(B.) Trematoda.

344 A Distomum Hepaticum.

345 The cœcum of a native prisoner who died from cholera in the Tirhoot gaol hospital with a number of peculiar and probably hitherto unrecognized parasites found alive in that part of the intestinal canal.—(*Record of P. M.'s, given in the Return for July*, 1857.)

Presented by Dr. Simpson, through Professor E. Goodeve.

(C.) Nematoidea.

346 Oxyuris curvula from the large intestine of equus caballus.

347 Eleven oxyurides.

348 Twenty Lumbrici.

349 Sixty-seven Lumbrici taken from the stomach and small intestines of a woman who had suffered from diarrhœa and vomiting for a year and two and a half months. All the organs were found healthy.

Presented by Professor F. W. Wilson.

350 A large Lumbricus.

351 Two short and thick Lumbrici.

352 Two long and slender Lumbrici.

353 A Guinea worm about two feet long.

354 A portion of a Guinea worm.

355 A Guinea worm.

356 A Guinea worm.

357 A portion of a Guinea worm.

SPECIAL PATHOLOGY.

§ X.—Of the Organs of Digestion and Spleen.

(A.) Of the Parts forming the Mouth.

358 Abscess of the left parotid gland which communicated with the meatus auditorius externus.

359 A large portion of the necrosed body of the lower jaw removed from a child in the College Hospital. Repaired by the growth of new bone.

Presented by Professor J. Fayrer.

360 Dilatation of the anterior wall of the right antrum Highmoriani, with a tooth growing into it.

Presented by Professor J. Fayrer.

361 Gangrene of a portion of the tongue with necrosis of the lower jaw. About an inch of the organ is merely hanging on to the healthy tissue by filamentous shreds. The deep black colour of the mortified part is well developed. The posterior part of the tongue is tumefied.

Presented by Professor J. Fayrer.

362 Cancrum oris. There is a circular opening over the body of the lower jaw measuring an inch and a half in diameter and communicating with the interior of the mouth. Muscular and tendinous shreds, and

the tongue are seen through this aperture. The disease was preceded by splenic enlargement.

363 An encysted tumour removed from the soft parts in the inside of the mouth. The cyst is loosely connected with its solid contents; its parietes are semi-transparent, resembling a piece of dried bladder.

364 An encysted tumour removed from the mouth, about the size of a Spanish nut; the solid contents are seen lying loosely in the cavity of the cyst.

365 A fibro-cartilaginous tumour of the lower jaw. Its section presents a ragged appearance; the ramus and portion of the body of the jaw were extirpated with the growth.

366 A fibro-cystic tumour removed from the neighbourhood of the left angle of the lower jaw. The growth is enclosed in a firm fibrous envelope; it consists of a series of nodular masses, each possessing its own proper investment.

Presented by Professor J. Fayrer.

367 Epulis removed from the upper jaw, about four inches in diameter. Its surface is rather fissured and uneven.

368 Epulis removed from the lower jaw, together with a portion of the alveolar processes. The tumour is about three inches long, two broad, and one and a half thick. A deep fissure running longitudinally divides it into two parts. The growth was of seven years' standing, and occurred in a middle-aged coolie. It commenced with a small excrescence on the gum, and gradually increased until it perforated the muscles and skin of the cheek, where a large ulcerated surface was exhibited. Part of the ascending ramus of the jaw was expanded and hollowed out as shown in the preparation, a small lobe of the tumour having been scooped out of it. The inferior dental artery supplying the growth was

much larger than natural. The operation for extirpation was completely successful. The wound healed up rapidly, and left very little deformity.

Presented by Dr. Simpson.

369 Epulis removed from the right half of the lower jaw. A large portion of the ramus and body of the jaw have been excised.

Presented by Professor R. O'Shaughnessy.

370 Epulis removed from the gum. A portion of the alveolar process with three teeth has been detached with the growth.

371 Epulis about the size of a walnut removed from the gum. The surface of the tumour is irregular and fissured.

372 Portion of the left cheek, and half of the body of the corresponding lower jaw, removed for malignant disease, involving the bone and forming a penetrating and fungating ulcer of the cheek. The patient left the hospital well.

Presented by Professor S. B. Partridge.

(B.) Of the Pharynx and Œsophagus.

373 Preparation presenting a lateral view of the pharynx and upper part of the œsophagus. A large lumbricus is seen coiled up in the sulci behind the tonsils, and extending into the pharynx and œsophagus. The cephalic end of the entozoon is resting behind the right tonsil, and the caudal extremity is lying on the left side of the base of the tongue, whilst the body is partly in the pharynx, and partly in the upper portion of the œsophagus.

374 Preparation showing the pharynx, larynx, and trachea of a European child, aged nearly five years. Yellowish coloured diphtheritic deposits, or false mem-

brane is very clearly exhibited in the pharynx. An ulcerated surface is also exposed behind the left tonsil. The existence of croupy deposit is observed in the superior region of the larynx.

Presented by Dr. W. Martin.

375 The tongue, pharynx, upper two-thirds of the œsophagus, epiglottis, larynx, and trachea, as far as the bifurcation. The *œsophagus and pharynx* are opened from behind, exposing, in the lower part of the tube, nodules of cancerous material beneath its mucous membrane. Higher up, and including the pharynx, the cancerous substance has undergone degeneration, softening and ulceration, leading to the destruction of a portion of the mucous membrane, muscular structure, and the soft parts interposed between it and the larynx which, at this point, has been all but perforated. The *trachea and larynx* are opened along the anterior aspect, illustrating malignant ulceration of the left vocal cords, and several nodules of medullary matter deposited beneath the mucous membrane of the lower part of the larynx. "On microscopical examination, large cancer cells, more or less filled with granular and fatty matter, caudate and endogenous cells were discovered both in the œsophageal and laryngeal nodules. The cervical and bronchial glands were much enlarged by strumous and black pigmentary infiltration." (Ewart.)

The patient, Thomas Phillip, Portuguese, aged fifty-seven, could not swallow for some days prior to death. Neither could a tube he passed, owing to œsophageal obstruction. Moreover, his respiration was so seriously embarrassed, that tracheotomy was performed on the 4th February. He sank from asthenia on the 15th February, 1864.

Presented by Professor J. Fayrer.

(C.) Of the Stomach.

376 A stomach turned inside out. Its mucous membrane was ecchymosed from arsenious acid, and most of the greater, and the whole of the lesser curvature is much puckered. In some parts the internal tunic has been destroyed by ulceration, exposing the muscular fasciculi below.

377 A stomach inflamed from the swallowing of yellow arsenic. The mucous membrane is much puckered, and raised into ridges, and lymph has been deposited beneath it. The muscular and peritoneal tunics remain unaltered.

378 A stomach inflamed from the swallowing of arsenious acid. The mucous membrane of the large and small curvature is thrown into wavy longitudinal sulci and ridges, the former contains a white powdery substance, and the latter are much raised, and are of a light brown colour. There is partial and superficial ulceration of the inner coat, near the pyloric extremity of the viscus. The peritoneal tunic is thickened, opaque, and covered with a lamina of lymph.

379 An excellent illustration of the effects of chronic gastritis. All the coats of the stomach are thickened. But the mucous membrane is enormously increased in diameter, and arranged in longitudinal folds, some of which project half an inch from the general level of the internal surface of the organ.

380 Chronic gastritis occurring in a habitual European drunkard. There is thickening of the mucous membrane, which is arranged in longitudinal folds, many of which are a line and a half in height. These appearances are most marked along the line of the greater curvature. The peritoneal tunic is thickened and opaque.

381 The cardiac region of the stomach showing the effects of chronic inflammation. The mucous membrane is enormously thickened, and fleecy in appearance. On examining a section of the walls of the organ, the internal tunic is found to be as thick as both the coats put together. This increased thickness has been mainly caused by the deposition of inflammatory exudation in the submucous areolar tissue. In some parts the lymph deposit is a line, but, in most situations, it does not exceed half a line in diameter. It is white, glistening and organized. There is also thickening of the muscular and peritoneal coats and lymph exuded upon the latter.

382 Chronic ulceration of the mucous membrane at the pyloric extremity of the stomach.

Presented by Professor Edward Goodeve.

383 A stomach in which there is an oval bullet-opening admitting the forefinger, and a smaller one into which a pencil can barely be introduced. There is also shown a traumatic aneurismal sac, about as large as a pigeon's egg, communicating with one of the branches of the pancreatic artery. The patient was a sepoy stationed at Rawul Pindee. He died from hæmatemesis, the hæmorrhage having flowed from the ruptured sac through the small opening into the cavity of the stomach.

Presented by Dr. J. Fairweather.

384 Epithelial cancer of the stomach. The growth extends from the pylorus to within a couple of inches of the cardiac orifice along the lesser, and upwards of four inches along the larger curvature. The surface of the cancer is fissured, and its elevation above the general level of the uninvolved mucous membrane amounts to a half or three quarters of an inch. The

abrupt limitation of the morbid growth at the pyloric orifice is well demonstrated.

385 A large rent in the stomach about three inches from the pylorus, apparently the consequence of malignant disease.

386 Stomach laid open along the greater curvature. From the anterior view a couple of protuberances are seen encroaching upon the capacity of the pyloric orifice. A smaller one exists between these. On examining the external aspect of the pylorus, a tumour about the size of an apple is seen to be intimately connected with its parietes. The mucous membrane is thickened and thrown into longitudinal rugæ.

387 A portion of a stomach, showing scirrhous thickening of the walls of the pyloric orifice and extremity. The hard glistening structure composing the parietes, here measures three quarters of an inch in diameter. The mucous membrane is puckered, and in one place, about two lines from an ulcer, there is a black spot, probably the situation where hæmorrhage occurred during the progress of the disease.

388 Scirrhous cancer of the pyloric extremity of the stomach. The growth projects fully an inch into the cavity of the viscus. It involves the whole of the parietes. There is a large ulcer four inches long and two broad, and at one point the whole of the tunics have been perforated.

389 Cancer of the stomach of an Australian horse. The foreign growth is about the size of a walnut, and is situated between the mucous and muscular tunics. Its section shows a few cavities in its substance.

390 The stomach of a bird almost perforated by worms. There are seven of these nematoid entozoa with their heads deeply plunged into the coats of the organ at one

situation not larger than a sixpence. The mucous and muscular tunics appear to be pierced. The peritoneal coat is entire; but it is pushed up a line and a half above the external plane of the surrounding peritoneum.

391 The stomach of a lynx infested with worms. The entozoa are about three quarters of an inch in length. Many of them have penetrated deeply into the mucous membrane.

(D.) Of the Duodenum.

392 Duodenum, the mucous membrane of which is hypertrophied. This is particularly marked in the excessive development and growth of the rugæ.

393 A portion of the duodenum which has been perforated by a lumbricus. The cephalic extremity of the entozoon is lying in the cavity of the gut, protruding as if from the finger of a glove. The external and internal margins of the aperture are even and glistening. On both aspects the mucous membrane is elongated and loosely wrinkled.

(E.) Of the Jejunum and Ileum.

394 Jejunum inflamed in a case of continued fever. The valvulæ conniventes were tinged and swollen, and the mucous membrane is ulcerated in several places.

395 Preparation shewing inflammatory thickening and a dusky brown coloration of the mucous membrane of the ileum in the site of the Peyerian glands. There are dysenteric ulcers in the sigmoid flexure and rectum.

396 Three inches of the inferior end of the ileum, in which there are three well-defined ulcers (typhoid) in the

mucous membrane. The muscular tunic is seen forming the floors of these ulcers.

397 Eight inches of the ileum, in which there are two large ulcers. On the *front aspect* of the specimen, the ulcer is an *inch and a quarter* in its longest, and *three quarters of an inch* in its shortest diameter. Its edges are somewhat irregular. The mucous membrane, Peyer's glands, the submucous areolar tissue, and the muscular coat having perished from the ulcerative process, the thickened, opaque, and somewhat glistening peritoneum is observed forming the floor of the ulcer. On the *posterior aspect* of the preparation, there is a second ulcer an inch in length, and three quarters of an inch in breadth. In its central region the peritoneum forms its floor, and nearer its margins, disintegrating muscular tissue. (Typhoid.)

398 About ten inches of the lower part of the ileum, exhibiting numerous ulcerations of Peyer's glands. Near the ileo-colic valve there are two large patches of the elevated and ulcerated glandular structures. About eight inches higher up there is a raised circular patch of ulceration as large as a shilling. Between these large ulcers there are smaller ones, always occupying the site of the agminated glands. (Typhoid.)

399 Preparation illustrating ulceration of Peyer's glands. There was also enlargement of the corresponding mesenteric glands. A large ulcer about the size of a shilling, marginally raised and depressed in the centre, is situated near the ileo-colic valve. Six inches higher up there is another of a similar character as large as a florin. There are many others varying in size from that of a pea to that of a shilling piece. (Typhoid.)

Presented by Dr. Scriven.

400 Two feet and a half of the ileum with cœcum

and a portion of the ascending colon. The whole of the Peyerian glands are raised very prominent and in all stages of ulcerative disease. The contrast between the diseased ileum and the colon, whose solitary glands are raised and, in some instances, ulcerated, is well demonstrated. Some of the ulcers in the ileum have ejected their sloughs. Many sloughs, however, have not been liberated, and these are seen lying loosely in the ulcerated cavities. The whole of the intestine is much thickened from the deposition of inflammatory exudation. (Typhoid.)

Presented by Dr. Scriven.

401 A portion of the ileum of a patient who died from typhoid fever. The enlargement and ulceration of Peyer's glands are demonstrated.

Presented by Dr. Eatwell.

402 Lower portion of the ileum perforated by an opening upwards of two and a half inches in length. Its inferior margins are rough and thickened. There is a large ragged ulcer in the mucous membrane. The subject of this had been convalescent for three days from dysentery, when symptoms of perforation supervened, under which he rapidly sank and died in forty-two hours.

403 A portion of the ileum of a tiger with two perforations half an inch from each other, and bones and teeth. The edges of the apertures are smooth and lined by a layer of lymph. A shred of lymph is also suspended from the intervening mucous membrane. The *post mortem* examination is described as follows, by Dr. Benza, Surgeon to the Honourable the Governor of Madras:—"The subject of the case was a full-grown male, which died in the Government Park at Madras. The animal, for some days before his death, had refused his food, and appeared very ill; his

breathing was deep and quick; he was hot and feverish, and his belly tense and painful. In this state he remained for several days, never attempting to change his position, passing no fæces, and scarcely any urine. The body was examined twelve hours after death. The abdomen contained about five pints of very offensive thin yellow fluid. The abdominal and visceral peritoneum were highly inflamed. The ileum, for about three inches of its lower third, was swollen and converted into a hard tumour, having six perforations through its coats; the widest (more than three lines in diameter) was closed by a portion of bone, and sharp pointed spiculæ were seen projecting through the other foramina. The colon and ileum were much contracted. Within the swollen part of intestine there are many loose pieces of bone, and a round ball formed of several angular bits of bone, agglutinated and bound together by a kind of network of hair and wool. This ball adhered slightly to the intestines by means of adventitious tissue, which was highly injected."

Dr. Benza remarks on the singular anomaly of finding undigested bones so low down in the intestine of an animal possessed of such digestive powers as the tiger, and accounts for it by supposing that these pieces of bone became entangled in the stomach with the wool and hair of the sheep which formed the ordinary food of the animal; these latter substances being more indigestible than bones, covering them with a sort of felt coat, protecting them from the action of the gastric juice, and thus the whole ball passed down unchanged into the intestines. At length this ball being deprived of the greater portion of its woolly investment, the spiculæ became exposed and protruded against the intestine, greatly irritating it, thereby causing a thicken-

ing and constriction, by which the pieces of bone were held in one position until they produced ulceration.

Presented by Dr. Benza, of Madras.

404 Preparation showing strangulation of a knuckle of small intestine by an adventitious band. The strangulated gut is about the size of a hen's egg and of a black colour. There are some small white specks on its surface.

Presented by Professor Norman Chevers.

405 A portion of the small intestine in which there are three well-marked intus-susceptions. The dilatation above the seat of obstruction is beautifully illustrated; and the manner in which the obstruction is produced, after invagination, is shown by having one of the dilated pouches laid open. There are two other portions of intestine also manifesting intus-susceptio.

Presented by Dr. Lyons, of Rohtuck.

406 Intus-susceptio of the small intestine of a horse. The gut is enormously dilated above the invaginated portion which is so greatly tumefied as effectually to close the canal. Immediately below, the calibre of the intestine is narrowed.

407 A portion of the small intestine displaying a rent or rupture an inch long. It runs transversely to the longitudinal axis of the gut; its edges are almost as even as if the opening had been made with a knife. The injury was inflicted by a blow on the abdomen. The patient died of peritonitis forty-eight hours after the accident.

408 Scirrhous disease of the ileum. At the lower part of the preparation, there is a cancerous mass about the size of a walnut, hollowed out in the centre by ulceration. There is a great deal of thickening and puckering of the mucous membrane in the immediate neighbourhood of the foreign growth. Both here and higher up

there are a great many smaller ulcers, and in one place complete perforation of all the intestinal tunics has been effected.

409 A portion of the ileum containing a lumbricus. The entozoon is bent upon itself so that both its caudal and cephalic extremities are seen.

410 Part of the lower end of the small intestine with a diverticulum three inches long, into which is inserted a red glass rod. The communication between the pouch and the intestinal canal is sufficiently capacious to admit the little finger. A smaller one also existed higher up.

Presented by Professor Charles.

(F.) Of the Cœcum.

411 A portion of the cœcum, ileo-colic valves, and three inches of the lower end of the ileum in which the whole of the tunics have been eaten through by a perforating ulcer. The ulcers in the cœcum have destroyed the mucous membrane. The muscular coat, which is greatly thickened, forms the floors of the ulcers.

412 The cœcum and a portion of the ascending colon in which enormous thickening has taken place. The mucous membrane is riddled with ulceration, displaying many sloughs in process of being detached.

Presented by Dr. R. Shaw, of Agra.

413 An ulcerated cœcum. By far the greater part of the mucous membrane has either been destroyed, or so altered as to be quite unfitted for the performance of its healthy functions. In some places, the disintegration has advanced down to the peritoneum which forms the floors of the ulcers; in others, it has only proceeded down to the muscular coat, which is enormously thickened from implication in inflammatory

disease. In the vicinity of the appendix vermiformis, the intestinal wall is almost half an inch in thickness. There are numerous shreds of undetached slough, or perished portions of the mucous and muscular tunics.

414 A specimen illustrating thickening and ulceration of the cœcum. The ulcers are superficial and serpentine. The walls of the gut are much puckered, and three or four times their normal diameter.

415 A preparation showing ulceration of the cœcum and ascending colon. The cœcum contains masses of flocculent-looking lymph and mucus, which have been poured forth from the ulcers and inflamed mucous membrane. These flocks, resembling fine white wool, hang loosely in the cavity of the gut. Few of the sloughs in the colon have been separated; they are lying in their respective ulcers with large portions of their surface exposed. There is one ulcer which has been relieved of the presence of the perished tissue, and is now covered with fleecy-looking lymph.

416 A preparation displaying extensive ulceration of the cœcum. The mucous membrane is riddled, and, in many places, the muscular tunic is altered and ulcerating; large portions are half separated. Similar disease is also observed in the ascending colon.

417 A preparation demonstrating perforation of the cœcum. The orifice whose long axis runs transversely to that of the intestine, has tolerably even margins. The walls of the gut are much attenuated.

Presented by Dr. R. Shaw, of Agra.

418 Intus-susceptio of the cœcum into the ascending colon, carrying with it the lower end of the ileum. A portion of the ulcerated and gangrenous gut invaginated is exposed. About four inches of the ileum at the point of invagination is *in situ*.

Presented by Professor Norman Chevers.

419 The exact counterpart of No. 418, showing the ulcerated and gangrenous invaginated mass, completely turned out of the ascending colon which contained it. About four inches of the inferior end of the ileum at the point of entry is *in situ*.

Presented by Professor Norman Chevers.

(G.) Of the Colon.

420 A portion of the ascending colon of a man who died whilst voiding the contents of a large hepatic abscess through the intestinal canal. The mucous membrane is swollen and worm-eaten by superficial abrasions, about which there was intense florid congestion, caused by the passage of acrid and irritating matters.

Presented by Dr. Beatson, of the General Hospital.

421 A portion of ulcerated colon inverted. The gut when first removed bore marks of inflammation throughout. The ulceration, which was originally follicular, has extended, and the specimen now illustrates extensive destruction of the attenuated and atrophied mucous membrane.

Presented by Dr. R. Shaw, of Agra.

422 A portion of the ascending colon and cœcum affected with dysenteric ulceration and deposit beneath the lining membrane. The *post mortem* report runs as follows:—The large intestines are externally diseased. The cœcum is covered with large irregular ulcers extending across the gut along the transverse margin of the cells. Thickened layers of slough were superimposed upon the ulcers, from which purulent matter exuded in abundance. Most of the ulcers had coalesced, forming large and irregular but mostly oblong patches, and the unseparated sloughs formed elevated and prominent ridges across the sides of the intestine. The

transverse arch of the colon was comparatively free from disease. There were a few circular elevations indicating the existence of dysenteric action. Immediately above the sigmoid there was a perforation, over which the omentum was firmly adherent to the gut. Below this point the sigmoid and rectum were a mass of sloughing ulceration.

Presented by Mr. J. J. Durant.

423 Cœcum, colon, and rectum extensively affected with sloughing ulceration, to such an extent, indeed, that there is scarcely a healthy part of the mucous membrane to be seen anywhere.

Presented by Dr. W. Turnbull, of Cannanore.

424 Cœcum, colon, sigmoid, and part of the rectum extensively ulcerated. The ulceration is chiefly confined to the mucous membrane.

425 Colon of a native, aged thirty-five, who died from subacute dysentery on the sixth day. The gut is inverted. There are numerous ulcers of various sizes and shapes seen along the whole extent of the canal. None of the sloughs have been thrown off. There is a fleecy appearance about the mucous membrane from the exudation material.

Presented by Dr. J. Long, of Seeb Sagur.

426 Colon extensively ulcerated. The dysentery was accompanied by an excessive discharge of blood. The ulcers are of a dark colour.

427 Preparation illustrating ulceration of the colon, in which there are three Lumbrici. Two of these have succeeded in piercing the walls of the intestine.

428 A portion of the colon, showing ulceration of its mucous membrane. The corresponding mesenteric glands are much enlarged. Two of these, as large as filberts, are lying detached, and sections of them are presented.

429 The large intestine of a German. From the cœcum to the anus, it is studded with patches of ulceration. Some of these only penetrate the mucous membrane, but a great number of them extend through the muscular coat to the peritoneum, which, in these localities, is lined with lymph.

Presented by Dr. Geo. Daly.

430 Very extensive ulceration of the colon, and perforation of the same in three places.

431 A portion of the colon taken from a native prisoner who died of chronic dysentery in the Agra gaol. The gut is inverted. The follicular form of ulceration is well exemplified. The whole of the lining membrane is pitted with numerous small circular or oval ulcers, which are shallow, and do not extend into the muscular tunic. All these tunics are atrophied and attenuated.

Presented by Dr. R. Shaw, of Agra.

432 A portion of the colon of a Madras convict who died from chronic dysentery at Singapore. The mucous membrane is much puckered and affected with serpentine ulceration. The puckering and contraction of the ulcers indicate the measure of the repair which has been accomplished. In some places complete cicatrization has taken place ; in others, that has only been partially effected. The dark spots, with pits over them as deep as the thickness of the mucous membrane, indicate the situations in which acute disease has been re-established.

Presented by Surgeon Oxley, of Singapore.

433 The cœcum, colon, and sigmoid, illustrating the effects of chronic follicular dysentery. The mucous membrane contains a great number of circular or oval ulcers, some of which have joined each other by mutual extension. Some of the ulcers have healed by granulation and cicatrization, and are now covered

by white, contracting, and glistening cicatrix; others are closing or contracting and advancing to reparation, which is still incomplete. There is general diffused thickening of the mucous, muscular, and peritoneal tunics. The ulcerative disease is so extensive that there is very little healthy surface to be discovered.

434 Preparation illustrating the ulceration of the mucous membrane of the large intestine in chronic dysentery.

Presented by Dr. Irwin, of Banda.

435 A slough ten inches long expelled from the large intestine during a fatal attack of dysentery. This consists, in great measure, of the mucous membrane with portions of the muscular tunic. At the upper part of the specimen, about half of the circumference of the mucous membrane has been completely detached, but at the lower three inches the whole of this tunic has become separated. The slough is more or less perforated in the situations where the ulcers originally existed.

436 Preparation showing perforation of the sigmoid of a native who died from dysentery. The intestine is riddled with deep ulcers, and is bound down by peritoneal adhesions of old standing. At the point where the disease has produced a large opening through the parietes of the gut, there is a false membrane which succeeded in maintaining the continuity of the canal, and preventing extravasation of the contents of the bowel into the cavity of the peritoneum.

Presented by Dr. J. Davis, of Tezpore, Assam.

437 A portion of the ascending colon which was found occupying the left iliac and lumbar regions. The displacement was caused by obstruction of the cœcum, leading to an immense accumulation above of flatus and fæces, the size and pressure of which pushed the

ascending colon over to the left side. The part of the intestine preserved is perfectly healthy.

Presented by W. H. B. Ross, Esq., of Hooghly.

438 Preparation in which the mesentery of the sigmoid flexure has undergone contraction, and formed that portion of the large intestine into a loop. This was probably an old, possibly a congenital change. Under some recent cause of bowel irritation the loop has become distended and the neck twisted. The obstruction having increased, the neck at the entrance point has ulcerated almost across, permitting extravasation into the peritoneal cavity, thus causing general peritonitis and death.

Presented by Professor Norman Chevers.

(H.) Of the Rectum.

439 Specimen showing extensive ulceration of the mucous membrane of the rectum and sigmoid flexure in a European addicted to excessive indulgence in strong drink. The lining membrane and muscular coat are almost universally destroyed by the ulcerative process, and those small portions which remain are thickened and rapidly yielding to the destructive disease going on around them. The peritoneal coat is much thickened, opaque, and more or less covered with inflammatory exudation. The rectum is perforated in two places.

Presented by Dr. Oxley, of Singapore.

440 Specimen showing ulceration of the mucous membrane of the rectum. The internal coat has been destroyed, exposing the muscular fibres, where these are not obscured by the submucous areolar tissue and exuded lymph.

441 A portion of the rectum which has been perforated

by the introduction of a piece of wood for the purpose of procuring criminal abortion. The aperture is indicated by the presence in it of a glass rod. Opposite and around the seat of injury, the mucous membrane is thrown into a number of circular rugæ.

442 The lower part of the rectum, in which there is manifested an incipient stricture about a couple of inches from the anal aperture.

443 Prolapsus of the rectum. The measurement from the integument to the extremity of the prolapsed gut is about four inches, and it is about three inches in breadth. It is of a dull yellow-white colour. There are several large ulcers on the extruded mucous membrane.

Presented by Professor Allan Webb.

444 External hæmorrhoids. The hæmorrhoidal veins are injected to demonstrate the size and numbers in which they exist in such cases.

Presented by Professor Allan Webb.

445 An old external pile. The hairs indicate where the skin begins and the thickened and altered mucous membrane ends. It had given a good deal of trouble, and caused bleeding from the interior of the rectum.

Presented by Professor J. Fayrer.

446 Bladder and rectum of a child with imperforate anus. The bladder is laid open posteriorly, showing the position of the urethral orifice, through which a red glass rod has been passed. Two dark glass rods are inserted into the ureters, which occupy the usual place. The rectum terminates in a small *cul de sac* about two inches long behind the neck of the bladder. It has been opened here on its anterior aspect, and filled with cotton. The remainder of the gut is much smaller, and natural in dimensions.

An operation was performed for the relief of this

abnormal state of things by attempting to tap the blind gut with a trocar and canula; the instrument penetrated the prostate gland, and reached to a point about the eighth of an inch from the termination of the rectum. The wound inflicted by the trocar is seen to be on the left side of the mesial line, and is now held apart by short black glass rods.

The urethra opened behind the glans penis, and meconium was passed by this channel during life. "No communication could be traced between the bowel and the bladder, though both organs had been blown independently of each other, no air passing from one to the other."

Presented by Professor Charles.

447 A specimen of imperforate anus. The rectum arrested in its progress towards complete development. The bladder and pelvic bones (cartilaginous) are *in situ*. The pubes have been removed to give a more perfect inspection of the exact condition of the parts. The rectum has been developed to within an inch of the usual point of exit, which is indicated by the introduction of a glass rod. For four inches above the blind end the gut is enormously dilated. There is dilatation still higher up than this, but it is insignificant compared with its capacity below.

448 A preparation demonstrating the condition of the rectum in imperforate anus. The arrest of development has taken place within a quarter of an inch of the usual site of the anal orifice. An artificial opening leads immediately into the dilated gut, a longitudinal section of which has been made. The dilatation is chiefly confined to the rectum. The portion of the sigmoid preserved indicates an insignificant increase in its capacity.

(J.) Of the Peritoneum and Mesentery, etc.

449 A preparation illustrating inflammatory thickening of the peritoneum covering the stomach. The mesentery is also much altered by deposit, and firmly adherent to the walls of the organ. The patient suffered from peritonitis and ascites, attended with great pain, for three months before death. Both the liver and spleen were contracted "from chronic inflammation of long standing."

Presented by Dr. Green.

450 A specimen displaying a perforating wound of the mesentery. The edges of the wound are more or less ragged from suspended shreds of lymph. The neighbouring intestine is penetrated. The injury was inflicted during an affray which took place at a gambling party. The man died from general peritonitis, brought on by extravasation of fæces, and from internal hæmorrhage. The two lumbrici present were taken from the intestines.

Presented by Dr. W. H. B. Ross, of Jessore.

451 About four inches of the small intestine containing, in the sub-peritoneal areolar tissue, a great number of tubercular deposits, varying in size from a mere visible point or granule to that of a pin's head or millet seed. The same appearances were observed to extend over the small intestine and mesentery.

Presented by Professor Edward Goodeve.

452 Extensive tuberculous deposits in the sub-peritoneal tissue, mesentery and mesenteric glands. Many of the tubercles are as large as peas, both over the intestine and mesentery. The mesenteric glands are enlarged from strumous infiltration.

Presented by Professor Edward Goodeve.

453 Section of the mesenteric glands, which are immensely enlarged from strumous deposits. Some of them are ragged in the centre from partial disorganization. In the majority, however, no softening has taken place.

454 Scirrhus of the mesenteric glands.

(K.) Of Herniæ, etc.

455 Parts illustrating an oblique inguinal hernia. A portion of the omentum has descended through the canal, and now occupies the scrotal region. It is pyramidal in shape, the base being applied to the scrotal aspect, and the apex towards the external ring. Its delicate texture is unaltered, excepting near the external and internal rings, where it is matted and dense. During life the patient never made any complaint about this hernial protrusion.

Presented by Mr. Jadub Chunder Ghose.

456 Section of the soft parts and sac covering an oblique inguinal omental hernia. The thickened and separated sac is seen to the left of the specimen. In other parts, it is adherent to the omentum, which is altered and matted together by adhesions. The cavity of the sac is uniformly filled by the mass. On the posterior aspect of the preparation, the entrance of the hernial protrusion into the internal ring is plainly seen.

Presented by Professor Allan Webb.

457 An oblique inguinal hernia of old standing. The canal is dilated, so that it easily admits the finger at the entrance of the internal ring. Its walls are thickened, and it measures upwards of three inches in length. The sac is about the size of an orange. Its walls are thickened and indurated. Its interior is opaque, and more or less irregular.

458 An oblique inguinal hernia of the right side. The soft parts are opened down to the sac, which is about the size of a pigeon's egg. Behind, the intestine connected with that which has escaped remains *in situ*.

459 A preparation showing the sac of an inguinal omental hernia, part of which has been exposed. The walls of the sac are thick and opaque, especially at the lower part. The opening into the upper portion is large enough to admit a couple of fingers. The omentum is matted together by adhesions.

460 Preparation showing the opened sac of a large oblique inguinal hernia of the right side. The interior of the sac is much puckered and very thick. At and about the internal ring a portion of the gut remains adherent to the parietal peritoneum, which is dull, opaque, and much thickened. At the operation the strangulated gut was found to be in a gangrenous condition.

Presented by Professor R. O'Shaughnessy.

461 A large hernial sac with the scrotum. From the internal to the inferior portion of the sac, it measures upwards of six inches.

Presented by Mr. Vanderstratten.

462 A preparation showing an omental hernia, the consequence of a stab. The sac is situated within the abdominal muscles, and is not completely filled by the omentum, which, when examined on the other side, is seen to be strangulated by a fibrous band.

463 A diaphragmatic hernia. The protruded intestine, about the size of a man's fist, is *in situ*. On the thoracic aspect it is covered with peritoneum and pleura. The altered and thickened pleura is opened, showing that beyond a little opacity, there is scarcely any change in the peritoneal investment. The patient was a prisoner in the Chupra gaol. He had been very

severely beaten with fists and lattees when caught in the act of stealing. In consequence of this he remained a long time in hospital. Then he frequently complained of pains about the epigastrium, body and limbs; but there were no characteristic indications of hernia. He was cured of these symptoms and discharged. He returned soon afterwards, suffering from dysentery, from which he died.

Presented by Dr. Simpson, of Tirhoot.

(L.) Of the Liver, etc.

(*a.*) *Of the Gall Bladder and Ducts.*

464 Partial obstruction of the ductus communis choledochus by the pressure of a scirrhous tumour. The gall-bladder and adjoining part of the liver, with the common duct, and about three inches of the duodenum, are *in situ*. A considerable portion of the duct is almost completely obliterated by the encroachment of the foreign growth, and by enlarged lymphatic glands, one of which, at the entrance to the gall-bladder, and lying underneath the peritoneal coat, has partially blocked up its canal.

Presented by Professor Allan Webb.

465 The gall-bladder, gall-ducts, and a small portion of the liver and duodenum. The gall-bladder is divided by a central constriction. Each division is filled by a cholestearine calculus. The walls of each compartment are greatly thickened by organized inflammatory deposit. The surrounding hepatic tissue is softened and degenerated. The line demarking the inflamed from the healthy liver tissue, is as accurately defined as if it had been mapped out with a pencil. The ducts are dilated.

Presented by Professor Allan Webb.

466 The gall-bladder much diminished in size and capacity, apparently from the organization and subsequent contraction of lymph in and on its parietes. It is about the size of a large filbert. The ductus communis choledochus is small and shrunken. The neighbouring liver is covered with opaque and thickened peritoneum.

Presented by Professor Allan Webb.

467 A preparation showing two small roughened calculi, each of which is about the size of a large bean, in an opened gall-bladder. The coats of the viscus are smooth, and normal in thickness.

468 A gall-bladder filled with small, white-coloured cholestearine calculi, varying from the size of a millet seed to that of a pea. Its walls are thrice their normal thickness. The peritoneal coat is dull, opaque, thick, and somewhat puckered from the contraction of organized lymph.

469 A section of the gall-bladder, liver, the biliary ducts, and a portion of the duodenum. The gall-bladder and the duodenum are so attenuated as to be perfectly translucent. The hepatic tissue is also atrophied and shrunk.

470 Dilatation of the gall-bladder from pressure of an enlarged gland, upon the ductus communis choledochus, leading to more or less perfect obliteration of its canal. A dark rod indicates the site where the greatest pressure was sustained. A portion of the parietes of the viscus is removed, exposing the beautifully reticulated arrangement of its mucous membrane.

471 An unopened elongated gall-bladder, six inches in length, and an inch in diameter at its widest part.

472 An unopened gall-bladder with ducts, and a portion of the neighbouring liver attached. From some cause or other, not elucidated in the records, the ductus

communis choledochus has been obstructed, leading to dilatation of the gall-bladder and the bile ducts.

473 A gall-bladder distended with calculi. The lower part of the viscus and commencing portion of the duct are dilated and converted into a kind of supplementary gall-bladder.

Presented by Professor Duncan Stewart.

474 A gall-bladder filled with calculi. The parietes are much thickened and contracted firmly upon the contents of the viscus, which in turn is strongly bound down by adhesion.

Presented by Sub-Assistant-Surgeon Tameez Khan.

475 Liver and gall-bladder. In the latter there is one gall stone as large as a filbert, and another about the size of a pea.

(*b.*) *Of Enlargement.*

476 A portion of the liver of a Hindoo which was enlarged to thrice its normal dimensions. Its section shows that the parenchymatous structure is divided up into distinct provinces by white, glistening fibrous tissue. The spaces thus formed are circular, polygonal or oval, and vary in their longest diameter from half a line to a line. Enclosed within these places the brown elementary hepatic structure is observed. The hepatic veins are contracted, seemingly from thickening of the supporting capsule of Glisson. The same mapping out, which is noticed on section, is perceived on the surface, even through the opaque and thickened peritoneum. The exudation in the vicinity of Glisson's capsule is undergoing organization and contraction—in fact, advancing towards the production of a cirrhosed or hobnailed condition of the liver. (Webb's *Pathologia Indica*, No. 1537, p. 254.)

Presented by Professor Allan Webb.

477 Enlargement of the liver to thrice its natural size, from engorgement with fat. Its section is of a light yellowish colour, homogeneous, and showing little or no clear definition in the outline of its elementary or parenchymatous structure.

Presented by Dr. F. J. Mouat.

478 Enormous enlargement of the liver in a native child about a year old. The organs of respiration, liver, kidneys and pelvis are *in situ*. The liver extends from the diaphragm to the pelvis and covers most of the left and right kidneys. The capsule and abdominal side of the diaphragm are free from inflammatory exudation. The right lung contains at the apex some yellow tubercles ; its lower lobe is consolidated, and has been undergoing disorganization. The pleura is lined with a thick layer of lymph, and there are recent adhesions uniting the pulmonary to the diaphragmatic pleuræ. The enlargement is probably from engorgement with fat. (Webb's *Pathologia Indica*, No. 1563, p. 253.)

Presented by Professor Allan Webb.

(*c.*) *Of Atrophy.*

479 "These are portions of the liver of a Hindoo brought to the dissecting-room, showing destruction of the lobules throughout the whole organ by cellular degeneration. This loss of all glandular structure appears to be a consequence of inflammation of Glisson's capsule, which, beginning from without, had implicated the hepatic ducts to a degree that closed their canals. Hard consolidated tissue extrinsically added is seen to surround several lines in breadth the great divisions of this capsule : that is externally around all the superficies of the liver ; and, internally, all the grand divisions of the vena portæ. This is

more evident from the contrast presented by the hepatic veins. For whereas the portal branches near the centre are surrounded by this consolidated adventitious tissue of several lines in breadth, the hepatic veins even near their termination are free from this. The whole intermediate or proper parenchymatous structure of the liver is one mass of cells only, of irregular form, and varying in size; and has an exact resemblance to a section of a sponge. When examined by a lens, no trace of granular or glandular structure can be seen; no lobules, no acini, but simply cell walls, or sections of cells, which were full of green bilious-looking fluid, and now, after macerating six months, the liver throughout is green as grass. I conclude that this singular result was effected by the bile, unable to escape through the ducts, closed or partially so, by adhesive inflammations distending the biliary cells and ducts. In proportion as these became distended by bile, the interlobular vascular plexuses became compressed, obliterated, and eventually destroyed, together with the hepatic cells. In this way several lobules are obliterated, and these irregular cells or cavities occupy their places. This is the most reasonable supposition I can form upon a disease common with natives but quite new to me." (Webb's *Pathologia Indica*, Nos. 1528, 1529, 1530, p. 254.)

"In 479, the hobnail character of the surface is well demonstrated. The increased thickness of Glisson's capsule from organized albuminous exudation, converting the organ into a series of cellular provinces, is everywhere observable. It is, in fact, a perfect exemplification of degeneration and almost destruction of the parenchyma or secreting structure of the liver in a case of advanced cirrhosis." (Ewart.)

Presented by Professor Allan Webb.

480 "Liver and spleen disorganized by cellular degeneration, and covered with artificial capsules, from effusion of lymph, by which they adhere to neighbouring organs; the result of inflammation generally throughout the abdominal viscera, and the thoracic also; occasioned by perforation of the intestines by worms. The parenchyma of the liver is converted into a mere network resembling anasarcous cellular tissue; the cells are all empty, and not a vestige of glandular structure is left, there is nothing but Glisson's capsule. From a native woman." (Webb's *Pathologia Indica*, No. 1552, p. 263.) "Here again the degeneration and destruction of the secreting structure of the liver has followed hobnail contraction or cirrhosis." (Ewart.)

Presented by Sub-Assistant-Surgeon Tameez Khan.

(*d.*) *Of Fatty Degeneration.*

481 A fatty liver of an emaciated and drunken European sailor. The section is of a light yellow colour and the structure of the lobules is not distinctly defined. In some parts the oily parenchyma has fallen out during maceration, and here the section resembles that of a fine sponge. Its colour in these portions is of a light brown, and contrasts remarkably with the remainder of the organ. The patient was admitted into hospital on 4th July, with chronic diarrhœa, and he died on the 24th. The *post mortem* report runs as follows :—The mucous membrane of the large intestine is congested, especially that of the cœcum and sigmoid; the gut contained a good deal of mucus. There was no appearance of ulceration; the small intestines were in a healthy condition. The liver was much enlarged; of a bright yellow colour throughout, and very oily. It seemed changed in texture and consistence. The blood was very watery and of a pink colour.

Presented by Mr. Chas. Raddock.

(*e.*) *Of Nutmeg Degeneration.*

482 Section of a liver which presented a nutmeg appearance at the *post mortem* examination. A large portion of the secreting elements have escaped during maceration; so that the section resembles that of a fine sponge. The organ was fatty.—(Webb's *Pathologia Indica*, No. 759, p. 257.)

483 A few sections of the liver of a native woman who died from a "combination of general dropsy and colliquative diarrhœa." The liver "was considerably enlarged, and the investing capsule of the organ was of a violet tint when the body was first opened."—(Webb's *Pathologia Indica*, No. 1648, p. 270.)

Presented by Dr. W. H. B. Ross, of Jessore.

(*f.*) *Of Congestion.*

484 "The liver in this case has scarcely gone beyond the stage of congestion and softening. The great portal sinus is seen to traverse the organ from right to left. The coagulated blood in its interior forms an exact model of the canal, as thick as the (little) finger. In one spot, a *foyer* of coagulated blood has begun to accumulate, and the structure of the liver to lose its vital cohesion preparatory to the formation of an abscess. The organ has become atrophied."—(Webb's *Pathologia Indica*, No. 778, p. 263.) Some of the small portal veins can be seen blocked up by coagulum, especially in the vicinity of the part where the formation of an abscess was in progress.

Presented by Professor Allan Webb.

485 Preparation illustrating active congestion in the neighbourhood of central abscess. "The external part seems even more solid than usual; but the interior of the organ is one large diffused abscess, traversed by

the greet vessel, the vena portæ; whilst the proper tissue of the liver is hanging in ragged shreds from the interior."—(Webb's *Pathologia Indica*, No. 648, p. 263.) "Portions of the liver are mapped out by a dark outline, contrasting remarkably with the general surface, indicating softened and deteriorated tissue below ready to become still further degenerated preparatory to undergoing suppurative inflammation and molecular disintegration." (Ewart.)

Presented by Professor Allan Webb.

486 Apoplexy of the liver. The extravasated blood is in small rounded masses. The portion preserved presented a "fine illustration of hepatic congestion from the stagnation of blood in the right side of the heart; the lungs and brain were also apoplectic. The lobules of the liver presented a dark centre and light circumference. The intra-lobular vein and its feeders were congested, whilst the portal vein, inter-lobular and its feeders were empty." From a European sailor. —(Webb's *Pathologia Indica*, No. 1204, p. 255.)

Presented by Professor Allan Webb.

487 Portion of a liver in which there was extreme congestion near the surface, and also limited extravasation in some places.

Presented by Professor Norman Chevers.

(*g.*) *Of Inflammation and its Consequences.*

488 Abscess in the left lobe of the liver. It pointed at the umbilical region, and proved fatal after bursting into the peritoneal cavity.—(Webb's *Pathologia Indica*, No. 1608, p. 262.)

Presented by Mr. E. Loftus.

489 Abscess of the left lobe, destroying almost the whole of its structure, with the exception of a lamina

of its inferior surface. The wall of the abscess is irregular and ragged.

490 A large abscess in the left lobe of the liver endeavouring to make its way through the diaphragm, which is agglutinated to the wall of the abscess on the abdominal, and to the pulmonary pleura on the thoracic side.

Presented by Professor Norman Chevers.

491 A large abscess in each of the large lobes of the liver, causing almost entire destruction of the hepatic structure. The opened stomach is *in situ* to illustrate complete and universal agglutination of the diseased liver to it.

Presented by Dr. Twining.

492 A liver containing a number of small abscesses, varying from the size of a hazel-nut to that of a hen's-egg. Section demonstrates the ragged or shaggy appearance of their walls.

Presented by Dr. Pitt.

493 Several abscesses in the right and left lobe of the liver. One large abscess at the junction of the left and right lobes is characterized by very ragged margins. It has destroyed the hepatic tissue as far as the peritoneal covering, which in some parts is greatly thickened from the organization of lymph. The liver is adherent to the intestines.

Presented by Dr. J. Mouat, Inspector-General, Madras.

494 A great number of abscesses in an enormously enlarged liver.

Presented by Dr. Chuckerbutty.

495 A large non-encysted abscess in the right lobe of the liver with honeycombed and ragged margins, through which a large portal vein passes; and a smaller encysted abscess, in the same lobe, the interior of which is puckered from the emptying of its contents.

There is also an encysted abscess in the left lobe.—(Webb's *Pathologia Indica*, No. 1046, p. 263.)

Presented by Dr. J. Mouat, Inspector-General, Madras.

496 An enormous encysted abscess of the right lobe of the liver, forming a cavity large enough to hold a man's head. It has led to the total destruction of all the tissues of the right lobe, leaving the left lobe, lobus spigelii and lobus quadratus unaffected. The walls of the abscess are strengthened by adhesions to the surrounding parts. The interior of the cyst is lined by albuminous and fibrinous exudation, which is more or less ragged in some parts.—(Webb's *Pathologia Indica*, No. 157, p. 260.)

497 Three encysted abscesses: "one in the left lobe the size of a closed fist, another in the right lobe, as large as a goose-egg; another in the middle lobe, close to the cava, the size of a walnut. The man also had an abscess in the brain."—(Webb's *Pathologia Indica*, No. 809, p. 260.)

498 An encysted, or sacculated abscess in the right lobe of the liver. The cavity is held open by glass rods. A good view of its interior, and of the large portal vein traversing it, is thus afforded. There is a curious diffused melanotic appearance of the surface of the left lobe.—(Webb's *Pathologia Indica*, No. 895, p. 260.)

Presented by Dr. Mouat, Inspector-General, Madras.

499 A central encysted abscess, the walls of which are almost as thick as the diaphragm, to which they are firmly adherent. The base of the right lung is firmly bound down to the diaphragm by adhesions. The interior of the cyst is smooth.—(Webb's *Pathologia Indica*, No. 753, p. 263.)

500 A section of a liver, through an encysted abscess in the right lobe. In the neighbourhood of the

cyst, which is smooth in the interior, a portion of tissue, softened by inflammatory action, is exposed.

Presented by Dr. H. Clarke.

501 "An irregular superficial abscess of the liver, with a border of adhesions, which probably fixed it to the neighbouring parts, in order to evacuate a deeper seated abscess, in the interior, of which it formed the external opening. A canal is seen leading from these irregular ulcerations to the interior of the organ."—(Webb's *Pathologia Indica*, No. 337, p. 259.) The preparation shows that the abscess has reached the peritoneum, which is almost a line in thickness from organized exudation. The breaking down liver tissue is fully three quarters of an inch in diameter nearly all round the cavity, and the irregular opening in its centre, supposed to have communicated with a deep-seated abscess below, is about an inch across.

Presented by Professor Allan Webb.

502 A diffuse abscess of the right lobe leading to destruction of the hepatic tissue. The shreds and processes seen in the cavity are portions of liberated Glisson's capsule, portal vessels, and hepatic ducts. No exudation of sufficient vitality to undergo organization with a view to limit the extension of the disorganizing process, has been produced. From an asthenic native of Bengal.—(Webb's *Pathologia Indica*, No. 1340, p. 264.)

Presented by Professor Allan Webb.

503 A remarkable specimen of diffused abscess. "The liver has become entirely disorganized, having lost all its characteristic form and consistence; being, in fact, a mere bag, strengthened by an universal adhesion to the diaphragm, leaving the vessels all hanging naked and bare in the interior, like mosses and stalactites in a cavern, and giving a vivid idea of the wonderful

vascularity of the organ, since the vessels may be followed, from the large portal trunks, to the finest ramules that are visible to the naked eye."—(Webb's *Pathologia Indica*, No. 779, p. 264.)

Presented by Professor Allan Webb.

504 A small abscess, the size of an orange, on the convex surface of the right lobe of the liver. It has perforated the diaphragm, but not the pleural covering of the same. This, however, is pushed up an inch and a half beyond the general surface of the muscle, and is greatly thickened, and firmly adherent to the superimposed lung. The adjacent pulmonary structure is consolidated.

505 A large abscess involving the entire thickness of the right lobe, leading to great disintegration of the hepatic parenchyma, and opening through the diaphragm, into the right pleural cavity.

Presented by Dr. John Macpherson.

506 Abscess of the right lobe of the liver, opening into the corresponding lung. "It seems to have commenced in the most convex and posterior part of the liver, not implicating much of the organ, but it has burst into the chest through the diaphragm, forming with the lung one large cavity. The destructive ravages of the disease are abundantly evident in this huge chasm; great blood-vessels, disorganized tissues, and the wreck of the air-passages and pulmonary structures, all confounded together in one gaping ruin. An opening into the chest is seen, also its effect on the pleura by deposit of lymph, the ordinary product of inflammation."—(Webb's *Pathologia Indica*, No. 555, p. 261.)

Presented by Professor Allan Webb.

507 An abscess of the convex portion of the right lobe of the liver of a Hindoo. The abscess had made its

way "through the diaphragm and emptied its contents into the right chest. Fibrinous dropsy ensued, coating with plastic layers the whole of the lung, which is reduced (by compression) to a size not exceeding a closed hand. The heart is small, and its parietes are very thin. The weight of the superincumbent fluid in the chest has pressed down the liver till it is flat throughout as a hand." (Webb's *Pathologia Indica*, No. 1532, p. 261.) The liver, right lung, and heart, whose ventricles are opened, are *in situ*.

508 A preparation illustrating the opening of an abscess about the size of an orange, on the convex surface of the liver, through the diaphragm into the right pleural cavity, setting up pleurisy, the effusion of which has led to compression of the inferior lobe of the lung. There is a good deal of lymph lining the diaphragmatic pleura. The abscess subsequently proved mortal, by opening into the peritoneal cavity.

Presented by Dr. Chuckerbutty.

509 Abscess of the liver opening into the pericardium. In this case there was an abscess in the epigastrium, which, being opened, gave exit to 40 ozs. of matter. A catheter was then introduced to ascertain its extent, and the side whence it had proceeded, on which it was found that the abscess communicated with the cavity of the pericardium, so that when a catheter was introduced the pulsation of the heart pushed the instrument aside. *Post mortem* examination showed (as seen in this preparation with the involved parts *in situ*) that there was an abscess in the liver of small size which communicated with the cavity of the pericardium, and this had formed an external tumour in the epigastrium. There was about a pint of matter in the left pleura. (Webb's *Pathologia Indica*, No. 274, p. 261.)

Presented by C. Ranken, Esq., General Hospital.

510 An abscess occupying the greater portion of the left lobe of the liver, and opening through the smaller curvature of the stomach, a large part of the walls of which has been completely destroyed. The stomach is laid open, so as to bring the abnormally affected parts under one view. The contrast between the healthy parietes of the stomach and the portion of the same supplemented by the contracting wall of the abscess is well demonstrated. The former is smooth and velvety, the latter uneven and somewhat roughened. The right lobe was studded with small abscesses. The patient was a European. He was admitted suffering from delirium tremens on the 31st October, and died on 30th November, 1846. (Webb's *Pathologia Indica*, No. 1524.

Presented by Mr. E. Loftus.

511 Abscess of the liver opening into the duodenum and stomach. In this remarkable preparation, we observe, *first*, an old abscess, which has strong adhesions to the false ribs on the right side. These adhesions give it the appearance of an aneurismal cyst, projecting on the right of the gall bladder. This old abscess was empty, containing only a little yellow fluid, mixed with flocculence. It is lined by a sort of mucous membrane. (?) This abscess had been evacuated by puncture, as marked by the glass rod. *Secondly*, another of more recent date, and not larger than an orange, is seen to have opened into the duodenum, just below the pylorus, immediately to the left of the gall-bladder, to which last the duodenum is seen to be intimately adherent. *Thirdly*, another abscess formed in the centre of the left lobe, and then extended upwards, causing absorption of all the structures till it reached the diaphragm, where it adhered strongly, and seems to have directed its course as if to

open at one point into the pericardium, for it has perforated the diaphragm. The pericardium, however, and lungs, though both strongly matted to the diaphragm, escaped. The abscess directed its course downwards, opening into the stomach about three inches below its cardiac orifice. The ulceration has proceeded through the mucous coat, and the outer cellular coat of the stomach is reduced to a sloughy state, and hangs about the opening like a (shattered) valve." (Webb's *Pathologia Indica*, No. 805, p. 262, case pp. 297, 303.)

Presented by Dr. Maclean.

512 Abscess opening into the duodenum and vena cava ascendens, prior to its passage through the diaphragm. The cava is laid open, and the circular perforation of its coats is shown by a thin black glass rod inserted into it. The cavity of the abscess immediately behind would admit an orange. Its margins are ragged. About half an inch further towards the convex surface there is a small encysted abscess, having no communication whatever with that which has opened into the vena cava. The duodenum has not been preserved, and the opening into it is not demonstrated. The parenchyma of the liver not implicated in inflammatory disease has undergone cellular or lobular degeneration, and presents a spongy appearance.—(Webb's *Pathologia Indica*, No. 1533.)

Presented by Dr. W. H. Clark, of Dum Dum.

513 A large abscess of the right lobe of the liver opening into the transverse arch of the colon. The walls of the abscess are held apart by a glass rod, and the orifice leading into the canal of the large intestine is plainly observed. — (Webb's *Pathologia Indica*, No. 1535, p. 262.)

Presented by Professor Allan Webb.

514 A part of a large hepatic abscess in which death

happened from the opening of a blood-vessel, which is shown in the preparation.

Presented by Professor Norman Chevers.

515 A liver of a patient who died from dysentery. On examining the various sections presented to view, isolated portions of gangrenous tissue are seen, and in some places this has become enucleated during maceration. From an Indo-Briton.—(Webb's *Pathologia Indica*, No. 1583, p. 263.)

Presented by Roosmalecocq.

516 Section of a portion of liver from a European who died of dysentery, displaying remains of two old small centrically situated hepatic abscesses. There is a considerable amount of fibrous deposit around both the small cavities. There were no recent abscesses in this liver.

Presented by Professor Norman Chevers.

517 A portion of the free edge of the liver illustrating a cicatrix on the upper surface, over which the peritoneum seems blended with the adventitious organized tissue, and from which, in the long axis of the organ, there is shewn a very delicate stellate puckering of the opaque and thickened peritoneum. The cicatrix is half an inch in its longest, and a quarter of an inch in its shortest diameter. Its whitish colour contrasts most distinctly with the surrounding parts. This specimen was taken from a patient who died from typhus fever. When first removed from the body the liver was singularly discoloured, was of a deep leaden hue, which, of course, has partly disappeared by immersion in spirit.—(Webb's *Pathologia Indica*, No. 184, p. 253.)

518 A portion of the liver demonstrating the cicatrix of an old abscess on the upper surface of the right lobe, near the longitudinal ligament and the anterior margin. The cicatrix has been adherent to the con-

tiguous parts, and in the process of detachment the adhesions have been torn. The puckering of the liver is well manifested. There is more depression in the site of the cicatrix in this than in that of the last specimen.

Presented by Professor F. J. Mouat.

519 Complete cirrhosis of the left lobe of the liver. Its surface is much nodulated from the contraction which has ensued of the exudation in and about the the capsule of Glisson. The size of this lobe is only about thrice as large as the lobus spigelii. The right is enlarged, and constitutes nearly the whole of the preparation. On the inferior surface the depressions corresponding to the points where the right kidney and its suprarenal capsule and the turn of the colon impinge upon it, are well developed, and covered with dense, unyielding, adventitious tissue; through the medium of which the organ must have been strongly adherent to these parts. Beneath these spots there is a good deal of condensed fibrous cicatrix-looking material. The contractions of new tissue around one of these depressions has led to considerable narrowing of the vena cava. The puckering of the interior of the vessel from the concentric compression is admirably demonstrated where a short glass rod holds its walls apart. In the large sections, on the posterior aspect of the specimen, the thickening of Glisson's capsule is manifested. The section is, in some parts, spongy, indicating the advancement of parenchymatous degeneration with the conditions which ultimately produce a cirrhosed or hobnail liver. — (Webb's *Pathologia Indica*, No. 1538, p. 264.)

Presented by Professor Allan Webb.

520 A series of sections of the cicatrix-looking portions of the above. It is quite clear, from an examination

of these, that they are merely the result of the organized lymph which has been thrown out during chronic plastic inflammation of Glisson's capsule. (Webb's *Pathologia Indica*, No. 1583, p. 263.)

Presented by Professor Allan Webb.

521 Section of a liver in which the early stage of cirrhosis is indicated. There is also manifested a good deal of parenchymatous degeneration, from which the organ has now derived a spongy appearance. (Webb's *Pathologia Indica*, No. 1531, p. 255.)

Presented by Professor Allan Webb.

522 Advanced cirrhosis of the liver. It is about the size of the two fists. Its surface is irregular, nodulated, and covered with a dense and much thickened peritoneum. The section demonstrates a series of oval, circular or polygonal spaces, surrounded by opaque white fibrous structure and containing the compressed and atrophied hepatic parenchyma. The patient was a middle-aged sepoy, admitted into the Mynpoorie Station Hospital, while *en route* to his home on sick furlough. He had ascites, and internal hæmorrhoids. After the administration of an enema these bled much, and this was stopped with great difficulty. The evacuations were always loose, white, and clayey. The patient was not jaundiced, but the complexion was very sallow, and the conjunctiva was dull and glossy. The circulation was feeble and there was a tendency to stupor. The *post mortem* report is as follows :—

"The liver was small, very hard, and nodulated on the surface. Both externally and internally its parenchyma was of a light nutmeg appearance."

Presented by Dr. A. Simpson, of Mynpoorie.

523 Cirrhosis of the liver. "The whole organ is contracted, till it does not exceed in size two closed hands. It has been minutely injected with vermilion

and the solidification which it has undergone from disease, is thus rendered more apparent. Some of the lobules are pushed out by the contraction of the intermediate tissue of Glisson's capsule, which has undergone adhesive inflammation. This gives the whole organ a tubercular aspect, although there is in reality not a single tubercle in it. The vascularity of the gall-bladder is well shown. (Webb's *Pathologia Indica*, No. 340, p. 254.) There is no visible degeneration of the parenchyma such as is noticed in the spongy livers.

524 Cirrhosis of the liver. The surface presented to view is nodulated and covered with thickened and puckered peritoneum. "The gall-bladder is thickened and contracted from deposition of lymph." (Webb's *Pathologia Indica*, No. 1393, p. 255.)

Presented by Dr. Green, of Howrah.

525 A portion of a cirrhosed liver, the surface of which displays a hobnail appearance.

Presented by Professor Allan Webb.

526 A cirrhosed liver, the hobnail character of which is well illustrated. The patient died from ascites.

Presented by Professor F. J. Mouat.

527 A very good specimen of cirrhosed liver taken from a female in the dissecting room. The surface is irregular, nodulated, and of a chocolate colour. The gall-bladder is small.

Presented by Mr. L. A. Kock, Student.

528 Inflammatory thickening and adhesion of the capsule of the liver to the kidney. The gall-bladder is almost obliterated by adhesions. The section of the liver shows a mixture of fibrinous deposition, purulent matter, and the spongy form of lobular degeneration. In the largest spot of disorganization, the vessel

leading to the abscess is closed by adhesion. (Webb's *Pathologia Indica*, No. 936.)

Presented by Dr. Clark, of Dum Dum.

529 Adhesion of the capsule of the liver to the lesser curvature of the stomach, which is perforated by an abscess in the vicinity of the pylorus. (Webb's *Pathologia Indica*, 1607, p. 263.)

Presented by Mr. Loftus.

530 The liver of a new-born child greatly enlarged, adherent to the colon and small intestines by organized inflammatory exudation. The thoracic and abdominal organs are exposed *in situ*.

531 Specimen showing adhesion of the liver to the diaphragm and kidney of the right side. An abscess made its way through the cellular tissue, and Dr. Webb thought, through the structure of the kidney into the lumbar region. The large amount of adventitious tissue around the kidney and between the liver and that organ is plainly demonstrated in the sections held apart by glass rods.

Presented by Professor Allan Webb.

(*h.*) *Of Cysts containing Calcareous Matter.*

532 A thin walled cyst, as large as a walnut, which contained the calcareous matter now lying at the bottom of the bottle. The cyst is imbedded in the substance of the liver, the section of which brings into view lines of opaque fibrous tissue, radiating from its parietes.—(Webb's *Pathologia Indica*, No. 333, p. 257.)

533 Another specimen of a cyst, the section of which shows that it must have been about the size of a filbert. Its interior is encrusted with calcareous deposit. The main part of its contents has not been kept. The cyst is imbedded in the hepatic parenchyma, the section

of which does not show the lines of fibrous tissue seen so distinctly in the last preparation to diverge from its parietes.—(Webb's *Pathologia Indica*, No. 336, p. 257.)

534 A calcareous deposit enclosed in a cicatrix-looking substance, which is continuous with the parenchyma of the liver. The hepatic structure is a good deal puckered all round the concretion.—(Webb's *Pathologia Indica*, No. 1446, p. 258.)

Presented by Dr. J. Mouat, Inspector-General of Madras.

(*i.*) *Of Hydatids.*

535 The liver and stomach of the mus decumanus. There are cysts on the liver containing cysticircus fasciolaris. One cyst hanging by a pedicle is observed, from which the entozoon has extruded. One lobe of the liver and a piece of the small intestine is adherent to the stomach by fibrous exudation.

Presented by Professor Crozier.

536 Portion of liver containing the sac of a hydatid. One cyst seems to have escaped, leaving a cavity bounded only by the hepatic substance, whose margins are somewhat fleecy. — (Webb's *Pathologia Indica*, No. 338, p. 257.)

537 "A fine specimen of hydatid of the human liver, as large as a closed fist, projecting beyond the free edge of the liver, parallel with the gall-bladder, close to it but on the right side."—(Webb's *Pathologia Indica*, No. 769, p. 257.)

538 A portion of a liver illustrating a small hydatid cyst on the upper surface of its free margin just at the junction of the left with the right lobe.

539 An excellent specimen of a hydatid tumour of the liver. The principal sac is laid open and maintained in that position by the interposition of glass rods,

exposing a large number of small cysts clustered together like a layer of Cabool grapes.

Presented by Professor Edward Goodeve.

540 "Liver of a domestic rat (*mus decumanus*), with a cyst in its centre from whence was extracted a tænia tricocephalus dispar, and which is appended to its parent cyst. There are also two other cysts containing remnants of similar dead worms."—(Webb's *Pathologia Indica*, No. 185, p. 257.)

Presented by Mr. Evans.

(*k.*) *Of Tuberculosis.*

541 Tuberculosis of the liver. The organ is twice as large as in health. This increase of size is owing to the enormous development of the lobus quadratus, compensating for the loss of structure in the right and left lobe, consequent on tubercular infiltration. In both the right and left lobes, the lobules have been more or less filled with tubercular material. But, in the lobus quadratus, the section demonstrates tolerably healthy liver tissue. The front edge of the liver has carried the gall-bladder onward until it looks like a double viscus. "The cystic, common and hepatic ducts are all pervious, and prove that this is the true account of this singular deviation from the normal condition of the gall-bladder. The convex surface of the liver is distinctly embossed with tubercules like hobnail-heads. Some of these have coalesced, forming a mass as large as a walnut, soft in the centre, projecting from the left lobe. Others have broken up into a vomica of the middle supplemental lobe, which is almost wholly disorganized by subsequent suppuration. The broken-up tissues of the organ are seen projecting into an irregular vomica formed in this

situation."—(Webb's *Pathologia Indica*, No. 169, p. 260.)

542 "Liver of a dog (*canis familiaris*), affected with a pulpy scrofulous deposit. The situation of the tuberculous deposition is near the bottom of the preparation." —(Webb's *Pathologia Indica*, No. 188, p. 258.)

Presented by Mr. Evans.

543 Tuberculosis of the hepatic ducts. This fine "specimen was taken from the body of a native of Cannanore, and illustrates in a beautiful manner the views of Dr. Carswell, in this department of pathology. The tubercular matter is seen as well injected into some of the ducts, as if it had been done for the purpose of demonstration. Those of the ducts which are cut obliquely present an arborescent appearance, whilst many others cut across still show the cavity in the centre, which led to the notion of a central softening point, as particularly insisted upon by Laennec. Whereas it is abundantly evident that this is only the remains of the old canal, not as yet completely obliterated. Examined by the microscope, matter taken from these canals has the distinctive characters of tubercle; compared with tubercular matter from the lungs of another subject, and also examined under a high power, the characters were similar. A large group of lobules injected with tubercular matter, like the head of a cauliflower, has been sliced, and bears strong resemblance to tuberculosis of the lungs. This is more striking from their coalescence in one place, and breaking up into a vomica." (Webb's *Pathologia Indica*, No. 552, p. 259.)

Presented by Professor A. Webb.

(*l.*) *Of Medullary Carcinoma.*

544 A liver illustrating many deposits of medullary carcinoma. The whole organ is more or less involved,

and large nodular projections of the cancerous material are observed on the convex surface.

Presented by Baboo Bhoolum Mohun Mitter.

(*m.*) *Of Malformation.*

545 Liver of a female with an abnormal division of its right lobe into two parts by a deep transverse fissure, across which they are chiefly united by fibrous tissue. The same mode of communication exists between the left lobe and the adjacent division. The lobus spigelii is enlarged and elongated.

Presented by Baboo Bindabrun C. Chatterjee.

(M.) Of the Spleen.

(*a.*) *Enlargement.*

546 "An enormously enlarged spleen taken from a patient suffering from what is called spleen disease, with intermittent fever. The organ is somewhat larger than an ordinary sized liver, and has a division into two lobes. Its peritoneal covering is marked here and there with patches of lymph, and the peripheral structure of the organ beneath the investing membrane is, for an extent varying from one to two inches, very much condensed—like liver. An irregular formation of cells then succeeds, utterly dissimilar to anything else in the body." They are bounded by trabecular prolongations, thickened by hypertrophy and the addition of adventitious tissue; and "they vary from a millet seed to the size of a pea or bean." "The centre of the organ is occupied by a tissue of loose and flocculent capillary vessels, floating like moss, and resting upon irregular loops about as thick as hair. There is sometimes seen a square-looking body, which sends out single ramules, or pencils, or capillaries,

having the appearance of thistle-down, but I have never seen these project into the cells. This central body seems ready to float away by means of the bunches of capillaries attached to it. All this part of the organ resembles the minute structure of the macerated liver, No. 656, but for the much greater minuteness of the vessels and the singular arrangement of the cells exactly resembling those seen in the lung of the turtle." (Webb's *Pathologia Indica*, No. 556, p. 142.)

547 Enlargement of the spleen from malarious fever. The peritoneal covering and capsule are much thickened and puckered from organized inflammatory exudation. In the depressions caused by this contraction, the adventitious tissue exists in greatest abundance. The capsule and peritoneum, as they are seen on sections inseparably united together, measure about a line in thickness. The trabeculæ are thickened and very distinct, the interspaces large and filled with the spleen pulp. The density and compactness of the organ is greater as we proceed to examine it from the centre to the circumference. About an inch of the periphery is so compact, that the trabecular spaces do not exceed the diameter of a pin's head, whilst many of those towards the central region of the spleen are large enough to contain a pea.

Presented by Dr. John Macpherson.

548 Enlargement of the spleen, which is about thrice as large as the healthy organ. The capsule is opaque, and puckered from the contraction of adventitious tissue, which is of a semi-cartilaginous character. Its section near the periphery "has much the same regularity of structure" as is observed in the healthy liver. In this part no "cells or capillaries hanging in a flocculent manner" are distinguishable. Towards the centre of the organ the trabecular spaces are more

clearly discerned. (Webb's *Pathologia Indica*, No. 680, p. 143.)

549 Enlargement of the spleen, taken from a girl who had been a sufferer from sloughing ulceration of the labia and the soft parts over the pubis. The capsule and peritoneal investments are much thickened from organized lymph exudation. The section demonstrates about half an inch of the peripheral parenchyma to consist of dense hepatic-looking structure, so compactly arranged as to preclude the possibility of distinguishing any of the trabecular spaces with the unaided eye. Within this lamina the fibrinous prolongations of the capsule are more manifest, and near the centre of the organ they are hanging forward loose and in a measure devoid of the spleen-pulp which has here escaped during maceration. (Webb's *Pathologia Indica*, No. 653.)

550 Enlargement of the spleen. Its capsule is thickened, opaque, and slightly puckered from contraction of the exuded lymph. The parenchyma is, in some parts, tolerably even and regular; but it is generally of a honeycombed character, from the escape of the pulp contained in the enlarged trabecular spaces during maceration.

Presented by Professor A. Webb.

551 Enlargement of two spleens, both of which are covered with accumulations of lymph, and disfigured by the shreds of old adhesions. The section, for about an inch of the peripheral parenchyma, resembles the hepatic structure in its unbroken evenness and regularity. But the central portions of the organ are honeycombed from the escape of the spleen-pulp during the process of maceration. The cells thus brought into view vary from the size of a millet seed to that of a small pea.

552 An enlarged pyriform-shaped spleen. The peritoneal covering and capsule are greatly thickened. The organ is much fissured, and puckered in some parts by the contraction of organized lymph. In some portions the surface is of a dull opaque colour; but, as a general rule, it is of a chocolate hue. Its section is dense, even, and fleshy-looking. At the lower end of the specimen there is a tongue-like process separated from the spleen on the external surface by a well-defined fissure, but continuous with the general parenchyma of the organ on the internal aspect. Viewed from the parietal aspect, it resembles a supplementary spleen; viewed from the visceral surface, it is seen to be an integral portion of the viscus.

Presented by Mr. D. Picachy, of Hooghly.

553 A spleen taken from a child, with a shrivelled capsular investment. The trabeculæ are remarkably well developed. The organ seems to have been recently enlarged, probably from engorgement of blood, which has been removed during maceration, leading to the shrinking of the capsule, and exposing the trabecular prolongations with singular distinctness.

Presented by Professor A. Webb.

(*b.*) *Inflammation and its Consequences.*

554 A spleen, normal in dimensions, but containing at one point tissue undergoing disintegration from suppurative inflammation. A portion of the pulp underneath the capsule is broken down, and there is a deposit of lymph over this situation.

Presented by Professor A. Webb.

555 Abscess of the spleen. At each extremity of the organ there is an excavation the size of a pigeon's

egg, the sites of abscesses over which the splenic parenchyma, capsule, and peritoneum are completely destroyed. The parietes of the cavities are irregular with flocculent shreds hanging from them. The organ is moderately enlarged, and the capsule slightly thickened from the organization of lymph.

Presented by Dr. Chuckerbutty.

556 Gangrene of a considerable part of the substance of the spleen in a European, who had been suffering from intermittent fever. When removed from the body, the viscus was as large as a child's head. The remnants of the spleen consist of a dark network of trabeculæ, and the vessels which have been laid bare by the destructive process. A small portion of capsule remains attached; but the remainder has either been destroyed, or removed to demonstrate the black parenchyma below. The stomach, which is opened, was found, on *post mortem* examination, to be much congested.

Presented by Professor Eatwell.

557 "A spleen in one part invested with a thick layer of fibrous deposit of cartilaginous consistency. The organ is not enlarged. This deposit is most abundant over a cavity which exists at the upper part of the organ, and which is, when distended, as large as an orange. It is probably the site of an old abscess. The strengthening of its walls with this thick cartilaginous investment, three or four lines in thickness, prevented its rupture," and the extravasation of its contents into the cavity of the peritoneum.—(Webb's *Pathologia Indica*, No. 647, p. 143.) The floor of the cavity alluded to is formed by the splenic parenchyma covered with a very delicate layer of organized lymph.

(*c.*) *Rupture.*

558 Spleen of an artillery corporal ruptured. Extensive suppuration and disintegration of the parenchyma and capsule. The abscess is central. It is surrounded by a deposit of soft lymph. The whole organ is enlarged, and "at the *post mortem*, was found excessively congested, readily breaking down under the fingers. On the posterior aspect of the preparation, the ragged edges of the ruptured capsule are well illustrated. After the patient's death, Mr. Leckie heard that he "had received a severe fall on his left side the day before his admission into hospital."

Presented by Mr. Leckie.

559 An enlarged spleen ruptured by a blow after a meal, or when the stomach was full. The capsule has been cleanly torn, but the parenchyma underneath is ragged and uneven.

560 An enlarged and softened spleen, on the under surface of which there is a gaping chasm, penetrating deeply into the substance of the organ, running transversely from the internal margin, and upwards of two and a half inches in length. The rupture of the capsule is not straight, and there is slight unevenness in its margins. The splenic parenchyma, however, is ragged and irregular, and between the two walls of the chasm there is a portion of pulp and coagulum interposed.

Presented by Dr. W. G. Ellis, of Patna.

(*d.*) *Tuberculosis.*

561 A spleen enlarged to twice the normal size. Its section shows about an inch of the periphery to be dense, and more or less infiltrated with yellowish tubercles occupying most of the trabecular spaces. Within this

the parenchyma is more loose and spongy in character; and the tubercular nodules varying in size from a pin's head to that of a small pea, are beautifully demonstrated occupying the trabecular spaces normally filled by the spleen-pulp. On the back part of the preparation, the tubercles are plainly seen underneath and elevating the capsule, which is somewhat thickened.

Presented by Dr. F. Oxley, of Singapore.

562 Spleen of the Oran Otan, containing several masses of tubercular deposit. On the convex surface, the yellow strumous deposits vary in size from a millet seed to that of a small hazel-nut.—(Webb's *Pathologia Indica*, No. 342, p. 143.)

Presented by Dr. F. Oxley, of Singapore.

563 Tubercular deposits about the size of millet seeds in the parenchyma of the spleen, which is slightly enlarged. The capsule is more or less studded over with recent lymph deposits.

Presented by Professor Edward Goodeve.

(*e.*) *Malformations.*

564 A spleen enlarged to twice its normal bulk, having four fissures in its anterior margin, varying from a half to two inches in depth. There is another fissure in the posterior margin upwards of three and a half inches in length.

565 A spleen having a fissure two inches deep in the anterior margin running across the organ, into which three other fissures open at right angles, dividing the part of the organ in which they exist into three distinct lobes. There is also a deep fissure on the anterior surface running in the long axis of the organ.

Presented by Dr. Chuckerbutty.

566 A spleen having three small fissures in its anterior margin and a similar number in its posterior convex border, with two on its inferior surface, where there is a button-shaped supplementary spleen.

567 A spleen about the normal size, having a longitudinal superficial fissure on its anterior surface an inch from the margin of the viscus.

Presented by Dr. Strong.

568 Spleen and stomach. A globular supernumerary spleen is attached through the medium of parenchymatous tissue to the lower extremity of the organ. Another about the same size, now detached, was situated over the gastro-splenic omentum. It was attached by the vessels and their supporting connective tissue.

Presented by Sub-Assistant-Surgeon Tameez Khan.

§ XI.—Of the Organs of Circulation.

(A.) Of the Pericardium.

(1.) *Inflammation.*

569 Heart illustrating roughening of the visceral layer of the pericardium from plastic inflammation lighted up by violence. There is thickening from atheromatous deposit, of the curtains of the mitral valve, and fatty degeneration of the substance of the heart. (Webb's *Pathologia Indica*, No. 1697, p. 52.)

Presented by Dr. Scanlan, of Backergunge.

570 Pericarditis. The sac is opened, exposing the anterior surface of a portion of the right ventricle and the roots of the great vessels. The greater part of this is covered with shreds and laminæ of organized

lymph, some of which are of a pale brown, and others of a dark chocolate, colour. The false membrane and fibrinous deposit are most abundant near the origins of the aorta and pulmonary artery. Towards the apex of the organ, there is a thin layer of organized exudation. In some parts, the continuity of this has been destroyed, thus displaying alteration in the muscular structure of the ventricular wall, probably from its having participated in the surrounding inflammation. A portion of the parietal pericardium is reflected for the purpose of showing the coating of false membrane with which it is furnished. The following is the report of the appearances at the *post mortem* examination :—

"On opening the pericardium, a large quantity of bloody serum escaped. The membrane itself was somewhat thickened generally, and had dark red spots on it; but that portion immediately covering the heart, especially anteriorly, was quite altered in structure and was covered with what was supposed to be coagulable lymph of a bright red colour, reticulated and villous, of a considerable thickness and having a firm texture. There were no adhesions between the surfaces of the pericardium."

Presented by Dr. J. C. Collins, of Monghyr.

571 Pericarditis. The greater portion of the external pericardium has been removed. The cavities of the ventricles and the auricles are opened. The visceral layer of the pericardial serous membrane is more or less discoloured by the deposition of a fine lamina of organized lymph. Wherever this exists, there is a brown villous appearance, and where its continuity is interrupted the surface is of a dull opaque colour. The fibrinous deposit, which is very delicate, requiring close examination to unravel it, is most strikingly manifested over

the anterior aspect of the left ventricle and the origins of the aorta and the pulmonary artery.

Presented by Professor A. Webb.

572 Pericarditis, or inflammation of the serous membrane investing the heart and the pericardium. This is covered with patches of flocculent or roughened lymph more or less advanced towards organization. This lymph deposit is most marked over the left ventricle and in the neighbourhood of the aorta and pulmonary artery. The external pericardium is reflected upwards in order to show the universal and uniform alteration in its colour and texture. Its surface is roughened, and it is of a dull yellow colour. (Webb's *Pathologia Indica*, No. 251.)

573 Pericarditis. The external pericardium is upwards of one-sixth of an inch thick, semi-cartilaginous and leathery in character. It is held open by glass rods, so that its rough interior surface is readily seen. The right lung, the bronchial tubes of which are much thickened, is seen firmly bound down to the pericardium by adhesions, and a portion of distal pulmonary pleura is *in situ* indicating thickening from the deposition of organized lymph. The cardiac reflection of the serous layer of the pericardium is altered by adventitious tissue, measuring over the left ventricle, fully the sixth of an inch in thickness. In the anterior wall of the right ventricle, this adventitious structure is also well marked, nearly forming the whole thickness of the parietes at the thinnest part of the ventricle. The muscular tissue of the ventricles, columnæ carneæ, musculi papillares, the chordæ tendineæ, and the curtains of the valves are, in a measure atrophied from the compression exercised by the (surrounding) contracting new tissue. (Webb's *Pathologia Indica*, No. 819.)

574 Advancing adhesion of the pericardium, which is

laid open, exposing a considerable deposition of lymph on the visceral surface possessing a spongy appearance, and a strong filamentous band about half an inch in length uniting the membranes to each other.

Presented by Professor Mouat.

575 Partial adhesion of the pericardium from rheumatic pericarditis. A portion of the sac is preserved; this is a quarter of an inch in thickness and cartilaginous in consistency, roughened and irregular in its interior, and adherent externally to the lungs, portions of which are seen attached. About three ounces of dirty yellow serum were contained in this cavity. The *post mortem* report states:—"Both its surfaces were covered with lymph, having, in some parts, a reticulated appearance, in other parts, and to a greater extent, there were small processes giving its surfaces a shaggy appearance. At the base of the heart and near the great vessels, the lymph was very thick and pretty smooth. The posterior part of the left ventricle was strongly adherent to the corresponding pericardium. The lymph covering it was of a pale yellow colour. Endocardium and valves healthy.

Presented by Mr. James Hinder, of Umritsur.

576 Universal adhesion of the parietal to the visceral layer of the pericardium. The disease is evidently of some standing. The thickness of two layers with the contracting uniting tissue over the left ventricle is about the eighth of an inch.—(Webb's *Pathologia Indica*, No. 1047.)

Presented by Dr. J. Mouat, Inspector-General, Madras.

577 Universal adhesion of the parietal to the visceral layer of the serous pericardium of six or seven years' standing. The ventricles contain antimortem coagula, and their walls are somewhat attenuated.

Presented by Dr. Green, of Howrah.

578 Universal adhesion of the parietal to the visceral layer of the serous pericardium.

579 Universal adhesion of the pericardium. "The first aspect of this singular specimen is that which has been occasionally reported as a total absence of the pericardium. A more careful investigation shews universal adhesion and consolidation, nay, absolute confounding of the pericardium with the proper structure of the heart itself. The thick organized bands of coagulable lymph, the contractile tissue hang loose and shaggy from the apex of the heart, and even here are evidently of old standing, whilst in other situations this false membrane has contracted upon the heart, and actually so compressed it, that the right ventricle, even with the addition of this coalescing membrane, is no thicker than an auricle, and would not contain more than a tablespoonful of blood. There is, moreover, a horny hardness of this new product which must have greatly embarrassed the function of the ventricle. This seems to have been compensated for, in some measure, by a remarkable dilatation of the canal of the pulmonary artery (near the heart), which is more capacious than the right ventricle itself, and is closed below by an artificial valve of coagulable lymph, converting it into a sort of third ventricle. The auricle is contracted, large masses of bone have been developed in the substance of the false membrane covering its roof, especially between it and the root of the pulmonary artery. The whole auricle looks like dried skin or horn. The ventricle is hypertrophied, covered with a case, apparently degenerated pericardium, partly horny, partly bony, purposely divided to show its thickness. The muscular structure has greatly degenerated on the whole; we are lost in wonder how this organ could or did perform its

functions, but can only reason from the specimen before us, for, unfortunately, there is no case."—(Webb's *Pathologia Indica*, No. 663, p. 16.)

580 Universal adhesion of the parietal to the visceral layer of the serous pericardium. The left ventricle is opened, and the section demonstrates, *first, the external, secondly, the internal* pericardium, both of which are much thickened, and *thirdly, the muscular structure*, which is considerably attenuated near the apex of the heart. A portion of the left lung is, *in situ*, firmly bound down to the pericardium by old adhesions. A number of vomicæ in this lung are seen, and the œsophagus perfectly crammed with lumbrici.

"The fleshy substance of the heart has partially undergone fatty degeneration, is very lax and easily lacerated, the lung adherent to the pericardium covered outside with layers of lymph, atrophied, having an encysted tuberculous deposit in the centre, adjacent to a large vomica, the walls of which are quite ragged, and have opened by two small openings into the pleural cavity. The lower part of the lung is hepatized, the upper part healthy and free from tubercles. The aorta has atheromatous deposits assembled in large patches about the valves. The œsophagus is absolutely stuffed with lumbrici."—(Webb's *Pathologia Indica*, No. 1876, p. 54.)

Presented by Dr. F. Oxley, of Singapore.

581 Heart, and an enormously distended pericardium, which contained 92 ounces of fluid. Both are covered with lymph deposit.

Presented by Professor Edward Goodeve.

(B.) Of the Heart.

(1.) *Hypertrophy.*

582 Enormous hypertrophy of the muscular structures of the ventricles and auricles of the heart. The organ is four or five times its normal size.

Presented by Mr. Hannah.

583 Hypertrophy of the left ventricular walls, consequent upon obstructive atheromatous deposit in the aortic valves and the walls of the vessel.

Presented by Professor A. Webb.

584 Hypertrophy of the heart to about twice or thrice its natural size.

Presented by Sub-Assistant-Surgeon Tameez Khan.

585 Another specimen, illustrating hypertrophy of the left ventricle.

Presented by Mr. P. Minas.

586 Hypertrophy of the heart, with slight dilatation from obstructive and regurgitative disease of the aortic valves. There is seen fusiform dilatation of the ascending aorta, the lining membrane of which is largely infiltrated with atheromatous deposition.

Presented by Dr. J. Macpherson.

587 Hypertrophy with dilatation of the left ventricle. The aortic valves are exhibited much thickened and puckered from compensatory material and atheromatous deposit, which also exists in considerable quantity underneath the first inch of the lining membrane of the aorta.

Presented by Dr. Cantor.

588 Hypertrophy with dilatation of the left ventricle of a European. "The left ventricle was full of black

coagulated blood. Besides the left auricle all the vessels emptying therein were gorged with blood. There were numerous apoplectic effusions in the lung, some as large as a walnut, many as large as a pea or bean." The whole pulmonary structure was more or less congested. "The heart altogether very large. The right side healthy; all its valves sound; thickening of the mitral." Pericardium adherent near the apex of the organ. "The aortic valves are much thickened from atheromatous deposit, causing obstruction to the onward flow of the blood, and admitting regurgitation. The mitral is thickened and strengthened to withstand the extraordinary pressure thus thrown upon it. But this valve at last permitted regurgitation leading to dilatation of the auricle, pulmonary apoplexy, and dilatation of the right auricle, as exemplified in the specimen." (Ewart).

589 Hypertrophy with dilatation of the left ventricle, consequent upon obstructive and regurgitative disease of the aortic semilunar valves. The ventricle is laid open so as to give a view of the size of the walls, the columnæ carneæ, and the valves. The right ventricle is also dilated and hypertrophied.

Presented by Dr. Scriven.

590 Hypertrophy with dilatation of the left ventricle, consequent upon, *first*, obstruction at, and *subsequently* regurgitation through, the aortic orifice, from incompetency of the semilunar valves.

591 Hypertrophy with dilatation of the heart. There are atheromatous deposits on the semilunar valves and arch of the aorta, causing obstruction, and rendering the valves incompetent to prevent the reflux of blood into the ventricle during the diastole. The left auricle, right auricle, and ventricle are also dilated. From a native whose liver, lungs, and brain manifested apo-

plectic effusions of blood. (Webb's *Pathologia Indica*, No. 1422, p. 52.)

Presented by Baboo Modoosadun Gooptu.

(2.) *Atrophy and Fatty Degeneration.*

592 Extreme atrophy of the heart of a native. The walls and valves are equally wasted and attenuated to such an extent, that the organ is scarcely half the average size.

Presented by Dr. F. Oxley, of Singapore.

593 Extreme atrophy of the heart, in a case of phthisis pulmonalis, from an adherent and contracting pericardium to which both lungs (which are riddled with vomicæ) are bound down by old adhesions.

Presented by Professor Duncan Stewart.

594 Extreme atrophy of the whole of the structures of the heart in a Bengallee woman who died from fever. "The pericardium was covered within by numerous red dots, surrounded with effused lymph and pus. The right auricle contained an organized coagulum attached between the musculi pectinati." This was prolonged into the ventricle. "The left auricle, covered on the outside with fibrinous deposit, had a coagulum which was adherent to the musculi pectinati within. It is still seen rough on one side, smooth and lined with membrane on the other. It has united a portion of the lips of the mitral valve, and consequently narrowed the opening to the ventricle. It is prolonged as a false membrane inside the ventricle upon the musculi papillares." (Webb's *Pathologia Indica*, No. 1662, p. 53.)

Presented by D. Picachy.

595 Heart showing, in several sections, fatty degeneration of its muscular structure. The whole of the superficial lamina is almost completely replaced by

fat. The deeper fibres are also in a state of fatty atrophy. There is more than the ordinary accumulation of adipose tissue in the sulci made for the reception of the coronary vessels and cardiac nerves.

Presented by Pundit Modoosadun Gooptu.

596 Heart from the dissecting room. It is larger than natural. The left ventricle is slightly hypertrophied. There is a large opaque-white spot slightly raised on the front part of the left ventricle about an inch and a half in diameter. On section, an opaque, dirty white or yellowish appearance is seen extending through the wall of the ventricle from the pericardium to within a line of the endocardium, and circumscribed within the well-defined limits just mentioned. There is a similar diseased mass in the forepart of the wall of the right ventricle. "The muscular fibres of the walls of the ventricles in the situations indicated are partially or wholly converted into fat. In some places rows of fat-granules with faint indications of transverse striæ are present. In others, nothing but fat-granules is seen. There are also free fat-granules and globules between the fibres. There is a cyst about the size of a bean near the diseased mass of the right ventricle towards the internal surface of the cavity containing a curdy matter. This presented pus-corpuscles under the microscope. *Diagnosis*—fatty degeneration of muscular fibres of the heart, with infiltration of free fat." (*Walker.*)

Presented by Mr. Gopaul Chunder Dutt.

597 Heart of a patient who died after the removal of a scrotal tumour. There is excessive deposition of adipose tissue on the external surface of the organ, and fatty degeneration of the walls and carneæ columnæ of both ventricles.

Presented by Professor J. Fayrer.

598 Fatty degeneration of the heart. There is a nodule of adipose deposit in the wall of the right ventricle near the root of the pulmonary artery. The whole organ is small.

Presented by Dr. Chuckerbutty.

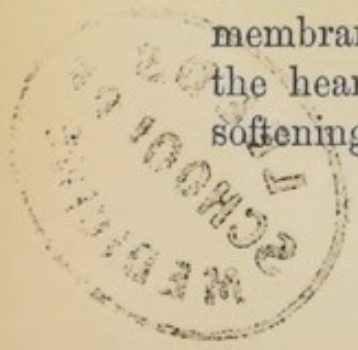
(3.) *Aneurism of the Heart.*

599 Heart showing two aneurisms in the walls of the left ventricle near the apex. Each of these is about the size of a walnut, and communicates by a comparatively narrow opening into the cavity of the ventricle. The margins of these orifices are smooth, and lined by an opaque-looking membranous structure, which is continuous throughout the interior of the aneurisms, both of which have led to the entire absorption of the muscular structure, being bounded on their external aspect, which projects half an inch above the level of the cardiac surface, by thickened and adherent pericardium. In some parts this shield or barrier is a quarter of an inch in thickness, whilst in others it does not exceed the tenth of an inch. Each of the sacs was filled with fibrine in process of softening and degeneration, and a portion of coagulum is now seen in one of them. The patient was admitted into the Calcutta Native Hospital in a dying state.

Presented by Professor J. Jackson.

(4.) *Inflammation and its Consequences.*

600 Inflammation of the substance of the heart. "A most beautiful preparation showing active inflammation of the substance of the heart, as well as of its lining membrane. The injected state of the vessels outside the heart is even yet apparent, also the redness and softening of the muscular structure towards the apex,



and lastly, the effusion of organized lymph, which is seen to line, as a false membrane, the whole of the right auricle. This inflamed state of the heart's muscular structure is accompanied with fatty degeneration. The aorta is dilated, and greatly diseased. Its coats still bear evidence of yellow deposit, and small depressions exist, having a strong analogy to the cicatrices seen after ulcers have healed in the intestines. There have probably been ulcers here. The small aneurismal dilatations of the external coat confirm this view. The root of the innominata is greatly contracted." (Webb's *Pathologia Indica*, No. 620, p. 16.)

601 Inflammation of the substance of the heart. There are two dark patches indicating the site of inflammation and approaching disintegration of the muscular tissue. The ventricles are stuffed with coagula. (Webb's *Pathologia Indica*, No. 789.)

602 An abscess in the substance of the septum ventriculorum of the heart, and several white rounded masses of organized fibrine projecting into the cavities of the ventricles, with whose internal surface they are connected by means of flattened bands. These are found chiefly near the apex, and between the carneæ columnæ. They vary from the size of a small pea to that of a nut, are hollow in the interior, and contain within them a dirty, greyish-red fluid resembling pus. From an old Hindoo.

Presented by Professor T. W. Wilson.

603 Heart, probably from a native, judging from its small size. "It is covered within and without by small-pox-looking pustules,* which are also abundantly developed upon the aorta and pulmonary artery

* Probably these were of pyæmic origin.

within and without. The right auricle shows scarcely any pustules excepting one or two large ones upon the appendix auriculæ. The outside of the right ventricle is free excepting the meatus pulmonalis, upon which they are so numerous as to have become confluent upon the tricuspid valve where it is joined to the meatus. One large pustule is observed to separate as a slough. There are no others within the ventricle. Pus and lymph only are seen upon the carneæ columnæ. One valve of the pulmonary artery is almost perforated by pustules destroying its texture. The artery, like the meatus, is covered inside and out by pustules. In some instances large ones have nearly perforated the vessel through both coats. In others those within the vessel are not correspondent with those without it. The left auricle is free from pustules both within and without. The left ventricle is very much dilated and covered with pustules and fibrine without *anteriorly;* but none corresponding are seen upon the endocardium. On the contrary the *posterior wall* of the ventricle is entirely free, externally upon the pericardium, whilst internally the endocardium is loaded with them. The aorta has a large oval opening in one of its semilunar valves, most probably from the separation of a pustule, and a large irregular opening leads from it to a small aneurism, which would contain a hazel nut, extending between the auricle and ventricle on the left side. The aorta interiorly presents marks as of cicatrices from pustules." (Webb's *Pathologia Indica*, No. 1523, p. 52.)

(5.) *Rupture.*

604 Spontaneous rupture of the wall of the right ventricle at the apex in a native. "The heart is very much altered in its external appearance. The right auricle is exceedingly dilated. The auriculo-ventricular

opening is very large. There appears to be no proper right ventricle, but this is compensated for by enormous dilatation of the pulmonary meatus, which admits four fingers, and has burst in its most dilated portion. This was caused by an anuerismal formation in the apex of the left ventricle about the size of a small fowl's egg, which has encroached upon the capacity of the right ventricle. The left auricle is dilated, and the auriculo-ventricular opening is very large."

MEMORANDUM BY DR. ROSS.

"Case of rupture of the right ventricle of the heart occurring without any observed premonitory symptoms. The man was admitted into hospital on the 10th November, 1847, with slight fever, from which he was quite free on the 11th. After being discovered on the morning of the 13th in a state of nearly complete collapse, he emerged with scarcely any signs of vitality for nearly twelve hours. The rupture was nearly longitudinal. The opening at first when the rupture was examined was exceedingly minute, internally, but was externally about eleven lines in length, and the valve opening was partially closed with clots of blood. There was about a pint of blood in the pericardium, which was of a dark colour and only slightly coagulated. There were about two pints of blood in the posterior mediastinum."—(Webb's *Pathologia Indica*, No. 1660, p. 54.)

Presented by Dr. Ross, of Jessore.

605 Rupture of the right ventricle of the heart of a native. The whole organ is of a lemon-yellow colour, and in an advanced state of fatty degeneration. At the point where the wall has given way, the whole of the muscular tissue is replaced by fat. The opening is jagged close to the base of the heart and septum,

and measures about an inch in length, this being in the direction of the long axis of the ventricle.

Presented by Dr. Mountjoy.

606 Heart of a native pierced in three places with wounds, caused by fractured sternum and ribs. The patient was run over by the wheel of a buggy, and he died within a quarter of an hour after the accident. On being examined sixteen hours after death, and "removing the integument of the thorax, anteriorly, it was discovered that the sternum was fractured at its centre transversely, and the third and fourth ribs were broken into several pieces, with their spiculæ pushed downwards; and on lifting the cartilages of the ribs with the sternum, a large quantity of dark coagulated blood was observed immediately under the site of the accident. The pericardium was lacerated in three points, and also the left ventricle of the heart, even extending in one place right through the septum ventriculorum, the wounds being filled with coagulated blood. The left lung was extremely congested, approaching a dark colour. The right lung presented nothing worthy of note, except that it was of a red colour at its lower portion, which might have been dependent on gravity." (Webb's *Pathologia Indica*, No. 1579, pp. 51 and 193.)

Presented by Mr. Thomas, Student.

607 Heart, in which there is a musket-ball almost completely embedded in the muscular structure of the left ventricle at its apex. The surface of the ball is more or less covered with fibrinous deposition. The cavity of the ventricle is elongated, and the carneæ columnæ look as if they had been stretched. A brief abstract of the case is submitted below :—Private Israel Hinton, of H.M.'s 80th Regiment, was wounded at the storming of the Great Pagoda, at Rangoon, on the 14th of

April, 1852. He was treated in the field hospital by Dr. Fayrer for upwards of a fortnight, and when apparently convalescing, transferred to the depôt hospital at the Amherst Sanitarium. He was here received under the care of Dr. White, who has furnished the following account:—The ball had entered about the top of the left shoulder, taking an oblique direction towards the cavity of the chest. Blood and air issued from the wound for several days afterwards. His breathing was difficult, and accompanied by a short distressing cough and sanguineous expectoration. There was tumefaction of the left side of the chest. When the fingers of the corresponding hand were pressed, a creeping sensation was experienced. These symptoms had in a great measure subsided on the admission of the patient under the care of Dr. White. The cough was then slight, and there was no blood in the material expectorated. There was some emaciation, small and quick pulse, and clean tongue. The skin was cool, bowels regular, wound looking healthy, spirits good, patient expressing every confidence as to his ultimate recovery. There was dulness over the left side, slight respiratory murmur only underneath the clavicle. The wound was closed on the 12th of May. Febrile symptoms then came on every evening. On the 13th he stated that he had passed a most restless night, owing to fearful dyspnœa and coughing, which were relieved after he had brought up some bloody muco-purulent expectoration. The recurrences of similar distressing paroxysms prevailed till the 16th, when his dyspnœa was constant, and he consequently spent very sleepless and wretched nights. He remained in this state till the 24th, after which he enjoyed comparative ease and respite till the 3rd of June, when the dyspnœa and bloody expectoration returned with

aggravated force. On the 11th emphysema reappeared in the situation of the original wound, extending into the axilla and down the left side of the chest. This was reduced by pressure, but immediately returned on the withdrawal of the same. He was now greatly depressed in spirits; pulse small, gradually sinking. On the 14th he experienced profuse perspiration, and no respiratory murmur could anywhere be heard in the left side. On the 16th he suffered from hiccup, was emaciated to a skeleton, and expectorated purulent matter untinged with blood. On the 20th he was manifestly worse. He died on the 24th, having survived 72 days after the reception of the ball in his chest.

Post mortem examination six hours after death. The body was pale and frightfully emaciated. The passage of the ball through the pectoral muscle could not be observed; but it seemed to have passed into the thorax between the third and fourth ribs, proceeding in its course downwards and inwards. The pleura was firmly adherent to the left side, forming a cavity which extended from the first to the seventh ribs, and from the spinal column to the cartilages of the ribs. This contained about a pint of pus. The left lung was impervious to air throughout. A small portion of the cloth of the jacket was lying loosely at the orifice of a canal situated about the middle of the lung in its convex aspect. This canal passing forwards and inwards stopped short close to the union of the pulmonary veins, when all further traces of the passage of the ball were lost. On raising the heart, however, a hard and firmly imparted substance was felt at its apex, which, on examination, proved to be the ball in the left ventricle at its most inferior part, crossed and recrossed by the chordæ tendineæ and carneæ columnæ, which secured it firmly

in its position. The heart was perfect in every respect, and the only conclusion that could be arrived at was that the ball must have perforated one of the left pulmonary veins, and thus passed into the left auricle and ultimately into the left ventricle.

Presented by Dr. P. W. White, of the Depôt Hospital, Amherst.

(6.) *Displacement and Transposition.*

608 Displacement of the heart of a native of Bengal from empyema. The left side of the thorax and thoracic division of the spinal column, the heart and great vessels arising therefrom are *in situ*. The purulent material in the left pleural cavity has escaped. Hence, the heart has returned to about its ordinary position on the left side of the median line. The external surface of the pericardium is covered by lymph deposits. The heart was pushed over to the right side. (Webb's *Pathologia Indica*, No. 1622, p. 54.)

Presented by Professor Jackson.

609 Displacement of the heart in a native from empyema. Heart, great vessels and lungs are *in situ*. There is observed endo-pericarditis, atrophy of left lung from long disuse and compression, and tuberculosis of the apex of both lungs. "Probably a vomica had burst into the left pleural cavity. A collapsed cavity is seen at the top of the left lung, and a little lower down the sloughing margin of an opening communicating with another. There is an irregular deposit of caco-plastic fibrine around, also one or two spots in the right lung. A portion of the diaphragm is preserved. Its upper part is covered with fibrinous deposits." (Webb's *Pathologia Indica*, No, 1647, p. 36.)

Presented by Dr. Bond, of Burdwan.

610 Transposition of the heart. Lungs, heart, and

great vessels, with the sternum are preserved *in situ*. "In this magnificent preparation we observe that the heart is completely displaced, being transposed from the left to the right side of the chest. The heart is shrivelled and compressed to half the size it would naturally have been in a strong, tall European. The right lung is studded with tubercles. The left lung is so shrunk and atrophied as hardly to exceed in size three fingers. It is matted with a thick layer of coagulable lymph, which coats the whole of the pleura, and stretches across in the form of thick organized bands, from the lung to the pleura. The whole of this immense bag was filled with serous fluid, which had pressed *aside* the heart, and pushed *up* the lung, which became still further compressed by the contractile nature of the false membrane itself." (Webb's *Pathologia Indica*, No. 621, p. 15.)

(7.) *Vegetations.*

611 Vegetations upon the endocardial surface. "The organized clots now seen were with difficulty separated from the wall of the ventricle, leaving its serous surface rough where they had been attached. The opposite surface of the clot, its free surface, is seen to be covered with a fine membrane." (Webb's *Pathologia Indica*, No. 558, p. 17.)

612 Organized vegetations of the heart, the left ventricle of which is hypertrophied. "In the recent state the heart was intensely red, and its muscular substance softened. The attachment of the coagulum is to that part of the tricuspid valve facing the pulmonary artery. One surface of that portion within the auricle is rough and bloody, corresponding to the red marks on the auricle. The free surface is smooth, pale, and lined

with membrane. A prolongation or pedicle is continued into the appendix auriculæ, and has puckered it up, by dragging on it so as almost to invert it. The principal attachment is by layers of membrane, which form almost complete sheaths for the carneæ columnæ. A larger prolongation is continued like the last into the pulmonary artery, more distinctly marked like an arrow-head, where embraced by the valves of the pulmonary artery. There is thickening, rigidity and opacity of the mitral valve ; and fatty deposition to a great extent, in the heart generally." From an European who died from immense abscess of the brain. (Webb's *Pathologia Indica*, No. 775, p. 25.)

613 Vegetations on the ventricular surfaces of the aortic and mitral valves. There is hypertrophy and dilatation of the left ventricle from obstructive and regurgitative disease of the semilunar valves. The brown-coloured masses of organized fibrine are seen hanging down into the cavity by their free extremities. (Webb's *Pathologia Indica*, No 869, p. 27.)

614 Fibrinous vegetations around the valves of both auriculo-ventricular openings, especially the right. One portion is prolonged for an inch and marks a sinus leading from the right ventricle and communicating with the aorta just above the valves. The pericardium was distended till it filled nearly half the chest, and almost hid the compressed lung. The little girl to whom this heart belonged was of Armenian parents born in Calcutta, aged 7 years ; was delicate and puny from her birth, subject to fever of remittent type, and to its sequelæ, spleen and glandular enlargements. From birth some peculiarity was observed in the heart's action attributed to imperfection of the valvular apparatus (and probably patency of the foramen ovale). As she advanced in life the disturbance became greater,

the heart's action irregular and tumultuous. No distinction could be observed of the nature of a double beat, but each contraction seemed to engage both ventricles at once, and the sound was unlike anything I can think of unless the forcing of water through a sieve. During the last ten months there had been gradually increasing general anasarca and accumulation of fluid in the pericardium, encroaching enormously on the cavity of the thorax, and impeding respiration. I should mention as a curious fact of the family history, that the parents for several generations have been blood-relations, that the child's mother for several years of infancy suffered from similar symptoms of heart disease, that two of the other children have exhibited malformation or mal-development of parts, *i.e.* cleft palate, &c." (Webb's *Pathologia Indica*, No. 1600, p. 56.)

Presented by Professor Stewart.

(C.) Of the Endocardium.

(1.) *Inflammation and Degeneration.*

615 Inflammation of the endocardium. The auriculo-ventricular opening of the right side is partially closed by a plug of effused fibrine. "The fibrine or lymph has united by adhesion the lips or borders of the tricuspid valve, for three-fourths of its extent. A space is left that would barely admit the tip of the little finger. The fibrine is prolonged into the auricle as an organized clot, coagulum or polypus adhering to the inflamed lining membrane, as seen by the rough flocculent surface from which it has been torn, corresponding with a similar rough surface on the clot itself, whilst the opposite or free surface is lined by fine serous membrane, and is pale compared with the

bloody surface torn off. The clot is continued into the cava descendens. Bands of adhesion also covered with fine membrane connect it with the musculi pectinati above, and also with the red, swollen, and puckered-up borders of the valve below. Viewed from the ventricle the closure is most complete and the adhesion most perfect. The fibrinous layers are continued for some distance along the chordæ tendineæ. The adjacent serous membrane of the ventricle is opaque and the ventricular cavity diminished considerably. There is a remarkable tongue-like coagulum prolonged into the pulmonary artery, pale, firm, and its extremity moulded at some distance from the tip, like the barbs of an arrow, by the valves of the pulmonary artery. It is firmly united to the right ventricle. The pulmonary artery is dilated, but healthy. The left auricle has its lining membrane opaque. The mitral valve is thickened and semicartilaginous. The aortic valves are healthy, the aorta itself being dilated; its lining membrane is partly opaque, partly elevated by yellow or red atheromatous deposition. The whole heart is small, its substance softened and interspersed with fatty degeneration. Pericardium opaque. From a negro sailor said to have died from phthisis. (Webb's *Pathologia Indica*, No. 774, p. 24.)

616 Inflammation of the endocardium of both ventricles, and of the lining membrane of the aorta and pulmonary artery, pneumonia and emphysema, all of which are beautifully represented in the preparation. The roughening of the internal membrane and the great vessels is shown. There is also a firmly organized coagulum in both ventricles, extending on the right side into the pulmonary artery. On the posterior part of the specimen the aorta is laid open, bringing into view its lining membrane, rendered irregular by

organized fibrine, which is seen presenting a villous appearance or hanging in shreds into the canal of the vessel.

617 Endocarditis, pericarditis, &c. "The pericardium is thickened and covered with lymph. Its serous surface contained some effused serous fluid. The inner surface of the pericardium and the outer surface of the heart presented a villous and honeycombed appearance in some places, especially that near the origin of the pulmonary artery. This false membrane was rough, reticulated, harsh and rugged to the touch. The substance of the heart was injected and inflamed; the organ itself was preternaturally enlarged and its parietes hypertrophied, the wall of the left ventricle being more than one inch thick. The heart was, however, loose and floating in the pericardium, but this last was united by adhesion to the lungs.

"The walls of the right auricle are thickened, and its cavity filled with a coagulum, which is lined by a serous membrane, and in some parts has contracted adhesion with the thickened parietes. The free surface of the clot is covered with the same kind of honeycombed product of inflammation, seen so universally effused over the pericardiac serous surface. The membrane lining the auricle is intensely red. The auriculo-ventricular opening is partly obliterated by the coagulum, but a passage is left capable of admitting the tip of the little finger. The coagulum is also agglutinated in some parts to the apices of the tricuspid valve. In the right ventricle a portion of that coagulum is seen prolonged and entangled in the meshes of the chordæ tendineæ. The walls of the right ventricle are also thickened, and the cavity diminished in size. The pulmonary artery is somewhat dilated. The sigmoid valves appear large. In the left auricle a

small coagulum is observed of a reddish colour, but loosely adherent. The internal surface of the auricle is of a deep red colour. The coagulum is united to the mitral valve, and the valve itself is thickened and of an opaque glistening look. The cavity of the ventricle is not diminished in size, but its parietes are hypertrophied. (Webb's *Pathologia Indica*, No. 868, p. 26.)

618 Endocarditis and pericarditis demonstrated in the heart of a native of Bengal. False membrane and firm coagulum are observed in both the ventricles, and also on the external surface of the heart (Webb's *Pathologia Indica*, No. 1641.)

Presented by Baboo Dwarkanauth Bose.

(D.) Of the Valves on left side of Heart.

(1.) *Mitral Valves.*

619 Thickening of the marginal portions of the curtains of the mitral valve. The auricle is opened to bring into full view the auricular surface of the valvular apparatus. The morbid change in the valve is of an incipient nature, and has not proceeded so far as to produce puckering or contraction and consequent mechanical incompetency.

620 A more advanced state of disease of the curtains of the mitral valve. The yellow portions of degenerated structure appear in nodules at their margins. The puckering and morbid rigidity is sufficient to produce incompetency and to allow regurgitation. The auricles are dilated and the left ventricle is hypertrophied from having been called upon to overcome obstructive disease of the aortic valves. There is also moderate thickening of the tricuspid valves. The heart is in

a state of fatty degeneration. (Webb's *Pathologia Indica*, No. 640.)

621 Calcareous degeneration of the mitral valve, diminishing the orifice so much as to render the introduction of the little finger difficult. The orifice is viewed from the auricle, which is held open by the insertion of a glass rod. The contracted orifice is of an elliptical shape, appearing to be simply a narrow button-hole fissure. From a native of Bengal who died with general anasarca.

Presented by Professor F. J. Mouat.

622 Button-hole mitral constriction. The orifice will scarcely admit more than a common pencil.

Presented by Professor Edward Goodeve.

623 Button-hole constriction of the mitral orifice. The opening is a mere slit. From (congenital?) thickening, puckering and contraction of the curtains of the mitral valve. From a native female, 25 years of age, who died suddenly.

Presented by Professor Norman Chevers.

624 Heart and aorta showing great thickening from albuminous and calcareous deposit in the aortic valves; a large patch of atheroma in the ascending aorta; hypertrophy with dilatation of the left ventricle and a *button-hole constriction* of the mitral orifice.

Presented by Baboo Gopaul Chunder Deb.

(2.) *Aortic Valves.*

625 Slight thickening of the aortic valves with incipient atheroma of the first half-inch of the aorta.

626 "The semilunar valves, diseased, rounded, hardened and incapable of accurately closing the vessel (the aorta) which is seen beyond the valves to be unequally dilated, forming the first stage of an aneurism. One

or two small aneurismal sacs are already formed where the internal and middle coats have ulcerated, from irritation of the bony and cartilaginous deposits with which they abound. The internal membrane is greatly thickened and may be seen to constitute the diseased valves. The external coat alone forms the anuerismal sac." (Webb's *Pathologia Indica*, No. 247, p. 2.)

627 Semilunar valves much thickened from atheromatous and fibrinous deposits. The valves are cartilaginous in consistency and completely matted together by adhesions. The opening through them is an oval chink. The under surface of two of the diseased valves is marked by the brown-coloured remains of the vegetations that were adhering to them during life. The state of the valves is such as is calculated to cause insuperable obstruction to the onward flow of the blood from the ventricle into the aorta, and to allow regurgitation from that vessel into the ventricle during the diastole. The aorta is dilated at and in the vicinity of the sinuses of valsalva; but in other respects it presents a perfectly healthy appearance. (Webb's *Pathologia Indica*, No. 118, p. 2.)

628 The heart of a Sikh, the left ventricle of which is opened and seen to be slightly hypertrophied. The aortic valves are irregularly thickened. In one there is a slit on either side of the corpus Aurantii. In another there is only one slit, and the corpus Aurantii of this is merged in the thickening of the margin of the valve. In the third valve, there is general thickening of the margin of the valve. The sinuses of Valsalva are sacculated; but the aorta manifests no indication of disease.

Presented by Mr.James Hinder, of Umritsur.

629 A specimen illustrating a slit near the free margin of one of the aortic semilunar valves. There is also

manifested atheromatous deposit in the lining membrane of the aorta around the sinuses of Valsalva, and the orifices of the coronary arteries. The muscular structure of the heart is atrophied.

Presented by Mr. James Hinder, of Umritsur.

630 Calcareous deposit, producing great thickening and incompetency of the aortic valves in a native. The altered condition of the valves must have obstructed the passage of the blood from the ventricle at each systole, and permitted regurgitation during the diastole. There are nodular calcareous eminences on the ventricular surfaces of the valves where vegetations were attached. The aortic surfaces are also very uneven, and the sinuses of valsalva inordinately sacculated; but there is no indication of degenerative disease in the other portions of the aorta that have been preserved.

Presented by Dr. A. S. Simpson.

631 Heart of a European female who suffered from regurgitant disease of the aortic valves. These are somewhat thickened, rigid, shallow, contracted, and one is quite incompetent to prevent the reflux of blood during the diastole. The upper margin of another shows tendency to retroversion. There is, consequently, a dilated and hypertrophied left ventricle. The curtains and muscular columns of the mitral are also thickened, but efficient. The ascending aorta is slightly dilated, and this, as well as the arch and descending portion, are partially atheromatous. About an inch above the faultiest valves, there is a small aneurismal pouch about the size of a nut, which is advancing towards the descending cava at its termination in the auricle. The exact point where the sac impinged upon the descending cava, is indicated in the back view of the preparation by two glass rods crossing each other. The internal and middle coats,

at the apex of the tumour have given way, and there is only the attenuated cellular coat preventing extravasation of blood. The congestion of the cellular coat of the cava, just where rupture must have been impending, indicates the commencement of the process of exudation of organizable material, wherewith nature might have delayed the rupture of the aneurismal sac. In this case, there was a double bruit over the aortic valves. It would have been doubtful whether this depended upon aneurism of the ascending arch, or upon not excessive regurgitant disease of the aortic valves. The moderate water hammer character of the pulse decided the point.

Presented by Professor Norman Chevers.

(E.) Of the Arteries.

(1.) *Coronary Arteries.*

632 Heart of an old enfeebled Bengalee, exhibiting calcareous degeneration of the coronary arteries. There was also general atheromatous disease of the arteries. In this preparation the coronary arteries are laid open, and are seen "quite ossified like quills. The heart is atrophied. There is atheromatous deposition upon the mitral and aortic valves, dilatation of the aortic arch, arctation of its branches, general atheromatous deposition upon the aortic internal lining both in the thoracic and abdominal divisions. At the under part of the aortic arch this atheroma has caused ulceration almost through the vessel, and adhesive inflammation of the surrounding tissues preparatory to aneurism. The coronary arteries are ossified through the greater part of their length, the aortic valves considerably thickened, slight dilatation of the aorta at the point where its ascending and transverse portions

meet. The right curtain of the mitral valve, the sinuses of Morgagni, the whole of the thoracic aorta, from its origin in the left ventricle, as well as the abdominal, till its bifurcation into the common iliac arteries, and also the right external iliac for about an inch and a half, were found infiltrated with the atheromatous deposit. At the transverse portion of the arch where the arteria innominata and the left carotid and subclavian are given off, this deposit was also observed producing arctation. A small ulcer, situated about the beginning of the descending aorta, was also seen, the coats of the artery externally having formed adhesions with the neighbouring parts. The coats of the arteries were considerably thickened throughout, and on being cut, remained round and widely open." (Webb's *Pathologia Indica*, No. 1677, p. 54.)

Presented by Professor Allan Webb.

633 Aneurism of one of the coronary arteries. There is atheromatous deposit in, and thickening of, the semilunar valves, and in the lining membrane of the sinuses of Valsalva. The orifice of the coronary artery leading to the aneurism is large enough to admit a glass rod as large as a goosequill. This leads in about half-an-inch to the sac of the aneurism, which is about the size of a small walnut. Its anterior portion has been sliced away. The walls of the aneurismal dilatation consist of the thickened visceral pericardium, the altered cellular tunic of the artery, and a more or less interrupted lamina of organized lymph. There is a good deal of thickening and opacity of the pericardium for about half an inch around the circumference of the aneurismal sac.

(2.) *Ascending Aorta.*

634 Atheromatous and calcareous deposition on the inner surface of the aorta, extending from the semi-

lunar valves to the lower part of the thoracic aorta. The destruction of the internal tunic is noticed in a great number of places over the foreign deposits. The liver was fatty in the same subject.

Presented by Professor Allan Webb.

635 Uniform dilatation of the ascending aorta with disorganization of the aortic valves. The lining membrane is rendered uneven by the deposition of atheromatous material. The same kind of degeneration has led to the partial disintegration of the semilunar valves. The diameter of the dilated portion is about twice as large as that immediately succeeding it.

Presented by Professor Edward Goodeve.

636 Aneurism of the ascending aorta, from a native. The sac of the aneurism is opened. Its cavity is large enough to admit the grasped hand. The dilatation begins from about an inch above the semilunar valves, and extends to within the first half of the arch. The external portion is adherent to the internal surface of the sternum, which, in one part, about as large as a walnut, it has completely perforated. There is between the aneurismal cavity at this part and the integument, only areolar tissue, thickened and altered by organized exudation. The pulsation of the aneurism must have been felt here. Some relics of concentric layers of fibrine are seen on the wall of the sac just underneath the portion of the sternum which has been preserved. (Webb's *Pathologia Indica*, No. 1674, p. lv.)

Presented by Dr. Oxley, of Singapore.

637 Aneurism of the ascending aorta, commencing immediately above the semilunar valves, and reaching to within an inch and a half of the origin of the arteria innominata. The valves are stretched, and

as it were, continuous with the floor of the sac, which, when distended, is large enough to hold the grasped hand. Its most projecting point is towards the left auricle, into which it opens, by means of an orifice surrounded by a circular smooth lip, just above the fossa ovalis. Thus the arterial blood pumped into the aorta at each systole, must have been partially returned by this opening through the left auricle into the corresponding ventricle, which is hypertrophied and dilated. The sac of the aneurism is puckered and contracted, a condition which probably supervened when the opening into the left auricle occurred. The man was a sailor, and died during an attack of pneumonia. (Webb's *Pathologia Indica*, No. 871, p. 27.)

Presented by Professor J. Jackson.

638 Globular aneurismal dilatation of the ascending aorta, slight thickening of the aortic valves, adherent pericardium, and hypertrophy of the left ventricle. From a native forty-five years of age.

Presented by Khettur Mohun Dutt, Student.

(3.) *Ascending and Transverse part of Arch of the Aorta.*

639 Aneurism of the ascending aorta, with aneurismal dilatation of the first turn of the arch. "The aneurismal sac springing from the root of the aorta increased in a direction upwards and backwards till it attained the size of a closed hand. Now its progress being arrested by the root of the neck, it could only obey the law of increase by insinuating there a small secondary cyst, about the size of a little orange. The neck of this secondary sac still bears marks of the constriction which it had undergone. By its weakness it gave way to the arterial impetus, and its laceration

produced death. Atheromatous depositions of the coats of the vessel attest its diseased condition, and patches of lymph on the surface of the heart show that the disease was general." (Webb's *Pathologia Indica*, No. 250, p. 3.) The large sac is opened, and it is seen to reach from the semilunar valves to within about an inch of the innominata. Beyond this boundary, the first portion of the arch is considerably dilated. In the descending portion, a patch of atheromatous deposit has given way, leading to ulcerative destruction of the internal tunic, and exposing the finely fibrous longitudinal lamina of the middle coat. The small sac is seen open with somewhat ragged margins.

640 Aneurism of the ascending and transverse part of the aorta and of the arteria innominata. "It will be more easy to explain the intricate details of this preparation upon the supposition of an aneurism of the innominata supervening upon aneurism of the aorta, than in any other way. This large aneurismal sac of the innominata, opening below into the arch of the aorta, and above into a secondary cyst, pushed up into the root of the neck, whilst by its increase outwards it nearly closed a primary aneurismal sac of the aorta. Its pressure would have cured itself, having almost entirely closed the innominata, but that it was still subject to the law of increase by its free communication with the aorta. . . . . The aorta, even in the soundest portion that has been preserved, is loaded with yellow deposit. This diseased condition of the vessel has given rise to, first, an aneurism, which is seen to spring from the ascending portion, and is quite distinct from the second later and larger sac. By its mode of communication internally, a round smooth lip, which is similar in character to all the

other aneurisms, it contrasts with the wide irregular opening which exists between the aneurismal sac of the innominata and the summit of the aortic arch, and which probably took place at a much later period. For, admitting this large sac to have sprung directly from the summit of the arch, we cannot account for the extent of its base, nor for the want of a neck or lip. Aneurisms do not spring out at once by so wide and extensive a base. Whereas it is shown to spring from the innominata by the round smooth ring still observed in the innominata itself; and, in my opinion, this ring cannot be accounted for on any other supposition than that of an aneurism of the vessel. Taking it for granted that such was the case, we may thus recapitulate its effects :—

"1st. The aneurismal sac has nearly closed, by its pressure on the neck, the older aortic aneurismal cyst, which is seen to project from the ascending portion of the vessel. The larger sac of the innominata almost closes it 'like a valve.'

"2nd. By its backward, reflex, and upward pressure, it has pressed upon and almost obliterated the innominata itself, affording a rare instance of such an attempt at the spontaneous cure of aneurism in this situation. The whole line of the vessel from its origin to within a line or two of its division, is flattened, obliterated, or destroyed, and only distinguished as a raised cord by the original outline. The space left just below the division must have carried the blood from the carotid to the subclavian before the application of ligature.

"3rd. From the downward pressure of the cyst and upward pressure of the blood, the coats of the aorta, thus assaulted both ways, have at last given way, forming a wide and open communication at the bottom of the cyst.

"4th. The increased impetus now acquired is followed by the production of the cervical tumour, mistaken during life for aneurism of the carotid which was ligatured. This sac has not burst, having been greatly defended by layers of coagula, offering a fine contrast to the state of the secondary cervical tumour, as noticed in the last preparation.

"5th. Besides these two, which form the great bulk of the preparation, a *third* aneurism is projected backwards from the aorta into the trachea immediately above its division, encroaching most on the left bronchus, filled up with firm coagulum, united by fibrine to the cyst. The mucous membrane of the bronchus is thickened and rough in this situation. Again, a *fourth* aneurismal cyst passes back from that part of the great sac which 'acts as a valve' to the first. It is lined with layers of recent coagulable lymph, and seems to have been projected into the substance of the lung immediately above the pulmonary artery. Lastly, there are two aneurismal dilatations, in one of which the internal coat has given way. They are situated on either side of the attachment of the obliterated ductus arteriosus.

"6th. The overgown sac of the innominata at length gave way at its thinnest part, causing instant death by effusion into the mediastinum." (Webb's *Pathologia Indica*, No. 534, p. 3.)

Presented by Professor R. O'Shaughnessy.

641 Aneurism of the ascending portion and transverse part of the aorta, "of large size, extending from the clavicle to the fourth rib, and for a hand's breadth outwards, making its way to the outside of the chest by destroying its walls and bursting in this direction. The walls of the sac are whitish, consolidated, and smooth. An attempt has been made to heal the

breach in the sac by the effusion of recent coagula. The aneurism is of long standing; heart is large; right ventricle enormously hypertrophied; left dilated, covered with layers of lymph and adherent pericardium." (Webb's *Pathologia Indica*, No. 378, p. 5.)

The sternal ends of the clavicles, sternum, and portions of the sternal ends of the first three ribs are *in situ*. When the preparation is examined from behind, the adhesion of the sac to the inner wall of the chest is well demonstrated. So is the somewhat irregular sacculation of the aneurism. Viewing it from the front, the jagged sac lined with recent lymph at the point where rupture took place, the complete absorption of a portion of the right side of the sternum just below the sterno-clavicular articulation, and of the corresponding two ribs are beautifully illustrated.

642 Aneurism of the ascending and transverse portions of the aorta. The walls of the sac are about the sixth of an inch in thickness and uniformly lined with a thin lamina of organized fibrine. The internal coat is destroyed, the parietes being made up of the attenuated middle tunic and the greatly thickened cellular coat. The heart is enormously hypertrophied, and the pericardium greatly thickened and adherent by tolerably recent adhesions. The sac of the aneurism is large enough to admit the grasped hand. It has pushed the pulmonary artery aside and been making its way to the anterior part of the chest; but it has not as yet contracted any adhesions to the surrounding parts.

Presented by Professor Allan Webb.

643 Aneurism of the ascending aorta with dilatation of the transverse portion. A section of the sac is presented. The sternum and ribs over it are preserved. The diameter of the sac from above downwards is fully six inches, and diagonally or antero-posteriorly,

four inches. The great bulk of the sac is projecting towards the anterior part of the chest, to which it is seen to be very firmly adherent. Its internal surface is irregular and in some places contains shreds of lymph. From a native.

Presented by Professor S. B. Partridge.

644 Aneurism of the ascending aorta and of the right coronary artery bursting into the cavity of the pericardium. "This tunic has been slit open in two places, by which its intimate adhesion to the surface of the heart by well organized membrane is made apparent." The aneurismal part of the coronary artery near its origin has given way, and allowed slow infiltration of blood into the pericardial cavity. The left coronary orifice is seen to be so much dilated that it would admit the thumb. Both into this and the ruptured sac, porcupine quills are inserted.

Presented by Dr. Evans.

645 Dilatation of the ascending aorta, and aneurism of the transverse portion of the arch, springing from each side of the arteria innominata. The sac is directed upwards and forwards, is firmly adherent to the parts at the root of the neck and the interior aspect of the sterno-clavicular articulations, at which points the pressure from within has led to absorption of the osseous and soft structures, allowing the emergence of the aneurism and the formation of a pulsating tumour in this situation.

Presented by Professor R. O'Shaughnessy.

(4.) *Arch of the Aorta.*

646 "Enormous dilatation of the arch of the aorta, with hypertrophy of the left ventricle, and dilatation of the cavities of the right side of the heart. The aorta is so much dilated at the summit of the arch

as to be equal to four fingers in breadth. It decreases again towards each extremity of the arch, forming a sort of fusiform aneurism. The internal coat is very extensively diseased, puckered, and studded with cartilaginous, bony and steatomatous deposits. The left carotid, and left subclavian are contracted by the thickening of their coats." Pericardium universally adherent. From a European sailor, aged 34, who was a very hard drinker, and died of dysentery. (*Pathologia Indica*. No. 754, p. 15.)

647 Aneurism of the ascending and transverse portion of the aorta. "This vessel appears to have been much dilated, and then to have given way at the junction of the ascending with the transverse portion of the arch. There was formed a diffused aneurism in the anterior mediastinum, the size of a fist, making its way towards the left side, extending from the lower edge of the first rib, to the upper edge of the fourth rib, bulging out the sternal ends of the second and third, which are partially absorbed. The original sac, in the most prominent point, is as thin as the pericardium, but strengthened internally by a buttress of coagulum, the layers varying from hard, firm, nearly colourless fibrine to recently effused blood. Heart large, vessels healthy, trachea large, bronchial glands partly indurated with tubercular or calcareous deposit, partly suppurated, lining membrane of bronchi thickened opposite the glands. The thoracic duct is obliterated from pressure and plugged up by coagula, at the junction of the transverse and subclavian veins with the vena cava descendens. (Webb's *Pathologia Indica*, No. 671, p. 5.)

Presented by Professor J. Jackson.

648 Aneurism of the arch of the aorta. "The aneurismal sac is seen springing from the transverse portion

of the arch. In shape, it bears a strong resemblance to a small heart. It occupies the anterior mediastinum, its base being on a level with the upper border of the sternum, its apex corresponding with the upper border of the third rib, keeping the centre of the sternum. It appears to be of old standing. The walls are thick, firm and white. No thinning of the bone seems to have taken place. The dysentery of which the man died, has so reduced him, as to admit of the sac being filled with firm coagula of blood, excepting a small part of the centre. The descending portion of the aorta, and ascending portion also are partially obstructed with coagula. The innominata, its branches and left carotid are completely closed. An effort seems to have been made, during the existence of this low state of the system, for the entire cure of the aneurism by plugging up the principal vessels in the neighbourhood with coagula. The heart is small for a European." (Webb's *Pathologia Indica*, No. 658, p. 5.)

Presented by Professor J. Jackson.

649 Aneurism of the transverse portion of the arch of the aorta. "One sac of small size is observed at the root of the innominata, another is as large as an orange, and projects below the left carotid. The lining membrane, though loaded with atheromatous matter, has not given way in either of these; but a third aneurismal cyst, though apparently of less size, has burst into the pericardium; it has filled it with blood, as indicated by the glass rod, distending the pericardium, oppressing the heart, and implicating it also in the inflammatory action by which the layers of lymph have been produced" (*Pathologia Indica*, No. 256, p. 5). The dark tongue-like processes of coagulated blood in the cavity of the pericardium is well shown in the preparation.

650 Aneurism of the arch of the aorta; it burst into the anterior mediastinum after having lighted up pleurisy and pericarditis. The sac has been projecting anteriorly towards the sternum.—(Webb's *Pathologia Indica*, No. 253, p. 6.)

651 Aneurism of the transverse portion of the aorta, the most projecting part of the sac being just immediately below the origin of the arteria innominata. It has become adherent to the pericardium in front; but at the lower part it has burst, and filled the pericardium with blood, most of which has escaped; but the chocolate colour of the lymph adhesions, from admixture with blood, is well demonstrated where the pericardium is detached.—(Webb's *Pathologia Indica*, No. 121, p. 28.)

652 Aneurism of the arch of the aorta of a male Hindoo found dying upon the road. The sac is laid open. Its walls seem to consist merely of the cellular tunic of the vessel, with several layers of fibrine.

Presented by Dr. James Taylor, of Dacca.

653 Aneurism of the arch of the aorta. The subject of this died suddenly from the bursting of the aneurism into the cavity of the chest. The patient had been treated for hoarseness almost amounting to aphonia. At the *post mortem* the sac was almost entirely filled with a coagulum. There was none, however, just at the seat of rupture. The aneurism pressed upon the recurrent laryngeal nerve, just where it curves round the arch of the aorta.—(Webb's *Pathologia Indica*, No. 1813, p. lv.)

Presented by Dr. A. S. Simpson, of Mynpoorie.

654 Aneurism of the arch of the aorta. The descending transverse aorta, with the vessels arising therefrom,

and a portion of the sac, are now *in situ*. The most prominent part of the sac is directed backwards.

Presented by Dr. Mouat, Inspector-General, Madras.

655 Aneurism of the arch of the aorta. There is one globular aneurism as large as a man's fist, the wall of which is laid open, exposing a laminated coagulum, completely filling the interior of the sac. The innominata, up to the point where it divides into the carotid and subclavian, is also aneurismally dilated. The tumour, by pressing upon the terminal part of the trachea, has caused considerable flattening of the same. Between this sac and the origin of the left carotid the aortic channel is dilated; and just at the origin of the left subclavian there is another aneurism, only a portion of which remains. This consists of the dilated vessel which has given way, and the breach is defended by a lamina of coagulum.

Presented by Dr. John Macpherson.

656 Enormous aneurism of the transverse and descending portions of the arch of the aorta, from a subject in the dissecting-room, supposed to be about forty years of age. The aneurism is fully three times as large as the heart. It involves the whole of the arch, and the vessels arising therefrom spring directly from the sac, which is laid open in one part, and seen filled with coagulum.

Presented by Mr. Kala Chunder Dey.

657 Aneurismal dilatation of the arch of the aorta, with transposition of the heart, thoracic aorta, and œsophagus, to the right side of the spinal column. The œsophagus has been removed; but the heart, dilated portion of arch, thoracic, and abdominal aorta, with spinal column, are represented *in situ* in the preparation.

Presented by T. W. Wilson.

658 Aneurism of the arch of the aorta.

Presented by Dr. Scriven.

659 Aneurism of the arch of the aorta, its size equalling that of a child's head.

Presented by Komoo Chunder Shadoo, Student.

660 Aneurism of the arch of the aorta.

Presented by Dr. Chuckerbutty.

661 Aneurism of the arch of the aorta which burst externally through the sternum. The sac is very large, and that part of it corresponding to the seat of rupture is stuffed with coagulum. The envelope of this coagulum is seen to be thin and translucent. Viewed from the interior, the sac is seen to communicate with the aorta by means of two large openings, each of which is as large as a rupee.

Presented by Professor Edward Goodeve.

662 Aneurism of the arch of the aorta, which proved mortal by bursting into the left bronchus. The opening into the air-passage is as large as a four-anna piece, and is indicated by the presence in it of a glass rod. The tumour occupies the whole of the transverse part and arch. The innominata, the left carotid, subclavian, and the thoracic aorta spring directly from the sac.

663 Aneurism of the arch of the aorta, proving fatal by opening into the trachea, about an inch and a half above its bifurcation. The communication is about as large as a two-anna piece, perfectly circular, and indicated by a red glass rod. There is observed a good deal of corrugation of the mucous membrane of the trachea around this orifice.

Presented by Professor F. J. Mouat.

664 Aneurism of the arch of the aorta adherent to the vertebræ and lung. The sac is laid open.

Presented by Dr. Chuckerbutty.

665 Aneurism of the extremity of the arch of the aorta of a European female opening into the œsophagus at the point now marked by the insertion of a red glass rod. The glass rods crossing each other over the roughened and thickened mucous membrane of the trachea indicate the position where the tumour would eventually have perforated that tube. Death did not result from hæmorrhage, although a little blood was spat up; but from pressure upon the trachea, and consequent suffocation. The fatal attack of asphyxia was precipitated by a "drinking bout."

Presented by Professor Norman Chevers.

(5.) *Descending Aorta.*

666 A portion of the descending aorta, and left subclavian artery, illustrating atheroma and arteritis in a native.

Presented by Professor Allan Webb.

667 A portion of the descending aorta showing atheromatous and inflammatory deposits. The same appearances are visible in the arch and ascending portion of the vessel.

Presented by Professor Allan Webb.

668 Aneurism of the descending portion of the aorta. There is also dilatation of the ascending part of the vessel. "The thickened and diseased state of the lining membrane is well shown. The sac beyond the curvature is large and empty. To this is attached a secondary sac, the size of a walnut, which has given way by ulceration. The mode in which it destroyed life, by bursting into the œsophagus, is beautifully shown. The vessel is loaded with atheromatous deposit between the dilatations. The hypertrophy of the left ventricle is enormous."—(Webb's *Pathologia Indica*, No. 254, p. 5.)

669 Aneurism of the descending portion of the arch of the aorta. "The sac of the aneurism is stuffed with coagula, has ruptured and caused death. The vessel below the sac is constricted from pressure of the sac, so that during life little blood could have flowed through the aorta, indeed, adhesive matter has been thrown out as if nature intended to close it."—(Webb's *Pathologia Indica*, No. 743, p. 6.)

(6.) *Thoracic Aorta.*

670 A portion of the thoracic aorta from a native who died from poisoning. The lining membrane, a portion of which is reflected, is much thickened, of a dull opaque appearance, and in some parts rendered granular and shreddy from inflammatory exudation.

671 Atheromatous deposit and calcareous degeneration underneath, and in the lining membrane of the thoracic and abdominal aorta with extensive erosions of the tunic itself. There is complete occlusion of the trunk of the vessel just above its bifurcation into the two common iliacs by organized coagulum. From a case of elephantiasis scroti.

Presented by Professor Allan Webb.

672 A portion of the thoracic aorta in which a great deal of calcareous and atheromatous material has been deposited underneath the lining membrane. This is irregularly raised by these depositions, so that it presents an uneven and undulating surface. This is particularly well marked around the orifices of the thoracic arteries and the unaffected intervals between them.

673 The thoracic aorta of a native studded over with atheromatous depositions beneath the internal tunic. These vary in size from a millet seed to that of a small pea. They are most largely developed around

the mouths of the intercostal arteries. In most, the epithelial tunic is altered in appearance and texture; but in some its disintegration has been effected, resulting in the formation of small pits, resembling ulcerations. The lining membrane, at the *post mortem* examination, was intensely red; and even now it presents a light chocolate colour.

Presented by Baboo Dwarkanath Bose, Assistant Demonstrator of Anatomy.

674 Aneurism of the thoracic aorta in a native of China, forming a pulsating tumour on the man's back. The great vessels, the sac of the tumour, a portion of the spine, and a couple of ribs are *in situ*. A portion of the sac infringes upon, and is firmly adherent to the left side of the bodies of two of the thoracic vertebral, leading to their partial absorption. But the bulk of the sac has been directed against the ribs near their vertebral articulations, causing complete absorption of a couple of inches of one, and partial disintegration of about an inch of the inferior margin of another. The opening of the aneurism here is fully an inch and a half in diameter, and the parietes, which are reflected, are attenuated and more or less lined with coagulated fibrine. The distance from the spinous processes of the vertebræ to the wall of the aneurism, at the point of emergence from the chest, is about an inch. There is a ragged opening in the sac close to the upper rib, which probably indicates the seat of rupture just prior to death. Here the sac is exceedingly patulous and attenuated, which has been partially compensated for by the deposition of laminated fibrine within, and of inflammatory adhesions without. The aneurism has one immense sac infringing upon the left side of the bodies of five vertebræ and measuring, even now in its puckered state, three

inches across. The other division is intervening between this and the ribs, through which it has made its exit by the sides of the transverse processes of the vertebræ, and caused a pulsating tumour in the back. (Webb's *Pathologia Indica*, No. 1667, p. 55.)

Presented by Dr. J. A. Ratton.

675 Aneurism of the thoracic aorta proving fatal by rupture and hæmorrhage into the œsophagus. The large opening from the aorta into the sac is about an inch and a half by one. The aneurism is about the size of an orange, and is bound down to the lung and the œsophagus, which it has perforated about an inch from the entrance of the tube into the diaphragm. The edges of this opening are everted and somewhat ragged. A coagulum is seen indicating nature's attempt to plug the orifice and to prevent the fatal result. This opening in the œsophagus is circular and about three quarters of an inch in diameter. There are three other small aneurisms in the aorta quite close to the large one just described, all of which have smooth margined communications with that vessel. The account of the case is given below :— The subject was an asthmatic Hindoo, a native of Kumaon, aged about fifty-two, whose body was picked up on the banks of one of the rivers near Almorah. He was examined to ascertain the "apparent cause of death." Nothing unusual was discovered in the head. Slight marks of inflammatory adhesions were found in the chest. In the bronchial tubes, the circular bands of muscular fibre were strongly developed, and these may now be seen in the preparation. An aneurism was found in the lower part of the thoracic aorta communicating by an opening as large as a shilling. The sac of the aneurism was partially filled with coagulum. The opening into the

œsophagus was about an inch above the diaphragm. The stomach was enormously distended with grumous coagulated blood.

Presented by Sub-Assistant Surgeon Tameez Khan.

676 Aneurism of the thoracic aorta, commencing just below the origin of the seventh pair of intercostal arteries, extending along three inches of the vessel, and situated on the bodies of the eleventh and twelfth dorsal vertebræ, which were much eroded, leaving their cartilages unaffected. The sac was firmly adherent to the crura of the diaphragm. It had given way by a small opening on the right side, close to the spinal column, into the right pleural cavity. An old clot occupies the right side of the sac, but the main bulk of it is empty.

Presented by Professor Edward Goodeve.

677 Aneurism of the commencement of the thoracic aorta. It has three sacculated divisions, the largest of which has opened into the left bronchus. Behind, the bronchus is held open, exposing a square orifice possessing jagged and irregular edges from the effusion of lymph. This opening is partially plugged by coagulum.

Presented by Professor Edward Goodeve.

678 Aneurism of the thoracic aorta, pressing upon and causing caries of the bodies of ten dorsal vertebræ. The body of one below has been completely absorbed down to the dura mater, which is exposed. Above, two bodies have been destroyed, exposing the dura mater, and still higher up a portion of the body of another vertebra is disintegrated down to the same tunic. The large sac, now rather torn from being detached from the spine, is turned aside to display the damage done to the spinal column. It is filled with a very dense, coarsely laminated coagulum. In

one spot, the sac was about to open into the left lung. The patient was an elderly American seaman, who became perfectly paraplegic only a few days before death. After having lost all power of sensibility in his lower extremities, he declared that on one occasion during the night, he found himself able to use his legs. The truth of this appears possible, considering the manner in which the spinal cord was compressed by the tumour, whose volume was liable to be diminished from the quiet state of the circulation during sleep.

Presented by Professor Norman Chevers.

(7.) *Abdominal Aorta.*

679 The sac of an aneurism of the abdominal aorta about four inches above the bifurcation. The orifice leading to it is as large as a shilling, possessing smooth edges. The aneurism is about the size of a small orange, and its interior is partially lined with coagulum.

Presented by Dr. Mouat, Inspector-General of Madras.

680 Aneurism of the abdominal aorta just after its emergence through the diaphragm. The aneurismal sac is six inches long by four wide, and is seen to be completely filled with coagulum. The whole of the aorta is aneurismally dilated, particularly so at the arch, and has its lining membrane thickened and covered with atheromatous deposit. The same deposition is noticed to have taken place on the aortic valves. The left ventricle is hypertrophied and slightly dilated.

681 Aneurism of the abdominal aorta just after its exit through the diaphragm, through which it burst by an opening as large as a rupee into the left pleural cavity. The large sac is laid open, showing that the bodies of

the three upper lumbar vertebræ have been, to a considerable extent, absorbed, leaving the intervertebral cartilages intact. The opening from the aorta leading to this sac has smooth edges, and is about the size of a rupee. Below it, the aorta contains a small quantity of atheromatous deposit. (Webb's *Pathologia Indica*, No. 1040, p. 55.)

Presented by Mr. Kedarnath Ghose.

682 Aneurism of the abdominal aorta. The sac of the tumour is laid open for the purpose of illustrating the laminated deposit of fibrine in its cavity. The lumbar vertebræ, upon which the sac pressed, are preserved. A considerable part of the anterior of the bodies of three vertebræ is absorbed, exposing the ragged-looking cancellated structure of the bone. A small portion of the body of the uppermost vertebræ is denuded of periosteum. The intervertebral cartilages stand out prominently, and are comparatively unaffected.

Presented by Dr. Bedford.

683 Aneurism of the abdominal aorta. The sac of the tumour is laid open to illustrate the laminated deposit of the fibrine, through which sections have been made.

Presented by Professor Edward Goodeve.

(8.) *External Iliac.*

684 Aneurism of the external iliac from a native. (Webb's *Pathologia Indica*, No. 968, p. 55.)

Presented by Professor R. O'Shaughnessy.

685 Aneurism of the external iliac artery. Dry preparation.

(9). *Femoral.*

686 Small aneurismal dilatation of the femoral artery in Scarpa's space.

Presented by Professor R. O'Shaughnessy.

687 Imperfect ligature of the femoral artery and vein in a case of thigh amputation. The ligatures are observed to comprise only a fraction of the circumference of the mouth of each vessel.

688 Portion of the femoral artery and vein *in situ*. The artery was divided by the point of a knife in one part, into which a red glass rod is now inserted. The division of the vessel is almost complete, only a small fraction of its posterior wall retaining its continuity. The vein, into which a dark-coloured rod is introduced, is untouched.

Presented by Professor O'Shaughnessy.

689 Laceration of the femoral artery, veins, and nerves, and the partial plugging up of the vessels near the points of injury.

Presented by Mr. Covengton.

(10.) *Popliteal.*

690 Aneurism of the popliteal artery. The lower end of the femur and the upper third of the tibia and fibula, with some of their attachments, are preserved *in situ*. There is now seen a coagulum, more or less ragged and irregular, in the situation of the aneurism, the sac of which is not observed, the greater part of the same having sloughed away during the lifetime of the patient.

Presented by Professor Allan Webb.

691 Part of the sac and contents of an aneurism of the popliteal artery, which sloughed away after the ligature of the superficial femoral.

Presented by Professor J. Fayrer, of Rangoon.

692 Aneurism by anastomosis between the posterior tibial and the corresponding vein. The tumefaction is not great.

Presented by Professor O'Shaughnessy.

(11.) *Innominata.*

693 Small aneurism of the arteria innominata. The sac is about the size of a pigeon's egg, and is firmly adherent to the anterior wall of the trachea, which it has perforated four inches below the rima glottidis. Anteriorly, the parietes of the sac are tolerably thick from the more or less perfect preservation of the middle and external tunics. Posteriorly these have given way, at an early period, and then the trachea formed the inner wall of the aneurism; this at length gave way, and the patient succumbed from hæmoptysis and asphyxia. The orifice into the trachea runs in its greatest diameter transversely to the axis of the tube, and its edges are irregular and jagged. The mucous membrane around this is thickened, puckered, and raised from inflammatory action and exudation. The rent is about half an inch long, and is indicated by the insertion of a red glass rod, which also passes through the long axis of the aneurismal sac. The ascending aorta, which is unopened, is seen to be aneurismally dilated.

Presented by Dr. Herbert Baillie.

(12.) *Subclavian.*

694 Aneurism of the right subclavian artery. It springs from the vessel at the situation of the thyroid axis, and does not even extend so far as the origin of the vertebral. The profunda cervicis springs from the extreme external aspect of the tumour. The sac is as large as the fist, lying close underneath the integument of the neck, in which there is a ragged opening, with everted margins the size of a rupee, from which fatal hæmorrhage must have occurred. The inside of the sac is more or less puckered, and contains a small

quantity of lymph deposited in distinct laminæ. The common carotid is slightly bent by the encroachment of the tumour.

Presented by Professor O'Shaughnessy.

695 Sloughing of the left subclavian artery after the application of a ligature to the third portion of it for the arrest of secondary hæmorrhage. The vessel has been completely cut in two by the disintegration of its structure, about an inch and a half from its origin, from the arch of the aorta. The coagulum which has formed and completely blocked up the main trunk, and also all the vessels derived from it, is still *in situ*, projecting on each side beyond the patulous ragged orifices of the tube. The vertebral, thyroid axis, profunda cervicis, superior intercostal, and internal mammary, are matted together into one mass by inflammatory exudation.

Presented by Professor O'Shaughnessy.

(13.) *Common Carotid.*

696 Aneurism springing from the right common carotid of a native, about an inch and a half above its origin from the innominata. The vessel up to within half an inch of the sac is perfectly healthy. Close to its entry into the cavity of the aneurism, the lining membrane is slightly infiltrated with yellow atheromatous deposit. The tumour is globular in shape, and irregular in the interior.—(Webb's *Pathologia Indica*, No. 532, p. 55.)

697 Aneurism of the left common carotid at its bifurcation, extending along the internal carotid. The subject of this aneurism was admitted into hospital on the 4th February, 1846, with a pulsating tumour about the size of a walnut situated at the left side of the neck, between the sterno-cleido-mastoideus and angle of the jaw, and opposite to the os hyoides. The pulsation and aneurismal thrill were distinct.

By the stethoscope a rushing sound was heard. By pressure on the common carotid, at the anterior inferior triangle, the tumour lost its pulsation, became soft, flaccid, and diminished in size, but as soon as the pressure was removed, it became hard, pulsating, and resumed its former dimensions. Patient stated that seven days ago he experienced pain in his neck, and on laying his head on a pillow, on the left side, he felt as if the head was raised at each contraction of the heart. This made him examine his neck, when he noticed for the first time, a pulsating tumour little smaller than at the time of examination. The pain gradually increased, extending towards the left occiput. When he came under observation, he complained of much pain in the tumour, and about the occiput on the slightest movement of his neck. He is unable to swallow any solid food, owing to the pressure of the food on the pharynx. Until two years ago, he was a Lascar on board the ship *Thames*. He was temperate, and met with no injury about the neck. The common carotid was ligatured on the 9th of February. He died on the 8th of March, and the *post mortem* runs as follows :—" The tumour in the neck greatly diminished in size, flat and flaccid. On opening the left eye, the cornea was observed to have sloughed away, the humours had escaped, and the organ was collapsed. The whole of the left side of the neck was in a state of complete disorganization from sloughing. Bubbles of air escaped as it was cut into, and also a quantity of thin watery fluid, almost black, mixed with blood, resembling tar. The ligature had separated from the artery, and was found lying in the wound unattached. The artery lay in the internal division of its sheath, divided by the ligature with the two orifices almost in contact. The lower orifice was plugged up with a

coagulum of blood to within half an inch of the origin of the vessel from the aorta, where it commenced so close to the innominata, that it might be said to arise together with it from a common origin. The upper orifice of the divided carotid was also filled with coagulum, which extended up to the aneurismal sac. The aneurism was situated at the bifurcation of the common carotid, and extended along the internal carotid about an inch. The sac was full of coagulated blood. Internally, towards the pharynx, there was a large opening into that canal, from sloughing of its parietes. The common carotid artery was found perfectly healthy. External to the divided artery, the par vagum was sound. External to this nerve the jugular vein was perforated by ulceration, the opening being ragged. The upper portion appeared to have been destroyed for about an inch and a half. Its posterior wall was adhering to the surface of the aneurismal sac. On cutting into this part of the vessel, its internal coat presented a bright red inflammatory appearance. The sloughing of the neck extended from the angle of the jaw backwards, to the spinous processes of the vertebræ as high as the occiput, and down the side of the cervical region to within an inch and a half of the clavicle. On raising the pharynx, and making an opening into the posterior and upper parts of that bag, two large ulcerated holes were found on its left side communicating with the sac, one opposite the isthmus of the fauces, and the other below it, on a line with the glottis, both large enough to admit the tip of the thumb. It must have been through these openings that the blood escaped for some time, and tinged the expectoration. The lining membrane of the trachea and bronchial tube appeared to be in a high state of inflammation. The

heart and vessels arising from it presented a normal appearance. The brain was sound, but the vessels on its surface were congested and filled with tar-like blood, similar to that found surrounding the aneurismal sac. On opening the left cavernous sinus, it was found to contain coagulated blood. The ophthalmic artery seemed distended. Its lining membrane was of a bright florid red appearance. The arteries of the right side of the neck were injected with coloured wax, but although the injection ran freely into even the small branches of the external carotid, none of the vessels were filled with it either in the neck or face."

Presented by Professor R. O'Shaughnessy.

698 Preparation in which both common carotid arteries had been ligatured for the cure of an "aneurism" in the right orbit, consequent upon an accident. Heart and great vessels with trachea and larynx are *in situ*. The vessels are injected with vermilion-coloured material. "This specimen presents several points of interest. The common carotid arteries of either side (1, 2, and 3) have been obliterated and converted into fibrous cords throughout the greater part of their length, remaining permeable only for about 1½ to 2 inches at their lower, and ¾ of an inch at their upper extremities. The circulation has been maintained mainly by the inferior thyroid and vertebral branches of the subclavian vessel (*c* and *d*; *a* and *y*), both of which are considerably augmented in size, especially the vertebræ of the left side (*a*); the ascending cervical branches of the inferior thyroid (*a* and *b*) on both sides of the body are enormously developed. The external and internal carotid arteries (6 and 7) have undergone very little change; they are permeable throughout, and their calibre but slightly decreased. The circle of Willis (II.), is complete, and

abnormal only as regards the extra development of the left vertebral (*a*), the basilar (*c*), and of the posterior communicating of the right side (*h*).

"Independently of the changes consequent on the ligature of the great vessels of the neck, the specimen is interesting as presenting varieties in the arteries unconnected with the surgical operations. The right subclavian (5), instead of springing from the bifurcation of an innominate trunk, is the last branch of the aortic arch springing from the left extremity of the transverse portion, and proceeding to its destination behind the œsophagus and trachea, and immediately in front of the vertebral column. The common carotids (2 and 3), spring from a short common trunk. On the left side, the posterior scapular (*h*), springs from the thyroid axis (*b*), instead of from the transverse cervical (*f*), and the deep cervical (not seen in the drawing *) is a separate branch of the subclavian. On the *right* side the thyroid axis is wanting, the suprascapular and transverse cervical are derived from the commencement of the internal mammary (*d*), and the inferior thyroid (*a*) is a direct branch of the subclavian." — (*Described by Dr. S. B. Partridge, Professor of Anatomy.*) The history of the case has been furnished by Dr. Beatson, of the General Hospital, under whose care the patient, Christopher Quin, aged thirty, a seaman belonging to a ship lately arrived in the Hooghly, was admitted on the 14th January, 1864, and died on the 19th, anasarcous with albuminuria. A year or more ago the patient said, while at New York, he received an injury to the right eye, which was followed by swelling in the orbit, causing protrusion of the eye-ball. He was informed that this

* Preserved in the Museum.

was an aneurism. To cure it, the right carotid was ligatured by Professor Mott, the American surgeon. He subsequently returned to England, and the swelling not having disappeared, the left carotid was tied at "the eye infirmary." Beyond a whizzing noise in his head, he experienced no peculiar sensation or mischief from the operations; and the swelling in the orbit seems to have ultimately disappeared. Owing to pressure of engagements the state of the right orbit was not examined at the *post mortem*. Dr. Beatson says, with respect to the kidneys:—"Both of these organs were found much enlarged, weighing respectively ten and eleven ounces. Their surfaces, on stripping off the capsule, were smooth; in colour very pale, and marked by patches of congested vessels. Their cut surfaces presented the same appearances. The greater portion of the secreting structure appeared altered or destroyed, and the whole of the substance of the kidneys was much indurated."

Presented by Dr. Beatson of the General Hospital

(F.) Of the Right Side of the Heart.

(1.) *Auricle.*

699 A polypus about the size of a hen's egg, springing from the internal aspect of the right auricle. It is hard, and section shows that many vessels permeate its neck, spreading out in all directions into the body of the growth. Its neck is hard and almost cartilaginous.

Presented by Professor F. J. Mouat.

(2.) *Of the Tricuspid Valves.*

700 Atheromatous deposit in the pulmonary and tricuspid valves.

Presented by Professor Edward Goodeve.

(G.) Of the Pulmonary Artery.

701 Slight dilatation of the pulmonary artery, such as might have been caused by obstruction to the pulmonary circulation consequent on protracted asthma or bronchitis.

Presented by Professor Eatwell.

(H.) Of the Veins.

(1.) *Inferior Cava.*

702 Obliteration (embolism) of the inferior vena cava opposite the termination of the renal veins. A portion of the liver and the right kidney with the vena cava and emulgent veins are preserved. Where the obstruction exists, the vessel is three times its natural thickness; this tumour is about an inch and a quarter across and a couple of inches in length. It remains unopened, and feels solid to the touch, probably from the deposition of fibrine within it. Above this tumefaction, the vessel is thin, atrophied, and cord-like.

Presented by Professor Edward Goodeve.

(2.) *Femoral Vein.*

703 Wound of the femoral vein. At the lower part of the preparation there are two incised wounds opposite each other, as if the vessel had been penetrated by a sharp instrument. The artery is uninjured.

Presented by Professor Eatwell.

704 Portion of femoral vein much thickened and altered, and (originally) filled with pus. From a man who died of pyæmia after amputation of the thigh. A glass rod is inserted into the femoral artery.

Presented by Professor J. Fayrer.

(3.) *Saphena.*

705 Plugging of the saphena vein in two places by coagulum. In the inferior part of the specimen the thickened vessel is laid open, exposing a coagulum more or less broken down. At the upper portion, the pyramidal end of the second clot is observed. The internal tunic is very opaque, greatly increased in thickness, and in some places having deposits of lymph adherent to its surface.

(I.) Malformations.

706 Heart of a new-born infant, in which there is exemplified arrest of development of a small portion of the septum ventriculorum. The opening is near the base of the ventricles, and is indicated by the insertion of a portion of wire. It is associated with remarkable narrowness of the pulmonary artery. The ductus arteriosus and foramen ovale are patent.

Presented by Professor R. O'Shaughnessy.

707 Heart of an adult, with patent foramen ovale, indicated by the presence of a red glass rod.

708 Heart of an infant five months old, with patent foramen ovale and pervious ductus arteriosus. A small glass rod is passed through the foramen ovale, and another leading from the pulmonary artery is seen to traverse the ductus arteriosus, emerging therefrom into the descending aorta.

Presented by Professor Duncan Stewart.

709 A portion of right ventricle and about half an inch of the commencement of the pulmonary artery. The orifice is seen guarded by two instead of three pulmonary semilunar valves.

710 A preparation showing four instead of three pul-

monary semilunar valves. The supernumerary valve is scarcely half the size of any of the other three valves.

Presented by Dr. J. B. Bond.

711 A preparation illustrating the independent origins of the right and left carotid arteries from the commencement of the arch of the aorta. The left subclavian arises from the ordinary situation, but the right one springs from the extremity of the arch, and passes behind the trachea to its destination.

712 Preparation showing unusual distribution of the renal arteries. The vertebral from the lumbar region with the kidneys and a portion of the abdominal aorta are *in situ*. From the *right side* of the aorta a common renal artery is seen to arise which, about an inch outwards, divides into two trunks, of which the *superior* subdivides into four branches, and the *inferior* into two. These branches then enter the hilum. The ureter is seen between the two main trunks. Just below the origin of the inferior mesenteric artery, another artery arises which after describing a gentle curve is directed upwards and eventually lost in the substance of the inferior extremity of the kidney.

From the *left aspect* of the aorta arise three distinct renal arteries, each of which subdivides into several smaller branches which enter the hilum of the organ. The left spermatic artery springs from the most inferior trunk. The ureter lies between the superior and inferior trunks, whilst the middle one is situated behind it.

This specimen was obtained from the body of a native male in whom there appeared to have existed a highly developed condition of the vascular system. For even with the common coarse injection used in the dissecting room almost all the vessels in the various organs were filled to an unusual size.

Presented by Sub-Assistant Surgeon Tameez Khan.

§ XII.—Organs of Respiration.

(A.) Of the Air Passages.

(1.) *Epiglottis.*

713 Ossification of the epiglottis and all the cartilages of the larynx; and fracture of the anterior portions of the ossified cricoid cartilages. The rings of the trachea are also ossified and there is calcareous deposition in the elastic ligamentous material connecting the rings to each other. From an aged Armenian woman. (Webb's *Pathologia Indica*, No. 395, p. *135.)

Presented by Professor R. O'Shaughnessy.

714 "In this preparation, *from an attempt at* suicide, the epiglottis has been cut off with the root of the tongue also. Death occurred from the subsequent inflammation, nearly closing the rima." The tumefaction of the parts is well demonstrated. "The papillæ circumvallatæ are seen and the greatly enlarged follicles behind the cœcum." (Webb's *Pathologia Indica*, No, 548, p. *135.)

715 Larynx of a cut throat. The epiglottis has been cut off.

Presented by Professor S. B. Partridge.

(2.) *Of the parts forming the Larynx*

716 Ulceration of the glottis, on its posterior aspect, and on a line with the vocal cords. The ulcer is of an elongated oval or elliptical shape, having regularly defined margins, and extending quite through the mucous membrane. The disintegrating process has burrowed underneath the mucous membrane, so that the diameter of the floor is greater than of a line drawn from margin to margin. The long axis of the ulcer runs transversely to that of the larynx. It is three quarters of an inch long and a quarter of an

inch broad. There is considerable thickening of the neighbouring mucous membrane, of that covering the vocal cords, and lining the larynx and trachea. The follicles are abnormally distinct, particularly so around the ulcer and in the larynx. Laryngotomy was unsuccessfully performed in this case. (Webb's *Pathologia Indica*, No. 549 p. *135.)

717 Preparation illustrating œdema of the glottis, epiglottis, of the mucous membrane covering the vocal cords and the trachea. The left tonsil is excavated by ulceration.

Presented by Professor Allan Webb.

718 Extreme œdema of the glottis and epiglottis. The dorsum of the tongue and the diseased parts are observed from behind. The epiglottis is hard and enormously swollen, and so are all the parts about the glottis. This great swelling has effectually closed the entrance to the larynx. On examining the effused plasma, it was found to consist principally of small round particles, nucleated cells and blood globules. Cells resembling lymph corpuscles were abundantly found.

Presented by Professor Allan Webb.

719 Larynx of a boy shewing thickening of the vocal cords and of the remainder of the mucous membrane, supposed to have been of inflammatory origin.

Presented by Dr. Chuckerbutty.

720 Ossification of thyroid cartilages of the larynx which are *in situ*. The cricoid cartilages now detached and suspended from them are also ossified.

Presented by Professor J. Fayrer.

721 Ulceration of the mucous membrane and part of the substance of the inferior vocal cords. The upper cord on the right side has escaped the ulcerative process, and that on the left side is only very partially implicated.

The case during life was viewed as one of laryngeal phthisis.

722 Ulceration of cartilages and mucous membrane of the larynx. On the posterior aspect, between the cords and the opening closed by the epiglottis, there is a deep ragged-looking ulcer as large as a sixpence. The mucous membrane covering the opposed surfaces of the left vocal cords is almost wholly destroyed by ulceration. There are two or three superficial ulcers of the lining membrane over the trachealis muscle.

Presented by Professor Edward Goodeve.

723 Larynx opened from behind, shewing ulcerative destruction of the lateral portions of the cricoid cartilages and mucous membrane covering a portion of their internal surface. The margins of these ulcers are irregular. Their situation on each side is just beneath the posterior connection of the inferior vocal cords.

Presented by Mr. Sakes.

724 Extensive ulceration of the mucous membrane of the vocal cords and glottis, with a white deposit in this and in that of the upper part of the trachea. From a phthisical patient.

Presented by Dr. F. J. Mouat.

725 A section of the head of a European patient shewing syphilitic destruction of the cartilages of the nose, extensive ulceration of the soft palate, and superficial disintegration of the laryngeal mucous membrane.

Presented by Professor O'Shaughnessy.

726 Destruction of the anterior part of the thyroid cartilage, of the two or three superior rings of the trachea with necrosis of the os hyoides, a sequestrum of which is lodged in the larynx. From behind there is seen partial destruction of the epiglottis, great

thickening and puckering of the remaining portion of it, thickening, puckering, and contraction of the parts about the glottis, and entire destruction of the vocal cords. The patient (European) suffered from syphilis prior to admission; five weeks ago he lost his voice and had never recovered it since. There is no prominence of the pomum Adami owing to necrosis of the os hyoides. At first there was pain during swallowing and dysphagia. This extended to the larynx. After losing his voice the symptoms rapidly increased in severity. A week before coming to hospital, he coughed up a piece of bone, which afforded him great relief. Difficult respiration, however, soon returned accompanied by a wheezing sound. After nine days' stay in the wards, he brought up another piece of bone which gave him temporary freedom from pain. On the twenty-sixth day after admission he died from asphyxia, immediately produced by exertion in, and exposure to, cold and rain. Tracheotomy was unsuccessfully performed.

Presented by Professor Allan Webb.

727 Abscess between the thyroid and cricoid cartilages of the larynx, and œdema of the laryngeal mucous membrane of the right side, implicating the glottis also.

Presented by Professor Norman Chevers.

728 Ulceration (probably syphilitic) of the larynx and vocal cords causing fatal contraction of the glottis. The opening held apart by a dark glass rod indicates the position in which laryngotomy was performed. No tubercular disease existed in any of the internal organs. The subject of this preparation was brought to hospital nearly *in articulo mortis*, and therefore, no history could be gathered from him. There were no traces of syphilitic disease elsewhere.

Presented by Professor Norman Chevers.

729 Larynx of Owen Oghore, admitted on 8th February, 1864, died on 16th March, 1864, with symptoms of laryngeal phthisis. The larynx is opened along the median line on the posterior aspect. The inferior surface of the basial region of the epiglottis, the glottis, the mucous membrane of the larynx, and upper part of the trachea, and the vocal cords are ulcerated. On the mucous membrane, the ulceration has a serpentine and worm-eaten look; but over the chordæ vocales the ulceration is deep and extensive.

730 Tongue, larynx and pharynx and upper part of the œsophagus. A false passage now indicated by the insertion of a porcupine quill existed behind the larynx.

(3.) *Trachea.*

731 Inflammatory thickening of the mucous membrane of the upper part of the trachea and larynx. Only about an inch of the trachea has been preserved. (Webb's *Pathologia Indica*, No. 662, p. *135.)

732 Thickening of the tracheal mucous membrane, from inflammation; small circular abrasions, ulceration at the posterior origins of the vocal cords and of the parts in the neighbourhood of the glottis.

733 Inflammatory thickening and alteration of the mucous membrane of the trachea; the tunic is greatly corrugated, much pitted by gaping follicles, and more or less disfigured by small shreds of lymph. The same changes are noticed between the epiglottis and the upper vocal cords.

Presented by Mr. James Hinder.

734 Portion of a trachea, showing a gangrenous condition of its mucous membrane. The blackened parts show that had the patient survived long enough considerable portions of the mucous membrane would have been removed by the sloughing ulceration.

735 Portion of the trachea, illustrating perforation into the œsophagus. The tracheal margin of the orifice is sloping and smooth, whilst the œsophageal margin is everted. The opening into the trachea is larger than that communicating with the œsophagus, which aperture is obscured to a certain extent by an imperfect valvular curtain.

Presented by Mr. Tameez Khan.

(4.) *Bronchi and Glands.*

736 "Dilatation and hypertrophy of the bronchial tubes of the left lung. They are strongly developed, loaded with granular fibrinous exudations in the larger divisions, and occasionally with fibrinous layers in the smaller ones. Some minute tubes appear to dilate, and to be then filled or partly filled with tubercular matter. Some end by an abrupt, ragged, ulcerated edge in the excavations scattered throughout this portion, the excavations having been formed by removal of tubercular matter, which is still seen collected in small masses here and there with condensed hepatized pulmonary tissue around them. The pleura is adherent. From Private J. Robinson, of the 94th Regiment."—(Webb's *Pathologia Indica*, No. 1348, p. 132.)

Presented by Dr. J. Mouat, Inspector-General of Madras.

737 Preparation showing three ascarides lumbricoides in the bronchial tubes. The trachea and primary bronchi are laid open, showing that the worms have penetrated deeply along their channels, *en route* to the smaller tubes. There is an ulcerated communication between the œsophagus and the trachea near its bifurcation, through which the entozoa have gained access to the air-passages.

Presented by Professor Allan Webb.

738 Tubercular deposit in and beneath the mucous membrane of the bronchial tubes, causing considerable thickening. The tubes are also dilated, and in some instances blocked up with strumous material, which is deposited in great abundance in the substance of the lungs. The apex of the lung is riddled with phthisical excavations. The deposit is of a yellow colour, contrasting remarkably with the healthy parenchyma. It occupies the situation of the displaced or destroyed air-cells. And in some places the section simply illustrates the filling up of the pulmonary cells with this scrofulous exudation.

Presented by Dr. Clark.

739 Tubercular deposit in and beneath the mucous membrane of the bronchial tubes, with tuberculosis of the lung. "The outline of the bronchial tubes divided transversely is seen filled within by tubercular matter. Those divided obliquely have lost the matter which filled them, owing to the action of the spirit. Considerable portions have lost all trace of air-cells, which seem to have been obliterated by the tubercular infiltration."—(Webb's *Pathologia Indica*, No. 285, p. 134*.)

740 Bronchial tuberculosis. When first dissected, the bronchial tubes were many of them filled with tubercular matter, which could be followed to the injected and dilated cells, and often found projecting on the exterior of the organ. This matter has all fallen out by the action of spirit, as in the last preparation. Most of the cells scattered over the surface and half divided by the knife have been emptied in a similar manner, but are, however, small, still lined by the dilated membrane of the cell which contained them. The transverse section of some air tubes shows them yet filled with tubercular matter."—(Webb's *Pathologia*

Indica, No. 376, p. 134.) Towards the upper part of the vomica the thickening of the bronchial tubes is well developed. The complete displacement, destruction, or infiltration of the pulmonary tissue by this yellowish strumous material is beautifully demonstrated. In some portions near the centre of the lung, chalky deposits were also discovered. A detached piece of chalky substance is now lying at the bottom of the bottle. The strumous and chalky degeneration was so complete towards the surface of the lung, that it was "almost wholly impermeable to air."

741 Bronchial and pulmonary tuberculosis, from a Hindoo female, with atrophy of the heart. The tubes are enormously thickened from strumous deposit. There are cavities in the apex of the left lung. The primary bronchi leading to both lungs are opened. The great thickness of the parietes of those of the diseased left lung contrasts very beautifully with the comparatively normal tubes of the right and healthy lung. This difference is further shown in the transverse sections of the smaller bronchia. The deposit appears to have taken place chiefly in the outer cellular tunic and in the submucous areolar tissue. In some this deposition exists in such abundance as, by its encroachment, to effect almost the complete obliteration of the channel.—(Webb's *Pathologia Indica*, No. 744, p. 134.)

742 The lungs and air-passages of a Hindoo subject from the dissecting room. A globular cyst is seen connected to the exterior, but not communicating with the interior of the right bronchus near its origin, or at the bifurcation of the trachea. The wall of the tumour is thin and translucent. Its contents are semi solid, filling the cavity of the cyst, which is as large as a small (hen's) egg.

Presented by Mr. Vanderstratten.

743 Tuberculosis of the bronchial and cervical glands; and obliteration of the left pulmonary artery from pressure caused by a bronchial gland greatly enlarged by strumous infiltration. The yellow tubercular material is also seen in the small portion of lung preserved.—(Webb's *Pathologia Indica*, No. 1410, p. 140.)

Presented by Mr. J. Sheets.

744 Part of the trachea, the bronchial tubes, and lungs. The two former are held open, exposing a ragged orifice as large as a sixpence at the bifurcation, and a smaller one in the right bronchus, caused by the softening and breaking down of bronchial glands infiltrated with tubercular material. Each of these is indicated by a red glass rod lying across it.

Presented by Professor Edward Goodeve.

(B.) Of the Lungs.

(1.) *Atrophy.*

745 A lung which has been long compressed by empyema and the contraction of adhesions. The pulmonary structure is shown on section to have undergone great diminution in quantity—atrophic degeneration. The colour is that of lung tissue, but no cellular points are distinguishable.

Presented by Baboo Chunder C. Dey.

(2.) *Emphysema.*

746 Specimens of emphysematous lung from a Hindoo. The various sections illustrate the uniform dilatation of the pulmonary cells, particularly near the margin of the organ. Some of the emphysematous bladders are, however, as large as peas. The contrast between the lung altered by emphysema and the healthy parenchyma is admirably shown. In the former the parenchyma is pale and distinctly spongoid; in the

latter it is greyish, intermingled with dark spots, and presenting an innumerable number of almost normal-sized pulmonary cells. Moreover, the bronchial tubes in the emphysematous portion are greatly dilated, remarkably so, when compared with the tubes leading to the healthy pulmonary tissue.

Presented by Professor Allan Webb.

747 The emphysematous lungs of a patient in the native ward of the College Hospital, showing in the lower third of its upper lobe, and on its anterior aspect, an irregular opening about three-quarters of an inch in diameter, and an inch in depth, through which a direct communication was established with the pleural cavity.

Presented by Professor Eatwell.

748 Emphysema of the lung with inflation of the pleura pulmonalis forming bladders varying in size from a hazel-nut to that of the grasped hand. From a native patient of the College Hospital.

Presented by Professor Edward Goodeve.

(3.) *Congestion.*

749 Sections of the lungs of a patient in whom death ensued from asphyxia occasioned by the pressure of a lumbricus (doubled upon itself) upon the glottis. The entozoon is *in situ.* (Webb's *Pathologia Indica*, No. 843, p. 130*.)

750 A small division of the left lung with an emphysematous portion connecting it with a flattened section which is spleniform in consistence. When recent, the substance had the exact appearance of a very small spleen both in shape and in substance. It is, in truth, a part of the border of the lung in which no respiratory function has been carried on for some time,

in consequence of the incompetency occasioned by the intervening emphysematous tissue.

Presented by Mr. R. Shaw.

(4.) *Apoplexy.*

751 Apoplexy of the lung. The spots where the extravasation took place are near the superficial parts of the pulmonary structure, and on section they present a more or less shreddy appearance, contrasting palpably with the healthy tissue. The structure around these spots of apoplectic effusion is solidified and hepatized. When recent, the whole section looked like a divided clot of blood.

Presented by Professor Allan Webb.

752 Apoplexy of the lung, particularly well shown in the uppermost section in which there is an extravasation as large as a walnut. It is now of a chocolate colour, contrasting plainly with the surrounding grey pulmonary structure. It is partially pitted, in consequence of the coagulum having crumbled out of the cut cells during maceration.

(5.) *Œdema.*

753 Œdema of the lung, which is adherent by old and very substantial organized fibrinous deposits to the pleura. The parenchyma is of a pale grey, and does not collapse.

754 A very beautiful specimen of œdema of the lung. "In this preparation, from the lung of a Hindoo, we see the cellular structure that unites the lobules" running like white lines dividing the lobuli, the cells of which are distended with a transparent serum." The minute vessels are distinctly visible, ramifying among the pulmonary cells. "The lung sinks in spirit, and

is wholly unfit for respiration. Every cell where air should enter is occupied by fluid." (Webb's *Pathologia Indica*, No. 243, p. 138*.)

(6.) *Pneumonia.*

755 A portion of lung in the first stage of hepatization. "Here is a portion of lung rendered unfit for respiration owing to the air cells becoming filled with the thick, red, glutinous product of inflammation. The connecting tissue was gorged with blood. When held to the light, the contrast between the cells containing the inflammatory product and others that are empty is very striking." (Webb's *Pathologia Indica*, No. 262, p. 138.) Much of the blood and exudation has escaped during prolonged maceration, leaving the section possessed of a finely cribriform appearance. The affected cell walls are thickened from a yellowish or light brown deposit of fibrine, whilst the neighbouring healthy portions display thin greyish coloured parietes. The thickening of the cell walls in the hepatized lobules is in some so great as almost to completely obliterate the normal cavities of the cells themselves.

Presented by Professor Allan Webb.

756 A fine specimen of hepatized lung from a native. The disease is in the first stage. A large proportion of the material that blocked up the cells has crumbled out from the cells exposed in the sections. The cell walls are much thickened, and in some parts the homogeneous appearance of the section illustrates the entire blocking up of the pulmonary cells. This was common to the whole of the affected lung prior to maceration. The thickening of the cell walls by adventitious material is clearly demonstrated. (Webb's *Pathologia Indica*, No. 1117, p. 637.)

Presented by Professor Allan Webb.

757 Grey hepatization of the apices of both lungs, emphysema of the lower lobes, and pulmonary pleura and acute pericarditis, all of which are well illustrated in this specimen. From a Hindoo boy.

Presented by Mr. Tameez Khan.

758 Hepatization in the last degree, in which the lung has become so changed by pressure from effusion within the air cells, and by vascular engorgement without, that at its lower part no trace of air cells can be detected, even with the lens. It is more dense even than ordinary liver. (Webb's *Pathologia Indica*, No. 288, p. 138.) There are no tubercles. The pulmonary pleura is much thickened and covered with a complete layer of lymph. In some parts the lamina of lymph has been removed, exposing the diseased pleural surface, which looks as if it had been studded over by minute granules of opaque yellow sand. From a Hindoo.

759 Grey hepatization of the bases of both lungs, portions of which, with the heart and great vessels, are *in situ*. The consolidation is complete, the air cells having been filled with plastic material, giving to the organs a solid consistence and appearance. The portions of the lungs preserved are bound down to the pericardium by adhesions. The heart is covered with lymph, deposited during recent pericarditis. The right ventricle is filled with a firm antimortem coagulum which was prolonged along the main branches of the pulmonary artery.

Presented by Mr. Minas.

760 Grey hepatization of the bases of both lungs. There are several small cavities in the upper lobe of the left lung. Around these the pulmonary structure is consolidated. In the lower lobes the disease is more recent, but the blocking up of the pulmonary

cells by inflammatory exudation is completely accomplished. The pleura over the left lung is thickened and covered with thin films of recent lymph deposit. The heart is seen to be remarkably small and atrophied. No tubercles found. From a Hindoo girl.

(7.) *Gangrene.*

761 Gangrene of the whole of the lower lobe of the left lung, which is seen to be pale and bloodless, and undergoing separation as a slough. The line of demarkation is conspicuously displayed. The right lung is greatly congested, particularly in its superficial portions of the parenchyma, and in others this is emphysematous. The left lung is enveloped by pleura thickened by inflammatory exudation. The heart is fatty.

Presented by Mr. Minas.

(8.) *Tuberculosis and its consequences.*

762 A portion of the apex of the left lung containing an immense number of miliary tubercles. These existed in the opposite lung and in the right kidney.

Presented by Professor Edward Goodeve.

763 Tubercular excavations in the base of the left lung. A large one is lined by membrane, and communicates with two large-sized bronchial tubes, into each of which a glass rod is inserted. The inner wall of this cavity is seen strengthened by adhesion to the pericardium and the diaphragm. Tubercular deposits of various sizes are also visible. Of these one accumulation has softened and emptied itself of its contents. (Webb's *Pathologia Indica*, No. 544, p. 137*.)

764 Tuberculosis in a native of Bengal. The tubercles

are seen scattered throughout the various sections of the left lung. There are two large vomicæ in the upper lobe. Into the larger one a bronchial tube enters direct. Patient died from hæmoptysis. Tubes were found stuffed with coagula. (Webb's *Pathologia Indica*, No. 996, p. 135.)

765 Tuberculosis in a native of Bengal. The left lung is, in its upper lobe, riddled with cavities; and its pulmonary pleura is enormously thickened—almost cartilaginous in consistency — particularly over the cavities. In the right lung, a section of which is presented, a few tubercles are here and there discerned, and the pleura is shown to be thickened and covered with an adventitious lamina of coagulable lymph. The pericardium is adherent. (Webb's *Pathologia Indica*, No. 1404, p. 139*.)

Presented by Mr. Minas.

766 Lungs illustrating the almost complete destruction of the upper lobes by the deposition of tubercular matter, its subsequent degeneration, and the inflammatory changes lighted up by it. The pleura investing the lungs are thickened and covered with filmy shreds of lymph, particularly over the vomicæ.

767 The right lung, heart, and great vessels, showing a large vomica in the apicial portion of the upper lobe, recent pleuritic adhesions and pericarditis. The cavity is held open by the insertion of a glass rod. It is thickly lined by a yellowish strumous-looking material. The section of the lung around this cavity is stuffed with miliary and large tubercles, and the small tubes are seen to be greatly thickened by tubercular deposition. A part of the diseased pleura is reflected, exposing small points of tubercular material.

Presented by Mr. Tameez Khan.

768 "Lungs and heart from a phthisical patient. Left lung broken up into innumerable vomicæ, some at the upper part coated with tubercular matter, some at the lower presenting only sloughing tissues. There are adhesions below to the diaphragm and elsewhere to the walls of the chest. The portions of lung unbroken up are consolidated by copious tubercular deposition and pneumonia. The right lung free, partly lobulated, from tuberculous infiltration, partly free from any trace of tuberculosis. From below upwards we find, 1st, healthy lung; 2nd, red hepatization; 3rd, grey tuberculosis of the lung. Heart atrophied, organized coagula in right and left ventricles and auricles, lined by false membranes prolonged along adjacent valves. in which vessels apparently ramify."

Presented by Dr. Green, of Howrah.

769 The upper lobe of the left lung excavated by large vomicæ, possessing irregular ragged parietes of fibrinous and tubercular deposit. The remainder of the pulmonary tissue is consolidated by tubercular and inflammatory exudation. The small bronchial tubes are much thickened by yellow tubercular matter. The pleura over the cavities is thickened and more or less covered with adhesions.

770 Tubercular lung, breaking down into small vomicæ. In the upper part of the section, small bunches of yellowish miliary tubercles are well demonstrated. The pleural envelope is thickened and altered by inflammatory deposition. The inferior part of the section is solidified by tubercle and grey pneumonia.

Presented by Dr. Baddeley.

771 The upper and portion of the middle lobe of the right lung. The upper lobe is almost wholly destroyed by tubercular disorganization, and is now represented by a large vomica bounded below by pulmonary

structure and laterally and above partly by the same, but principally by thickened, indurated, cartilaginous-looking pleura. This cavity is held open by glass rods; and the direct opening into it of several large bronchial tubes is distinctly seen. In the division of the middle lobe preserved there are two smaller cavities lined by tubercular and fibrinous exudation. The section of the lung in the back part of the specimen illustrates the presence of immense numbers of miliary tubercles both scattered and in clusters. There were also extensive depositions of miliary tubercles in the left lung, the apex of which was partially disorganized by the formation of small vomicæ.

Presented by Dr. C. Palmer, of Jessore.

772 A portion of tuberculous lung from a native who died from phthisis. There are two ragged cavities.

Presented by Dr. C. Palmer, of Jessore.

773 Extensive tuberculosis and destruction of the lung, the upper lobe of which is destroyed by the disorganization of the pulmonary tissue previously infiltrated with tubercular material. The walls of the huge cavities are ragged from the projection of denuded blood-vessels, bronchial tubes, and adventitious structure with tubercular deposition. The pleura over these vomicæ is altered and thickened.

774 Almost complete destruction of the superior lobe of the left lung, the consequence of tuberculosis. In the upper part of the specimen there is an enormous cavity, below there are several smaller ones, all of which are bounded by condensed pulmonary tissue. Externally the pulmonary is firmly adherent to the costal pleura. A portion of each of the first four ribs is *in situ*, to show how complete the obliteration of the pleural cavity must have been.

775 Extensive tubercular infiltration of the upper lobes

of both lungs, thickened bronchial tubes, small vomicæ at the apices, and universal pleuritic adhesions. The pulmonary pleura over the right lung is in some places almost $\frac{1}{8}$th of an inch in thickness.

Presented by Professor Allan Webb.

776 Tubercular cavities of various sizes in the upper lobe of the left lung; the largest measures three by four inches, and is bounded superiorly and laterally by pulmonary structure condensed and solidified by inflammatory exudation, and by thickened, indurated, and cartilaginous-looking pleura. The remainder of the pleura is also greatly thickened, and some old and recent adhesions are seen suspended from its surface.

Presented by Professor Edward Goodeve.

777 Tubercular excavations in the upper lobe of the left lung, leading to rapid and extensive destruction of the pulmonary cells, and exposing some of the large bronchial tubes. No attempt has been made by nature to limit the mischief by the exudation of lymph on the walls of the cavity. At the surface, however, the pleura is much thickened by the organization of inflammatory exudation, and this is the only substance interposed between the vomica and the pleural cavity in this situation.

Presented by Dr. W. H. Clark, of Dum Dum.

778 Extensive tubercular disorganization of the upper two lobes of right and both lobes of the left lung, which consists of little more than pleura (now stuffed with cotton). There is a small portion of parenchyma left at the base and the extreme apex. The pleural sac is strengthened in some places by the organization of effused lymph. The vomica is traversed by denuded vessels and air tubes. The upper lobes of the right lung are also considerably destroyed by cavities. The pleura covering the lung is studded over with small

transparent villous processes of effused fibrine.—(Webb's *Pathologia Indica*, No. 1328, p. 137.*)

Presented by Dr. Oxley, of Singapore.

(C.) Of the Pleura.

779 "Granular tubercular depositions upon the pleura," causing inflammatory effusion of nine pints of fluid into the right pleural cavity, and compression of the lung. The lymph deposit is confined to the costal and diaphragmatic pleura. From a Hindoo woman. (Webb's *Pathologia Indica*, No. 1018, p. 137.*)

Presented by Professor Allan Webb.

780 Extraordinary lenticular vegetations projecting from the costal pleura like small buttons. Some of these are globular, others more or less elongated. They arise by a broad base, and they are covered by a smooth membrane continuous with the pleura, which is greatly thickened. These growths vary in size, from a millet seed (or small point) to that of a kidney bean. From a native of Bombay, who died from dysentery.

Presented by Dr. Oxley, of Singapore.

781 Simple melanosis under the pleura pulmonalis of the horse, in the form of small round masses varying from the size of a pin's head to that of a pea. Each of these is of a jet black colour. The pleura is much thickened.

§ XIII.—Of the Cerebro-Spinal System and Membranes.

(A.) Of the Membranes.

782 Specimen showing great thickening and adhesion of the dura mater. In some places the section demon-

strates it to be fully ¼th of an inch in diameter. It is firmly bound down by a thick lamina of adventitious tissue to the arachnoid. The pia mater is also seen in two sulci, dull, opaque, and altered, from participation in inflammatory disease. This portion of brain was removed from a native male subject in the dissecting-room, aged about forty. The thickening of the dura mater was opposite to the superior surface of the middle and anterior lobes. The anterior part of the anterior lobe of the left side was soft and altered in appearance. The *ramollissement* involved the whole of the anterior lobe, continuing in part as far back as the middle of the middle lobe. Internally, its extent was bounded by the great longitudinal fissure. Superiorly it reached the surface of the left hemisphere. Inferiorly, it extended to within half an inch of the level of the left corpus striatum.

Presented by Mr. Juggoobhundo Bhose.

783 Base of the brain of an adult showing inflammatory alteration of the arachnoid and apoplectic effusion more or less diffused over the pons varolii and medulla oblongata. There is also thickening of and extravasation of blood underneath the arachnoid at the anterior and inferior part of the middle lobes.

Presented by Professor J. Jackson.

784 Brain of an adult, showing universal arachnitis. The membrane is thick, opaque, and covered with lymph deposit.

Presented by Dr. John Macpherson.

785 Brain of a fœtus, showing fine tubercular deposits like granules of sand in the pia mater covering the convolutions. This membrane and the shreds of the arachnoid preserved are thickened and opaque.

Presented by Mr. Tameez Khan.

786 Brain of a child, illustrating universal arachnitis.

The membrane is thick, dull, and granular. There are small tubercular points in the pia mater.

(B.) Of the Brain and Cerebellar Substance.

787 Brain in which there was found white softening in the anterior portion of the anterior lobes. There is also thickening and opacity of the arachnoid.

788 Small portion of brain indurated by albuminous degeneration or infiltration.

Presented by Mr. J. Kearney.

789 The right half of the brain illustrating a large cavity occupying a considerable portion of the middle and posterior lobes. It was found filled with blood coagulum, some of which is now seen *in situ*. There was hypertrophy of the left ventricle of the heart.

790 Portion of brain in which there is a cavity as large as a nut, which contained effused blood coagulum.

Presented by Professor Allan Webb.

791 Section of the middle and posterior lobes of the left hemisphere of the brain, in which there was intense congestion.

792 Specimen showing the ragged walls of a large abscess in one of the hemispheres of the brain, which now consists partly of a thin lamina of the convolutions, thickened pia mater and arachnoid.

793 Portions of brain in which the cavities of small abscesses are demonstrated.

794 Portion of brain showing, in the large central section, the cavity of an abscess about the size of a small pigeon's egg. It is surrounded by a dense wall of fibrous structure—in other words, the pus was encysted.

795 Specimen showing the cavity of a small abscess in the middle lobe of the left hemisphere of the brain.

796 Preparation demonstrating the cavities of abscesses in both hemispheres of the brain.

797 Specimen showing great and extensive laceration of right middle lobe of the brain.

(C.) Of the Spinal Cord.

798 Section of the spinal cord for three inches below, and including a small portion of, the medulla oblongata, which, prior to maceration, indicated intense congestion. This appearance is not now visible.

799 A portion of the spinal cord which was much congested in the situation of the cauda equina. There was a large quantity of cerebro-spinal fluid. From a Norwegian, aged forty-two, who suffered from partial paraplegia brought on by pumping in a water-logged vessel at sea, when he was obliged, for long periods, to stand up to his knees in water. He retained partial use of his limbs, the left being the most paralyzed of the two. It was accompanied by great diuresis. He could control the action of the sphincter and the bladder. He had, whilst in hospital, two attacks of dysentery. During the second attack he was carried off by cholera.

Presented by Professor J. Fayrer.

800 Laceration and division of the spinal cord and membranes about three inches below the medulla oblongata, the consequence of fracture of the fifth cervical vertebra.

Presented by Dr. T. W. Wilson.

801 Laceration and softening of the spinal cord near the cauda equina, caused by a fall on the back from a height of ten or twelve feet. The woman died paraplegic, with a fistulous opening leading from the

bladder through the abdominal parietes just below the navel.

Presented by Professor J. Fayrer.

802 Preparation showing neuroma of the median nerve in a stump about two inches below the elbow joint. The swelling is rather flattened towards the merging of the extremity of it with the cellular tissue of the stump. The cut end of the ulnar nerve is also broader and larger than natural. For these painful conditions the member was amputated at the lower part of the middle third of the upper arm.

Presented by Professor Edward Goodeve.

§ XIV.—Of the Urinary Organs.

(A.) Of the Kidneys.

(1.) *Hypertrophy.*

803 Enormously hypertrophied kidneys, which are three or four times in excess of their normal size. The increase is exhibited equally in the cortical and medullary portions of the organs.

(2.) *Atrophy.*

804 A remarkably atrophied kidney from a subject in the dissecting room. The whole of the secreting and medullary part has disappeared, and the relics now consist of a shrunken pelvis, from which is seen springing an atrophied ureter.

Presented by Mr. W. Harrison, Student.

805 Atrophy of the right kidney from a patient in the College Hospital. The organ is about one-third of its

normal dimensions. The left kidney exhibits compensatory hypertrophy.

Presented by Professor F. J. Mouat.

(3). *Fatty Degeneration.*

806 Sections of two kidneys slightly affected with fatty degeneration. The organs were greatly congested, and the sections are now of a reddish chocolate colour. The section near the surface is pale, and of a homogeneous waxy appearance.

Presented by Sib Chunder Bysack.

807 Sections of a fatty kidney from a patient in the College Hospital. The outer lamina of the cortical substance is of a lemon yellow colour. Here the parenchyma is almost entirely replaced by fatty material. The fatty degeneration prevails more or less, however, throughout the remainder of the cortical and also the medullary portion.

Presented by Professor F. J. Mouat.

808 Section of a kidney which is greatly enlarged from congestion and deposition of fat in its parenchyma. The secreting glandular cells of the tubules were found to contain an excess of free fat granules and globules.

Presented by Professor Allan Webb.

809 Section of a fatty kidney from a patient in the College Hospital, who had cirrhosis of the liver and enlarged spleen and ascites.

Presented by Professor F. J. Mouat.

810 An enlarged right kidney which was considerably softened, generally of an ash grey colour, and presented several small elevations on the upper half of its external surface. "These yellowish elevations consisted of an immense number of fat globules, and of cells a little larger than human blood corpuscles,

generally without nuclei, unaltered by dilute acetic acid, and containing oil globules within them. The fluids obtained by scraping its cut surface presented the same structure. The same observations applied to the left kidney (which was small, flabby, and of an ash colour), but here the fat globules were much fewer in number." (Walker).

Presented by Professor Allan Webb.

(4.) *Containing cysts from Morbus Brightii.*

811 Kidney showing a great number of cysts on its surface, containing a translucent serous-looking fluid and varying in size from a millet seed to that of a pea. At one end, however, there are two covered by thickened, opaque capsule as large as walnuts. (Webb's *Pathologia Indica*, No. 270, p. 209.)

812 A large cyst in the left kidney, from an old subject in the dissecting room. The cyst is about the size of a small hen's egg. The capsule of the kidney is much thickened by adventitious deposit.

813 Very small granular kidney, the cortical structure of which is much contracted. The surface is greatly nodulated resembling the appearance of a hobnail liver.

Presented by Professor Norman Chevers.

(5.) *Suppurative Inflammation.*

814 "Two kidneys showing their disproportionate size. One of these is sacculated, and contained a quantity of white curdy caseous matter, such as is found in scrofulous abscesses. The tunica propria is a good deal condensed at its upper part. The large kidney, though not actually diseased, is far from being in what

may be considered a healthy condition. (Webb's *Pathologia Indica*, No. 221, p. 209.)

815 Section of a kidney in which is displayed the cavity of an abscess about half an inch in diameter, occupying the medullary portion of the perenchyma and extending a very short distance within the hilum.

Presented by Professor John Macpherson.

(6.) *Rupture and Perforation.*

816 Ruptured kidney. The organ is much lacerated on its concave border near the hilum and there is one or two lacerations on its convex border. The pelvis and ureter are also injured. The accident was caused by a blow from the fore foot of a horse at 5 P.M. on the 25th October, 1847, the patient being a native of Debrooghur. He passed bloody urine and clots of blood *per anum*. He died at 10 A.M. on the 27th, forty-one hours after the receipt of the injury.

At the *post mortem*, there were found evidences of general peritonitis; stomach and intestines were uninjured. The ascending colon at its junction with the transverse colon was pressed forward by a hard firm tumour, which, on raising the gut, was found to be a mass of coagulated blood inclosed in a sort of bag formed of false membrane. This mass the size of two clenched fists escaped from the kidney which was found embedded in its centre. The organ was extensively ruptured, the upper fourth being entirely detached was separated to the extent of half an inch, The effused blood escaped from this part. Passing behind the peritoneum it passed into the cellular membrane in front of the large vessels and nerves to the opposite side; downwards it passed as far as Poupart's ligament behind the transverse or iliac fascia.

Presented by W. J. Long, Esq.

817 Transfixing wound of the upper third of the left kidney. The direction of the wound is from the convex border to the upper part of the hilum. A small glass rod is placed in the wound. The orifices of the perforation are smooth and look as if the injury had been inflicted by a sharp instrument.

(7.) *Calculi.*

818 Calculus of the kidney and bladder. "One kidney shows a large irregular calculus broken into three pieces, occupying a considerable portion of the organ. The other kidney has a large irregular cavity, lined in some places with layers of lymph, and in others by a distinct membrane by which the organ is reduced to little else than a mere cyst, all its glandular structure having been destroyed. The ureter thickened to the size of the thumb, and wrinkled and corrugated, has evidently given passage to the large irregular calculus found in the bladder, and which is secured in its position by a horse hair. The bladder itself is not larger than a kidney. Its coats are as thick as the finger, from the irritation of the calculus. From an European sailor." (Webb's *Pathologia Indica*, No. 719, p. 210.)

819 A portion of the left kidney, showing small calculi in one of its calyces. The right kidney contained an elongated black stone. Purulent matter was found in the ureters and pelvis and calyces of the organs. From a patient who died in the Almorah Dispensary after the operation of lithotomy.

Presented by Sub-Assistant-Surgeon Tameez Khan.

820 A kidney in the parenchyma of which several calculi are embedded.

Presented by Professor F. J. Mouat.

821 Sections of both kidneys. The left kidney presents a large calculus, very irregular and much nodulated, occupying the pelvis and sending nodular projections into the calyces. There are also exhibited two calculi occupying a considerable portion of the medullary and cortical structure. The organ is so much taken up by calculi and sacculated pouches that there is only a thin layer of the cortical structure remaining. The right kidney is reduced in size, is much sacculated and exhibits one small calculus.

Presented by Mr. Sub-Assistant-Surgeon Tameez Khan.

822 Section of a kidney from a patient who died from tuberculosis. The medullary portion is converted into a number of sacculi, and the cortical portion is more or less diminished by the encroachment of these. A calculus is exhibited, occupying one of these sacculated pouches.

Presented by Dr. R. F. H. Baddeley.

823 Small Bright's kidneys, with cystic dilatation near the surface, and calculi in the substance of the uppermost one. There is great pelvic dilatation of the other organ, with several calculi, as large as peas, exposed to view in the corresponding ureter.

Presented by Professor Edward Goodeve.

(8.) *Tumour.*

824 Tumour of the kidney, measuring about seven inches in the long diameter and five and a half to six inches in the short one. The growth of the disease is most marked in the pelvis and the pyramidal portion, but the cortical or true secreting part of the organ is almost left free, with the exception of a slight atrophy. The tumour is friable, and breaks under pressure of the finger. Certain parts of it are soft, and resemble

softened tuberculous matter in colour and consistence. This sort of soft substance is found in the calyces. "The unsoftened portion presented:—1, innumerable cells, smaller in size than gland-cells or cancer-cells; 2, granules; 3, oil globules; 4, no stroma; 5, a structureless and nearly homogeneous matrix (in which are observed the granules). The softened portion presented:—1, granules in abundance; 2, oil globules; 3, detritus of cells; 4, crystals; 5, small cells resembling pus-cells."—(Walker.)

Presented by Dr. J. Macpherson.

(9.) *Tubercles.*

825 A kidney, showing a few miliary tubercles on its surface. Many have become enucleated during maceration. From a patient who had tubercles of the same character in both lungs.

Presented by Professor Edward Goodeve.

826 Section of a kidney containing many tubercular deposits in its parenchyma. The yellowish appearance of these contrasts strongly with the remainder of the renal structure. "On microscopical examination, these tubercular deposits yielded nucleated cells, cells without nuclei, fat globules, and fat granules."—(Walker.)

Presented by Professor Edward Goodeve.

(10.) *Malformations.*

827 The two kidneys of a youth united into one by the union of the cortical substance of upper extremity of each organ. There are two ureters.

828 Congenital malformation of the kidneys, both being joined together and forming one organ. There are two ureters.

Presented by Dr. J. Macpherson.

829 The two kidneys joined together by a bridge of proper renal tissue. The ureters and renal vessels are double.

Presented by Baboo Juggobundo Bhose, Demonstrator of Anatomy.

(B.) Of the Pelves of the Kidneys and Ureters.

830 Section of kidney, illustrating considerable dilatation of the pelvis, and a sacculated condition of the calyces and portions of the medullary substance.

Presented by Sub-Assistant-Surgeon Niel Madhub Mookeejee.

831 Dilatation of the pelves and ureters, hypertrophied and contracted bladder, from a patient who had suffered from vesical and renal calculi. The right kidney is large, whilst the left is smaller than natural. Both are sacculated from dilatation of the pelves, calyces, and absorption of a portion of the medullary substance.

Presented by Professor J. Fayrer.

832 A very beautiful preparation, showing enormous dilatation of the pelves and ureters from obstruction caused by an oval calculus, which is seen quite filling up the cavity of the thickened, contracted, and hypertrophied bladder. There is also a calculus in each ureter, which is fully an inch in diameter. The whole of the medullary and cortical substance of the *left* kidney has been destroyed. Now the organ presents a huge pelvis, with many sacculations replacing the true parenchyma. The secreting portion of the *right* kidney is hypertrophied ; but the increasing size of the pelvis has begun to promote the destruction of the adjacent medullary substance. The parietes of the bladder vary in thickness from a half to three-quarters of an inch.

833 Left kidney of a female from the dissecting room.

showing two ureters, which, however, are seen uniting into one before they reach the bladder.

Presented by Professor Crozier.

(C.) Of the Bladder.

(1.) *Of Hypertrophy.*

834 Portion of a bladder showing considerable hypertrophy of its muscular structure. This is seen lying underneath the mucous membrane in cords or bands, raising the same, and converting it into a series of pouches. The connective tissue, in the section of the parietes, enclosing the large muscular fasciculi, is distinctly seen in the form of opaque white lines. The muscular coat is on an average $\frac{1}{4}$ of an inch in thickness. The mucous membrane measures the $\frac{1}{20}$ of an inch in thickness.

835 Enormous hypertrophy of the muscular structure of the bladder now $\frac{3}{4}$ of an inch thick, from stricture about a couple of inches from the *meatus urinarius externus*. The mucous membrane and connective tissue are increased in bulk. There is great thickening and dilatation of the urethra behind the stricture. The sacculation at the membranous portion has given way, and become disorganized from sloughing inflammation. It now presents shreds of perished and perishing connective and muscular tissues. The mucous membrane of the bladder is thickened, dull, opaque, and more or less lined by shreds of exudation material. There is a considerable quantity of fibrous tissue at the seat of stricture, and for some distance anteriorly and posteriorly. The adjacent corpora cavernosa are condensed and hypertrophied.

Presented by Dr. Dickinson, of Azimghur.

836 Enormous hypertrophy of the walls of the bladder produced by long-standing stricture of the urethra. The parietes measure from three quarters to an inch in thickness. The ureters are much dilated. The left kidney is hypertrophied. The right one is smaller than natural.

Presented by Professor O'Shaughnessy.

(2.) *Inflammation and its Consequences.*

837 "Recent inflammation of the mucous membrane of the bladder and urethra, taken from an artillery-man, killed by jumping out of a verandah at the General Hospital." The tunic is thickened, opaque, and finely granular. Near the meatus unrinarius internus there are two ulcerations, the floors of which are covered by brown lymph deposit.—(Webb's *Pathologia Indica*, No. 525, p. 210.)

838 Inflammation of the mucous membrane of the bladder of a kid. "The animal died from the effects of castration, general extravasation of urine, and the formation of abscesses of various sizes in and about the peritoneum and the groins. Inflammation having supervened, extended to the bladder and neighbouring parts, from the ends of the divided cords. The two small bristles point out the entrance of the ureters, and the larger those of the vasa deferentia, which are closed at the parts where the incisions were made in removing the testicles. There is an abundant deposition of lymph throughout the whole interior of the viscus, especially copious at the points where the ureters enter."—(Webb's *Pathologia Indica*, No. 219, p. 210.

839 Inflammatory thickness and alteration of the mucous membrane of the bladder. The lymph de-

posited gives a granular and villous appearance to the surface. This is most marked at the fundus.

840 Portion of a bladder recently inflamed. The surface of the mucous membrane, and the depressions between the muscular fasciculi are partially hidden by a covering of flocculent lymph and mucus.

841 Inflamed mucous membrane of the bladder, which has ulcerated on its anterior aspect. These ulcers are covered with flocculent lymph and mucus, and the rest of the surface is slightly roughened by minute depositions of lymph upon an over-granulated condition of the mucous membrane. The muscular coat is thickened.—(Webb's *Pathologia Indica*, No. 183, p. 210.)

842 Female bladder, the mucous membrane of which is covered with a deposit of lymph. In some places there is abrasion and ulceration. The muscular tunic is thickened. From a native. (Webb's *Pathologia Indica*, No. 595, p. 210.)

843 Bladder showing thickening and ulceration of its mucous membrane from chronic inflammation. The muscular tunic is considerably hypertrophied.—(Webb's *Pathologia Indica*, No. 828, p. 211.)

844 Specimen illustrating destructive ulceration of the lining membrane of an enormously hypertrophied bladder. The muscular coat is an inch to an inch and a quarter in thickness. The connecting tissue around the muscular fasciculi is greatly developed, and is distinctly seen. The cavity of the organ is very small.

Presented by Charack Nath Chahoney.

845 Thickened bladder of a case of chronic cystitis, with suppuration of the surrounding cellular tissue.

(3.) *Containing Calculi.*

846 Bladder showing a number of sacculi pointed out by several pieces of coloured glass. These contained

calculi, none of which are now *in situ*. The prostate contains the sac of a large abscess, indicated by a dark glass rod. Anteriorly, the urethral canal is partially obstructed by the presence of a fleshy protuberance, "which would very much retard the entrance of a bougie, or any other instrument in the cavity of the bladder." (Webb's *Pathologia Indica*, No. 222, p. 209.)

847 "Human bladder containing a large calculus broken into fragments by the calculo-fractor. The prostate gland is much enlarged, and the bladder, as might naturally be expected, is greatly thickened and contracted upon its contents from excessive irritation. The patient, an old man, on whom the experiment was made, died a few days after the operation, of general peritonitis." (Webb's *Pathologia Indica*, No. 268, p. 211.)

848 A portion of the bladder which was adherent to the mulberry calculus lying at the bottom of the bottle.

(4.) *Rupture.*

849 Rupture of the anterior portion of the bladder in a female. The edges of the breach are rendered rough and irregular by the deposition of lymph. That part of the margin which is smooth and even has been produced by the knife after death. The uterus, ovaries, and vagina are *in situ*.

850 Rupture of the bladder at the fundus. The parietes of the organ are very much thickened. The mucous membrane is much corrugated and furrowed.

851 Bladder, pubis, scrotum, and penis *in situ*. The bladder is ruptured in two places, one aperture being in front and to the left, the other being near the fundus and at the right side. The latter is as large as a

florin, as held open by a glass rod, and possessing somewhat uneven margins. The former is as large as a sixpence, but there is a prolongation of mucous membrane, partially shutting up and limiting the size of the aperture. From a European who fell out of a window while in a state of intoxication. Urine had extravasated into the cavity of the abdomen. None passed without the use of the catheter, which passed through the rent into the abdominal cavity. The intestines were agglutinated together from peritonitis. Patient died on the fourth day after the accident.

Presented by Professor R. O'Shaughnessy.

852 Rupture of the bladder at the fundus. The rent is about an inch and a half in length. The peritoneum is opaque and greatly thickened.

Presented by Professor S. B. Partridge.

(5.) *Fistula.*

853 Small contracted bladder, having a fistulous communication into it on the left and anterior part of the prostate, which probably opened externally through the perineum. This fistulous passage through the organ itself is indicated by a small black rod, the other parts having all been removed. The ureters open into the bladder by means of very small openings just of sufficient capacity to admit a bristle. The prostate contains a good deal of white fibrous structure. In the right section a minute portion of a prostatic calculus is exposed.

854 Preparation illustrating a fistula leading from the bladder through the abdominal parietes, and communicating externally just underneath the umbilicus. From a paraplegic native woman. Bladder is small, with the mucous membrane at the fundus ulcerated.

Presented by Professor J. Fayrer.

(6.) *Perforation by Worms.*

855 Preparation showing ascarides lumbricoides lodged in the cellular structures between the uterus and the bladder. The fibrous coat of the latter is much hypertrophied and perforated by the worms. From a subject in the dissecting room.

Presented by Baboo Juggobhundo Bhose, Demonstrator.

(7.) *Miscellaneous.*

856 Portion of the bladder and urethra of a man who had completely recovered from Syme's operation for stricture. Nothing but a faint streak indicated the site of the section, and the channel was rather narrow. A false passage leading into the prostate was formed, beyond which an abscess of small size existed, apparently in the investing areolar tissue. The man died from pyæmia, with abscesses in the kidneys, lungs, and spleen.

Presented by Professor J. Fayrer.

(D.) Of the Prostate.

857 Abscess of the prostate, which has led to extensive disorganization of the gland. The parietes bulge greatly towards the right side. The left ureter is much dilated, "owing to obstruction at its termination in the bladder, where a fungous growth is seen projecting into its cavity. The opposite one, though slightly enlarged, is quite pervious. There seems to be an ulcerated opening into the right vesicula seminalis. The bladder exhibits thickening of its mucous and muscular tissues, by which its natural capacity has been very considerably diminished." (Webb's *Pathologia Indica*, No. 218, p. 211).

858 Bladder and urethra. The former is greatly hypertrophied. An almond shaped calculus is seen occupying the site of the prostate gland. One extremity points into the bladder at the meatus urinarius internus, the other impinges upon the membranous portions of the urethra. Anterior to this, and in the membranous portion, there is a sacculated dilatation which contained a calculus, fragments of which are seen lying at the bottom of the bottle.

Presented by Dr. W. A. Green.

859 A preparation illustrating the incision in the prostate after a fatal operation of lithotomy. The gland is shreddy and gangrenous around the wound. There is also seen a stricture just in front of the bulb of the urethra, opposite to the cavity of a small abscess, great thickening and contraction of the bladder.

Presented by Professor J. Fayrer.

(E.) Of the Urethra.

860 Ulceration of the urethra, from a calculus, and sloughing of the soft parts from infiltration of urine. The patient had had retention of urine for several days. The bladder was found enormously distended, and the scrotum mortified. Bladder was punctured above the pubis by Professor Webb, but too late to save the patient. "A bougie is now passed through the place of puncture, and comes out through the lacerated urethra, where it meets another which was passed by the natural passage. The stone is seen lodged below in the sloughy membrane." (Webb's *Pathologia Indica*, No. 524, p. 209).

861 Bladder, pubis, penis, and scrotum, illustrating an old stricture of the urethra situated about an inch and a half from the meatus urinarius externus, and infiltra-

tion of the urine into the subcutaneous areolar tissue of the scrotum, which took place through the perforating ulcer seen immediately behind the right side of the bulb, indicated by a red glass rod. The parietes of the bladder are much hypertrophied, cavity contracted, and mucous membrane roughened by the deposition of lymph.

Presented by Professor R. O'Shaughnessy.

862 An impervious stricture of the membranous portion of the urethra from the dissecting room.

Presented by Professor Allan Webb.

863 Stricture of the membranous portion of the urethra, with hypertrophy of the bladder.

Presented by Professor J. Fayrer.

§ XV.—Of the Male Organs of Generation.

(A.) Of the Scrotum.

864 Elephantiasis scroti et penis. The skin is greatly thickened and fissured, giving to it the appearance of a badly executed pavement. The epithelial lamina is the one-twelfth of an inch, whilst the cutis vera and subjacent cellular tissue measure fully three-quarters of an inch in thickness. The hair has generally become atrophied, and fallen off.

865 Elephantiasis scroti removed from a patient in the College Hospital. In this specimen the hypertrophy or "outgrowth" involves the epithelial layer of the integument; but it is most remarkably developed in the subcutaneous areolar tissue. Most of the hair follicles are destroyed. Those which remain are very

perceptible, but the hairs springing from them are shrivelled and stunted.

Presented by Professor Harrison.

866 Elephantiasis scroti. The growth is large, and shows well the immense hypertrophy which the integument has undergone. The epithelial layer is granulated and fissured, mostly coloured with the dark pigment of the native skin; but in some places completely white and destitute of pigmentary deposit. It is curious to note the localized development of small granulated epithelial elevations, more or less isolated amongst those of the surrounding black skin. The hair follicles are much increased in size, but the scattered hairs are short and stunted. Beneath the integument, the outgrowth consists of an immense accumulation of fibrous tissue, the bands of which can be distinctly seen.

Presented by Professor J. Fayrer.

867 Elephantiasis scroti. On the front aspect the epithelial layer of the integument is seen enlarged into large lobules, varying from the size of a pea to that of a walnut. These lobulated masses are conical, having their narrow end attached to the cutis vera, and their basial ends free. Viewed on the surface, they are square, oblong, or polyhedral, from pressure; and they are more or less devoid of pigmentary deposit. On the other aspect, the surface of the skin is covered with smaller granulated eminences, also, to a great degree, devoid of pigment. The interior consists of hypertrophied dartos, fibro-cellular tissue, and unstriped muscular fibre.

Presented by Baboo Kassee Nath Dutt.

868 Elephantiasis scroti. The surface is much nodulated, and some of the nodules bled considerably before the tumour was removed.

Presented by Professor S. B. Partridge.

(B.) Of the Tunica Vaginalis.

869 Double hydrocele. The penis is *in situ*, but the skin and dartos have been removed; and on the right side the tunica vaginalis propria is exposed. The pyramidal shape of the hydrocele on the left side is well shown.

870 Double hydrocele; the tunicæ vaginales are much thickened and hardened, and the internal surfaces of each are rendered opaque and irregular from long standing chronic inflammation.

Presented by Mr. Vanderstratten.

871 The tunica vaginalis of a hydrocele. The translucent sac is laid open, bringing into view layers of lymph on the interior, and particularly over the tunica vaginalis propria of the testicle, which is seen near the upper and posterior part of the sac. A partial section of the testis shows healthy tunica albuginea and parenchyma.

872 An elongated sac of a hydrocele. It measures about eight inches in length, and is two inches and a half across. The sac is thick, of a dull opaque colour, and much roughened in the interior, presenting occasional evidences of lymph deposit. The testis lies at the bottom and posterior part of the tumour.

873 A tunica vaginalis, from which one hundred and eighty-two ounces of fluid were removed. The patient, an old man, died from diarrhœa contracted in hospital.

Presented by Professor S. B. Partridge.

874 Hæmatocele of the right tunica vaginalis, with great thickening of the sac, which was filled with coagulated blood. The sac is now turned inside out, and is seen covered with a finely granular lamina of coagulable lymph.

Presented by Professor Bedford.

875 Great enlargement, thickening, and induration of the left tunica vaginalis, which is seen filled with a coagulum of blood. The right tunica vaginalis is also much thickened and filled with a blood coagulum. Both sacs on being opened contained also a small quantity of sanguineous fluid. Both testes are partially disorganized.

876 Hæmatocele. The tunica vaginalis was found distended with coagulated blood. The sac is thickened, and much roughened on its internal surface by fibrinous deposition. A section of the testicle shows that the tunica albuginea is thickened, but that the parenchyma of the organ is healthy.

Presented by Dr. Esdaile.

877 An enormously thickened tunica vaginalis, containing a deposit of calcareous material, and having its interior lined by ragged coagulable lymph. There is also earthy deposit in the substance of the testicle.

Presented by Professor Allan Webb.

878 The large sac of a hydrocele, having white chalky deposits in its walls. It contained a dark red material, furnishing innumerable plates of cholesterine, small fat globules, yellow granular matter (hæmatosine), and a small number of granular cells of different sizes.

Presented by Baboo Nil Madhub Mookerjee.

(C.) Of the Testes.

879 Two disorganized testicles, showing great hypertrophy of the tunica albuginea; from a case of elephantiasis scroti.

Presented by Professor Allan Webb.

880 Atrophy of the testicles. One is extremely attenuated; the other evinces considerable hypertrophy

of the tunica albuginea. From a case of elephantiasis scroti.

Presented by Professor Allan Webb.

881 Scirrhus of the testis, involving the structures of the cord and the tunica albuginea. The cancerous nodules springing from the testicle are well illustrated.

882 Scirrhus of the testis, not quite so far advanced as in the preceding specimen. The disease can be seen, however, to include the soft parts of the cord and the tunica vaginalis reflexa.

883 Section of the testes. In one, circumscribed deposits of tubercular matter are seen. These are of a brown yellow colour, whilst those of the stroma of the organ are of a dull opaque white.

Presented by Sub-Assistant-Surgeon Tameez Khan.

(D.) Of the Prepuce.

884 An incised wound extending the whole way round the prepuce. On the upper surface, it is superficial, but it is deep on the under aspect, dipping down into the corpus spongiosum—not, however, penetrating the urethra. The boy is supposed to have died from the hœmorrhage which followed an unsuccessful attempt at circumcision.

Presented by Dr. Herbert Baillie.

885 A calculus, as large as a small hazel nut, impacted just behind the prepuce. It is *in situ*, and the prepuce is seen much tumefied. The stone has escaped from the urethra, and now appears underneath the integument.

886 Elephantiasis preputii et scroti. The lobulated, and albinoid, or semi-piebald character, the outgrowth often assumes in the native, is well demonstrated.

Presented by Professor J. Fayrer.

887 Epithelial cancer of the prepuce. The cauliflower appearance of the tumour is shown.

Presented by Professor J. Fayrer.

888 An epithelial tumour of the prepuce and glans penis, which have been replaced by the foreign growth. It consists of four principal divisions, as if it had originated from four centres of morbid action. These are closely opposed; but the fissures separating them are clearly manifested. Each of these divisions is considerably fissured, and constituted of a greater or smaller number of excrescences. The transverse section half an inch from the seat of disease demonstrates that the whole of the remaining soft parts are healthy.

889 Specimen illustrating double penis, removed from a child who had also an imperforate anus. The rectum terminated in the fundus of the bladder. There is a globular mass underneath the scrotum which may, possibly, have been a superfluous scrotal bag.

Presented by Dr. Cheek.

§ XVI.—Of the Female Organs of Generation.

(A.) Of the Ovaries.

(1.) *Abscess.*

890 Abscess of the right ovarium, which opened into the fundus of the bladder. The opening made by the advance of the abscess has been enlarged by incision at the *post mortem* examination; but the irregular and jagged character of the margins that bounded the original orifice is distinctly indicated, and contrasts most obviously with that resulting from a clean incision.

Presented by Baboo Jugoobhundoo Bhose.

(2.) *Cysts.*

891 Uterus and appendages. The *right* ovary is occupied by small cysts, varying from the size of a hazel-nut to that of a pigeon's-egg. Section of the left ovary also indicates a corpus luteum, and many small cells bounded by a membranous investment. On the back part of the preparation, a polypus, with a narrow neck, is seen occupying the greater portion of the vagina.

Presented by Baboo Dwark Nath Bhose.

892 Ovarian cysts in their early stage of growth, showing the commencement of ovarian dropsy.

Presented by Mr. Cullen, Student.

893 The walls of a large ovarian tumour springing from the left ovary. There is also seen a small globular fibrous tumour, the size of a hazel nut, attached to the central and posterior part of the fundus uteri.

Presented by Baboo Dwark Nath Bhose.

894 Unilocular ovarian cyst as large as a man's head, springing from the right ovary. At the bottom of the cyst many nodular excrescences are demonstrated. The left ovary was atrophied.—(Webb's *Pathologia Indica*, No. 670, p. 290).

895 Two very large ovarian cysts. The larger one is globular, and measures 14 by 16 inches; the smaller one is of an oval shape, and is about 12 inches in its long diameter.

Presented by Dr. John Macpherson.

896 An ovarian cyst of the left side, the sac of which was filled with tubercular matter. Close to the left extremity of the os uteri is seen an opening (indicated by the presence of a red glass rod) which had been

made into the tumour through the wall of the vagina. The uterus is moderate in size, and firmly adherent to the inferior part of the right side of the tumour.

Presented by Professor Allan Webb.

897 A dried specimen of a multilocular ovarian cyst, the parietes of which are now of a leathery appearance, and about the $\frac{1}{12}$ of an inch in thickness. It is divided by partitions of similar consistency and thickness into three large and one smaller compartment.

898 An ovarian cyst divided into three distinct compartments. The walls of the cyst and of the partitions are thick and unyielding, and the interior of each is rendered more or less irregular by attached shreds of lymph.

(3.) *Cancer.*

899 Cancerous tumour of the ovaries, from a woman aged fifty. First noticed two months before death. The tumour with the sigmoid flexure and rectum was removed from the pelvis after death, and on slitting up the vagina and removing the bladder—which was adherent to the tumour more or less intimately, shutting up the uterus between its posterior wall and the tumour—the uterus was found to be of its normal size, its anterior wall adherent to the bladder, its posterior to the left ovary. The tumour seemed roughly divided into two masses, consisting apparently of the two ovaries, joined together more or less intimately. The left ovary was the most inferior, and consisted of a cancerous mass of about the size of two fists, and a large cyst projecting down below it, capable of containing forty ounces, more or less, of fluid. The walls of this cyst were very thin, and its contents limpid and of a straw colour. The rectum was intimately connected with this thin cyst all along

its course. The sigmoid flexure lay in a groove between the two tumours, a knuckle of intestine dipped down between the two, and was very firmly adherent. The right ovary was fully twice the size of the left one (excluding the large cyst), and on its surface was a cyst of the size of an orange, with thick walls and puriform contents. Several other smaller cysts of the size of nuts projected from its surface and contained clear serum. On making a section of the larger tumours, the cut surface presented a yellow cheesy appearance, except at its margins, which were white like cartilage, and contained here and there little cavities imbedded in it.

The peritoneum covering the liver is studded over with nodular and somewhat flattened accumulations of cancerous matter varying from the size of a split pea to that of a finger-nail.

Presented by Professor S. E. Charles.

900 Uterus and appendages showing cancerous disease, apparently originating in the left ovary. It seems to have consisted of several growths, more or less connected with each other. The soft portions of the growth have disappeared, and the remainder, with the supporting tissue, have been much disfigured by removal from the surrounding parts, and subsequent sections having been made for purposes of examination.

(B.) Of the Fallopian Tubes.

901 The uterus and appendages. Both Fallopian tubes are laid open; the *right* is much dilated. Its internal surface roughened and irregular, from the deposition of lymph. But its fimbriated extremity, though enlarged, is free and unattached. The corresponding ovary is atrophied. The left Fallopian tube is likewise

dilated, and having an internal surface, much roughened by inflammation and the deposition of lymph. Its fimbriated extremity is distinctly adherent to the ovary, which exhibits two recently enlarged and ruptured Graafian vesicles, the cavities of which open directly into the attached fimbriated channel of the Fallopian tube. The internal surface of the uterus is somewhat irregular and jagged. From a patient who died from excessive hæmorrhage from the uterus.

Presented by Dr. Green.

902 Uterus and appendages, covered externally by layers of lymph; most abundant over the Fallopian tubes, the fimbriated extremities of which are firmly united by adhesions to the ovaries. The interior of the uterus is slightly roughened. From a native woman supposed to have died after an attempt at criminal abortion. There is an old corpus luteum in the left ovary.

Presented by Professor D. Stewart.

(C.) Of the Uterus.

(1.) *Hypertrophy.*

903 Uterus and appendages of a Hindoo primipara, who died about the end of the first month of pregnancy. The walls of the organ are slightly enlarged, and its internal surface is softened and villous from inflammatory changes following the expulsion of the ovum.

904 Gravid uterus of a woman, supposed to have died from poisoning.

Presented by Professor F. N. Macnamara.

905 Gravid uterus, probably in the ninth month of pregnancy.

Presented by Nil Madhub Mookerjee.

906 Gravid uterus. The section shows the enormous thickening of the walls which takes place in the state of pregnancy. Its cavity is filled with coagulum.

Presented by Mr Sakes.

907 Uterus at five-and-a-half months of gestation cut open and inverted, showing the attachment of the placenta and the fœtus enclosed in the bag of membranes, which have been punctured in order to give exit to the liquor amnii. 26th March, 1864.

908 Gravid uterus, with contents, at the eighth month of utero-gestation, of a Portuguese, aged thirty-five, who was admitted on the 24th December, in a dying state. She had been suffering from remittent fever and jaundice for about eight or ten days. She died half an hour after admission. The section shows, in part, the attachment of the placenta. The os uteri is dilated to about the size of a rupee.

Presented by Professor S. E. Charles.

(2.) *Atrophy.*

909 Atrophy of the uterus and of the ovaries also. The section of the right ovary shows several small cysts in its stroma or enlarged Graafian vesicles, and there is a transparent cyst as large as a bean suspended by a pedicle an inch and a quarter in length, from the broad ligament adjoining the fimbriated extremity of the right Fallopian tube. Cysts in the stroma of the left ovary are also distinguished, similar to those existing in the right one.

910 Extreme atrophy of the uterus.

Presented by Dr. Macpherson.

(3.) *Dysmenorrhœal Condition.*

911 The uterus and appendages. The uterus is opened anteriorly. Its lining membrane towards the fundus is

ragged and villous from dysmenorrhœal inflammation.

Presented by Professor Allan Webb.

(4.) *Inversion of the Uterus.*

912 In this preparation the uterus is demonstrated turned inside out, constituting a tumour almost as large as the fœtal head, which is lying externally to the labia majora. The investing membrane of the tumour—the lining membrane of the uterus—is dense, opaque, and unyielding.

Presented by Baboo Dwarkanath Bhose.

(5.) *Inflammation and its Consequences.*

913 Uterus with appendages, showing inflammation of its substance and of the peritoneum covering the neighbouring parts, induced by the violent means employed to produce criminal abortion.

Presented by Professor Allan Webb.

914 An inflamed uterus (gravid). The interior presents a sloughy appearance. The structure of the parietes is softened.

915 An inflamed uterus. The muscular substance is softened, and the mucous membrane coated with a fine lamina of floccŭlent lymph.

Presented by Baboo Chunder Coomar Dey.

916 Uterus and appendages inflamed and more or less matted together by extensive peritoneal inflammation, the result of the production of criminal abortion.

Presented by Dr. Koom.

917 Uterus and vagina, the internal surfaces of which are greatly inflamed by the means employed to produce criminal abortion.

Presented by Baboo Nil Modhub Mookerjee.

918 Inflamed uterus of a woman who died from protracted post partum hæmorrhage. Its internal surface presents a ragged and shaggy appearance.

919 Uterus showing signs of chronic inflammation after parturition.

Presented by Baboo Jadub Chunder Ghose.

920 Sphacelus of the cervix uteri, and of the vagina, with a sloughy appearance of the internal surface of the womb, after the full term of gestation.

921 Sloughing and sphacelus of a part of the body, and the cervix uteri and upper part of the vagina, from a woman at the full term of utero-gestation.

922 A portion of the uterus, the neck of which has sloughed away.

Presented by Sub-Assistant-Surgeon Tameez Khan.

923 An enlarged uterus, presenting a sloughy or sphacelated condition of the internal surface of the body of the organ. The lips of the os uteri are much swollen.

Presented by Professor F. N. Macnamara.

(6.) *Rupture.*

924 Uterus and contents at the full term of gestation. The head is seen to have been passing the os, when the spontaneous rupture of the womb anteriorly and at the junction of the cervix with the body of the organ took place; the rent is sufficiently large to admit the fist, and has given exit to the left arm of the fœtus and a portion of the umbilical cord.

Presented by Dr. Palmer.

(7.) *Puncture.*

925 Uterus pierced at its fundus by some sharp instrument. Half of the body of a fœtus about the third

month is exhibited, protruding from the womb into the abdominal cavity.

(8.) *Cæsarean Section.*

926 Uterus illustrating the section made in the Cæsarean operation performed by Dr. Webb to save the life of the child after the death of the mother from laceration of, and extravasation of blood into, the brain. Some said the patient had been dead half an hour, others an hour, others an hour and a half. Dr. Webb immediately proceeded to adopt measures for the preservation of the life of the child. He says:—"A longitudinal incision through the integuments of the abdomen in the course of the *linea alba*, exposed the womb, which was apparently warmer than natural. It was opened in the same manner at its upper anterior aspect, where it had nothing intervening between it and the abdominal parietes. But the placenta was attached over the spot which had been cut open, and it bled freely. By passing the hand quickly lower down between this and the uterine walls, the membranes were distinguished ruptured, and the child readily delivered. The infant was still quite warm, not quite full grown, and of a good colour. Attempts were made to establish respiration by inflating the lungs through a tube, but these were ineffectual. The child became cold, more and more livid, I desisted, and returned to lay it by the mother, *when I was surprised to observe that the womb from having filled all the abdomen, had so contracted as to have spontaneously extruded part of the placenta*, even in the manner" now illustrated in the preparation. (Webb's *Pathologia Indica*, No. 835, p. 308.)

Presented by Professor Allan Webb.

(9.) *Polypus.*

927 Uterus and appendages showing a polypus of a pyramidal shape, hanging by a narrow pedicle from the mouth of the womb into the vagina.

928 A large polypus from the uterus; a portion of its narrow pedicle is attached.

Presented by Professor Stewart.

929 A large pyriform tumour spontaneously expelled from the uterus. At the time of expulsion it was of a brownish red colour, and measured $5\frac{1}{2}$ by $3\frac{1}{2}$ inches. Vesicles varying in size from a pea to that of a large bean projected from the internal surface of a cavity as large as a walnut, found on making a section in the middle of its widest part. The spongy structure of the substance of the tumour is plainly shown in this preparation.

Presented by Professor Stewart.

930 Polypus of the uterus. On the back part of the preparation an oxalate of lime calculus is seen in the bladder. All the parts are much matted together by inflammatory adhesions.

Presented by Professor Edward Goodeve.

931 Uterus exhibiting a small almond-shaped polypus springing by a narrow pedicle from immediate neighbourhood of the opening of one of the Fallopian tubes. It was not attended by any symptoms during life.

Presented by Professor T. E. Charles.

(10.) *Fibrous Tumours.*

932 A fibrous tumour springing, by a broad base, from the internal surface of the fundus uteri, and filling the enlarged cavity of the organ down to within the quarter

of an inch from the os internum. It is as large as a hen's egg. There is also a cyst as large as a pigeon's egg springing from the left ovary.

Presented by Dr. Herbert Baillie.

933 A fibrous tumour, as large as an orange, of a globular shape, attached by a broad base to the muscular substance of the central part of the fundus, and having a well-defined investment of the uterine mucous membrane. Its section shows that it is constituted of glistening fibrous tissue, more or less concentrically disposed in small provinces. Both Fallopian tubes are enormously distended, their walls much attenuated and translucent, and their fimbriated extremities matted to the ovaries. The distension and dilatation of the Fallopian tubes assume a cystiform appearance. These conditions are indicated by portions of brass wire.

Presented by Sub-Assistant-Surgeon Tameez Khan.

934 Fibrous tumour springing from the substance of the uterus, and growing externally to the cervix and part of the body of the organ. The growth is hard, and consists principally of fibrous tissue, portions of which have undergone calcareous degeneration.

Presented by Professor Mouat.

935 A fibrous tumour connected with the substance of the fundus uteri. It is larger than the fist.

Presented by Professor F. W. Wilson.

936 A large fibrous tumour occupying the cavity of the uterus, intimately connected at its broad base with the muscular substance of the organ. It is as large as a child's head.

Presented by Professor Stewart.

937 A fibrous tumour of the uterus, globular in shape, and as large as a man's head.

Presented by Baboo Nil Madhub Mookerjee.

(11.) *Extra-uterine Fœtation.*

938 Extra uterine fœtation (interstitial). "The preparation was found in the college dissecting room, but so injured in removal as to lose much of its character. That there was a fœtus may be concluded from the presence of the amnion and chorion, which still adhere to the Fallopian tubes and to the ovaries, whilst the interior surface of the uterus is still lined by decidua. It would appear as if nature had set up a process for the admission of the embryo into the uterus, for there is a distinct sac or cavity in the right corner, lined with black coagulum, and the wall of the uterus is as thin here as a shilling, whilst elsewhere it is as thick as a finger. The membranes are so beautifully injected, that it is much to be regretted they were not preserved entire." (Webb's *Pathologia Indica*, No. 541, p. 289).

939 Uterus and appendages from a supposed case of extra uterine pregnancy. The cavity believed to contain an ovum is in the right ovarian region, and now held open by a glass rod. Its internal wall is rather roughened, and, externally, the sac is matted to the neighbouring parts. The uterus is small, indicating no signs of activity of function.

Presented by Mr. P. A. Minas.

(12.) *Malformation.*

940 Preparation showing an almost hermaphrodite condition of the organs of generation in a fœtus. Female organs predominate. There are ovaries, Fallopian tubes, small uterus, vagina, hymen with female urethra. Above there is a penis (clitoris), with prepuce and glans, but there is no communication with

the bladder. What appears to be the scrotum is probably the exaggerated labia majora.—(Webb's *Pathologia Indica*, No. 576, p. 285.)

(D.) Of the Vagina.

941 Vagina and os uteri largely covered over with superficial and deep ulcers. The latter are circular, having completely penetrated the mucous membrane. Their floors are constituted of flocculent lymph deposit, which obscures the muscular fibres immediately below."—(Webb's *Pathologia Indica*, No. 183, p. 286.)

942 Vagina covered by superficial ulcers. A deep circular sloughing ulcer of the posterior lip of the os uteri, and sloughing condition of the interior of the uterus, are also seen.

943 Sloughing of the upper part of the vagina and neck of the uterus after instrumental delivery.—(Webb's *Pathologia Indica*, No. 794, p. 289.)

Presented by Professor H. Goodeve.

944 Sloughing of the vagina and neck of the uterus, the body of which is much softened, inflamed, presenting on its internal surface a ragged and villous appearance.—(Webb's *Pathologia Indica*, No. 850, p. 288.)

945 Specimen showing a recto-vaginal fistula; the opening in the rectum begins about half an inch within the verge of the anus; and that of the posterior wall of the vagina is about the same distance from the frœnum. There is much thickening of the parts about the fistula, which is indicated by the insertion of a red glass rod. There is a small globular cyst attached to the left ovary as large as a hen's egg.

Presented by Dr. Chuckerbhutty.

(E.) Of the External Parts.

946 Elephantoid hypertrophy of the labia minora.
Presented by Professor S. B. Partridge.

947 Elephantoid hypertrophy of the labia minora, and of the clitoris.
Presented by Sub-Assistant-Surgeon Kassey Nath Dutt.

948 Elephantoid hypertrophy of the labia majora.
Presented by Professor S. B. Partridge.

949 Elephantoid hypertrophy of the labia majora and clitoris.
Presented by Professor Harrison.

950 Condylomatous excrescences springing from the labia pudendi.

951 Condylomata upon the clitor s and nymphæ.

952 Condylomata upon the labia pudendi.

953 Extensive sloughing ulceration of the left labium, and upper part of the pubis on the right side from a young native girl who suffered from spleen disease, and had mercury given to her for the cure of syphilis.
Presented by R. W. Righton, Esq.

954 Uterus, vagina, and greater portion of the external parts of generation of a young Mahommedan female, displaying laceration of the perineum, and a considerable portion of the vaginal sheath, the effect of violence done to the parts on the first act of copulation, by which a violent hemorrhage to the destruction of the child (barely twelve years old) was occasioned. The uterus and parts concerned are diminutive and undeveloped, as might naturally be expected at that tender age, and before the process of menstruation had been established. The coagulum at the bottom of the bottle was removed from the vagina after death. The sudden and unlooked-for death of the child on the

first night of her marriage, and the unaccountable quantity of blood found beneath the bed, and upon her linen, led to the suspicion of unfair means having been resorted to for her destruction. The body having accordingly been exhumed to ascertain the cause of death, the vagina and perineum were found ruptured in the manner above described, and as represented in the preparation. But as a judicial inquiry elicited no facts or circumstances tending to show that any unlawful means had been made use of by the husband to effect his purpose, and his generative organs presenting nothing unusual to account for the appearances, while the immediate cause of her death was satisfactorily explained by loss of blood from the vagina, it may be considered a case of extreme preternatural weakness or laxity of the genital system of the female, and one of very rare occurrence, for the common practice of Eastern nations in forcing sexual intercourse upon children of even earlier years than the subject of the present inquiry, would not appear to be attended with similar disastrous consequences.—(Webb's *Pathologia Indica*, No. 204,* p. 285.)

§ XVII.—Of the Placenta and Fœtus.

955 A placenta about the fourth month, containing in its fœtal structure apoplectic coagula. The membranes are much thickened from organized inflammatory deposit. The uterine surface of the placenta is also covered with lymph.

Presented by Dr. Cantor.

956 A placenta about the third month. The membrane covering its fœtal surface is opaque and thickened. A

section made into a tumefaction on this aspect reveals an apoplectic effusion, part of which is now apparent. There is by the side of this swelling a smaller tumescence of a similar nature. The uterine surface is fleshy, and more or less covered with flocculent lymph deposit.

Presented by Baboo Bisso Nath Guptu.

957 Putrid placenta. The uterine surface is ragged and diffluent. The portion of amnion attached is more opaque and thick than natural.

958 A placenta, the cord attached to which has three umbilical veins.

Presented by Professor F. W. Wilson.

959 An early ovum, displaying the shaggy chorion of a very early date, probably not more than the *sixteenth* day. At one point it is torn, and a much smaller amnion is seen. The fœtus is about the size of a single grain of pearl barley. The entire specimen, with the villi floated out in water, measures about *seven* lines in diameter.

Presented by Professor T. E. Charles.

960 An early ovum, probably the end of the *third* week, enveloped in the shaggy chorion, and having a small cervical plug attached, resembling a tail-like appendage.

Presented by Professor F. N. Macnamara.

961 An early ovum, probably about the third month. The larger specimen consists of the decidua vera, of which a natural dissection has been made to display the triangular outline of the body of the uterus. It measures an inch and a half perpendicularly, by nine-eighths of an inch across, from the opening of one Fallopian tube to the other. The smooth surface is the internal or visceral, and displays the tumid, rugose state of the mucous membrane. The external or parietal surface is rough, and covered with shreds

caused by its separation from the uterus. The smaller specimen has been opened by slitting up the membrane. The delicate amnion is easily seen, and the fœtus bent upon itself, measuring about three-eighths of an inch when unfolded. The exterior of the specimen consists of the shaggy chorion. No trace of decidua reflexa is to be seen, and the decidual cotyledons have not begun to form.

Presented by Professor Charles.

962 Human fœtus and placenta, about four and a half months' old. The placenta is covered with lymph deposit.

Presented by Professor T. W. Wilson.

963 Human fœtus, about five months old.

Presented by Professor J. Fayrer.

964 Human fœtus and placenta attached. The fœtus is about the sixth month, and died in utero.

965 Six months' fœtus, enclosed within the membranes, with the placenta just as expelled during parturition.

Presented by Professor T. E. Charles.

966 Two fœtuses of the sixth month (twins), one of which died immediately after birth, and the other survived seven hours.

Presented by Professor T. E. Charles.

967 Human fœtus, six and a half months old.

Presented by Mr. Sakes.

968 Full-grown fœtus, which was asphyxiated. The tumescence of the eyelids is well developed.

969 A full-grown fœtus, delivered by spontaneous evolution. The dark spots on the surface indicate the advances which putrefaction had established prior to the expulsion of the child.

Presented by Professor Allan Webb.

970 A fœtus at the full term, badly developed, and much shrivelled from defective nutrition in utero.

971 A fœtus, in which putrefactive change has been far advanced prior to birth. This is particularly marked in the extremities.

972 Putrid fœtus, swollen and distended.

973 A fœtus with an enormous hydrocephalic expansion of the bones and cavity of the cranium. The spaces between the bones are very much increased in diameter.

(B.) Monstrosities and Malformations.

974 "This monster consists of two female children, united together in the thorax and upper part of the abdomen by a broad connection, which extends from the sternum to the umbilicus. Below and above these two points all is apparently natural. The heads, necks, arms, lower abdomen, pelvis, and inferior extremities of both children are perfect, and the external organs of generation complete. There is only one perfect umbilical cord, but below that is seen a small prolongation about an inch in length and three parts of an inch in diameter. This prolongation is hollow, at the further extremity forming a cavity about the size of a hazel nut, terminating at the nearer end in a mass of cellular structure. It appears externally like a rudimentary second cord, but its internal structure would almost lead to the supposition that it was rather a monstrous umbilical vesicle. The length of the whole monster is from 15 to 16 inches; circumference of the whole, 11 to 12 inches; circumference of the connecting medium, 9 to 10 inches; length of it about 4; circumference of each head round the forehead and vertex, 11 inches; weight, five pounds. There is a considerable quantity of hair upon the heads, and even upon the body and extremities, and the finger and toe nails are perfect. In fact, though

rather small, it was evidently born at the full period of utero-gestation.

"Upon examining the internal structure, I found one thoracic and one abdominal cavity common to both children, these cavities being divided from each other by a single diaphragm.

"The walls of the thorax are composed of a double set of ribs, with two sterni, one on the anterior and the other on the posterior part of the commissure, so placed that each sternum is common to both children. There is consequently a spinal column to each. The abdominal muscles are likewise double. The abdominal and pelvic viscera of both children are perfect in all things, with the exception of the liver. This organ appears to consist of two perfect livers united together at their convex surfaces. There are two gall-bladders, one on each side of the centre, two hepatic arteries, and two venæ portarum, with distinct cystic and hepatic ducts for each side. Two umbilical veins pass down from the common navel, and separating from each other they enter the venæ portæ of each division. In their course, these vessels immediately before reaching their destination pass directly through the substance of the liver for about an inch, and emerging from thence enter the transverse sulcus. Each of these vessels sends off a ductus venosus, which terminates in a separate vena cava. There are four umbilical arteries, two for each child. This arrangement of the liver of course reverses completely the disposition of the abdominal viscera of the right child. The spleen is placed in the right hypochondrium, the pyloric extremity of the stomach looks towards the left side, and the duodenum crosses the spine from left to right. All the other abdominal and pelvic viscera are, as I have before remarked, perfectly

distinct on both sides. The single diaphragm is perforated by a double set of the customary foramina, those of the right side being necessarily reversed to correspond to the disposition of the organs connected with it. Indeed, the abdominal contents are so placed that their arrangement may, perhaps, most readily be understood by conceiving the viscera of one child reflected in a mirror to form the viscera of the other.

"Of all the viscera, however, those situated in the thorax of this monster are the most curious. In the centre of the whole, almost immediately behind the anterior sternum, floating in a capacious pericardium, is a huge heart common to both children; yet in this, too, there is a partial attempt at the formation of a double organ. Externally there is a slight sulcus running down the centre, corresponding to an imperfect septum within. But in the interior of the organ all is confusion and malformation. The right ventricle on either side opens into a large auricular cavity common to both, and situated at the upper part of the organ. The opening between these cavities is furnished with a valve, also apparently common to both. From the right ventricle of the left side springs a pulmonary artery, but from the corresponding ventricle of the right division no similar vessel arises. The only opening into that cavity is through the auriculo-ventricular foramen. The superior and inferior venæ cavæ of both sides empty themselves into the common right auricle. This latter cavity again communicates with a common left auricle by an enormous foramen, which may be supposed to represent the *foramen ovale*, but no trace of any valvular arrangement to cover this gap can be discovered; all is free, and the passage of the blood through it in either direction must have

been unimpeded. Into the left common auricle, one pulmonary vein from each child terminates. This left auricle communicates with two separate left ventricles. Indeed, there is apparently one common opening between all the cavities of the heart. From each of the left ventricles arises a perfect aorta, one passing to the left in the natural course, the other curving to the right to reach the spine of the right child. The semilunar valves of each are perfect. They both give off coronary arteries, and from the arches of either side spring arteriæ innominatæ, carotids, and subclavians. The single pulmonary artery, viz., that of the left side, is distributed exclusively to the lungs of the left child, and a well-formed ductus arteriosus stretches between it and the aorta. The lungs of both children are perfect, and naturally formed. Those of each side are contained in a separate pleura. A thymous gland, common to both children, is placed in the upper part of the thoracic cavity. The absence of a direct pulmonary artery on the right side is supplied by a branch which arises from the arch of the aorta on its inferior side. In fact, this branch is apparently the ductus arteriosus, the commencement of the pulmonary artery being absent, or, perhaps, more properly speaking, the aorta and the root of the pulmonary artery have coalesced in the progress of development, forming but one vessel as far as the ductus arteriosus, the true pulmonary artery beginning from thence."—Described by Professor H. H. Goodeve. (*Vide* Webb's *Pathologia Indica*, No. 325, p. 292.)

Presented by Professor H. H. Goodeve.

975 Twins at the full term connected together in the umbilical region in the manner of the Siamese twins. In all other respects the children seem perfect.

Presented by Dr. Bedford.

976 Twins attached to each other in the umbilical region. One is a full-grown fœtus. The other is diminutive in size, and the subject of malformation about the head, face, neck, and extremities.

977 A bicephalous fœtus.

978 A bicephalous pig.

979 A bicephalous kid.

980 The two hearts of a bicephalous calf which were enclosed in a common pericardium. They were partially united to each other by loose areolar tissue, and situated one beside the other. The *left* heart has two auricles with an imperfect septum, and two ventricles with a perfect septum. The *right* heart has only a left ventricle of the size of a walnut, with a diverticulum from it on the right side, which may be considered either as such, or as an imperfect right ventricle. The parietes of the latter are considerably thicker than those of the left ventricle. The *left* heart has an aorta and a pulmonary artery given off from it. The same may be said of the right; but here the two vessels communicate with each other. There is also anastomosis of the two aortæ, and from the arterial loop thus formed, the thoracic aorta is given off about 1½ inches above the origin of the left aorta. It is joined by a branch from the left pulmonary artery.

Presented by Professor F. J. Mouat.

981 A double monster, with only one face to two heads and two bodies, which are joined together along the thorax and abdomen by their anterior aspects.

982 A double monster with one face, one head, and two bodies. Thorax and abdomen are joined together.

983 A double-headed pig.

984 A double monstrous kitten with one head and face. Thorax and abdomen joined together.

985 A double-bodied pig, with one head.

986 A monster kid, having two bodies united together by the thorax and abdomen, with only one head.

987 A monster lamb, having two bodies joined together by the union of the thorax and abdomen, with one malformed head.

988 A fœtus, in which the convolutions of the brain are undeveloped, and in which there is a spina bifida. There are scarcely any frontal or parietal bones, the flat surface of the cranium being situated on a plane about half an inch above the eyebrows and the ears.

989 "Part of what would appear to be a monstrous kid, or an abortive misshapen calf. It is an anencephalous production possessing a spinal cord, par vagum, and great sympathetic nerve. The spinal marrow and nerves are illustrated in the normal condition." (Webb's *Pathologia Indica*, No. 578, p. 291.)

990 An anencephalous fœtus.

Presented by Mr. Dutt, Student.

991 A duckling with one perfect head, and the rudiments of a second one springing from the right temporal and occipital region.

992 A sparrow having two bills.

Presented by Mr. Blyth.

993 A kid with six legs.

994 A lamb with six legs.

995 A puppy with six legs. The animal died on the fifth day after birth.

Presented by Mr. W. Bason, 3, Bowfield's Lane.

996 A gosling with four legs.

Presented by Mr. J. W. Long.

997 A chicken with two perfect and two rudimentary and imperfectly-formed legs.

998 A chicken with four legs.

999 A chicken with four legs.

1000 Ditto.

1001 Ditto.

1002 A bird with four legs.

1003 Pig with head and face like those of an elephant.

1004 The head of a pig somewhat resembling that of an elephant, with portions of the body. This monster was one of a litter of six others all perfectly formed. It was born dead.

Presented by Dr. Irwin, of Banda.

1005 A pig with a head analogous to that of an elephant. It lived an hour after birth.

Presented by Professor Walker.

1006 A greatly deformed pig with only two legs.

1007 A deformed fœtus of a sheep.

1008 A deformed dog. The under-jaw is undeveloped.

1009 Head of a fœtal calf much deformed.

1010 A monstrous fœtal calf. There is only one ocular socket, containing the eyeball, which is provided with two corneæ, and protected by imperfectly developed upper and lower eyelids. The eye is in the centre of the forehead (cyclopean).

§ XVIII.—Of the Bones (Moist Preparations).

(A.) Of the Bones of the Cranium and Face.

1011 Specimen showing a curious condition of the turbinated bones, extending to the frontal cells and the anterior part of the sphenoid bone.

Presented by R. F. Lyons, Esq., of Rohtuck.

1012 Partial necrosis of the perpendicular portion of the frontal bone, immediately above the left supra-orbital ridge. The sequestrum is almost quite detached

from the healthy bone, and is now *in situ*. The dead bone has a spongy appearance, and, externally, is separated from the margin of living bone by a deep furrow. There was found an effusion of thick pus at the base of the brain, limited anteriorly by the optic commissure, posteriorly by the inferior vermiform process of the cerebellum, and, laterally, by the optic tracts, crura cerebri, and the sides of the pons varolii, and medulla oblongata. There was also pus between the skin and necrosed bone communicating with the interior of the skull.

Presented by Professor Allan Webb.

1013 Fracture of the orbital plate and consequent suppurative inflammation of the superimposed brain.

1014 Fracture of the right parietal bone and separation of the coronal suture, with exudation of lymph on the surface and between the membranes of the cerebrum, the consequence of a fall.

1015 Fracture of the skull in the line of the coronal suture with extravasation of blood chiefly over the superior surface of the anterior part of the right hemisphere of the brain. The clot is three-quarters of an inch thick, three inches long, and two inches broad.

Presented by Professor Allan Webb.

1016 Specimen showing fracture of the right condyle of the occipital bone and of the anterior arch of the atlas. The condyle has been completely broken off, and is now seen occupying the superior articular surface of the atlas.

1017 Anterior part of the antrum Highmoriani, removed for disease of the jaw.

Presented by Professor J. Fayrer.

1018 A cyst of considerable size occupying a portion of the body of the left half of the lower jaw. Where that

joins the ramus, the entire thickness of the bone is destroyed.

1019 The left half of the lower jaw, which is fractured transversely at the junction of the body with the ramus of the jaw.

(B.) Diseases and Injuries of Spinal Column.

1020 Caries of the body of a cervical vertebra.

Presented by Professor Edward Goodeve.

1021 Caries of the body of a cervical vertebra.

Presented by Dr. Green.

1022 Fracture of the rings of the first, second, and third cervical vertebræ, displacement of the second from the third, with rupture of the intervertebral substance and cord, and thickening of the membranes.

1023 Preparation illustrating fracture of the spinous processes of the fifth and sixth cervical vertebræ. The membranes have not been ruptured, but the body of the sixth cervical vertebra has been fractured.

1024 Fracture of the ring and dislocation forwards of the body of the sixth cervical vertebra. The cord is exposed behind, and it is seen to be softened and altered in the vicinity of the posterior longitudinal fissure.

1025 Fracture of the rings of the last cervical and first dorsal vertebræ from a gunshot wound in a European. The cord is shown. The membranes and substance are considerably damaged.

1026 Caries of the bodies of all the dorsal and the upper three lumbar vertebræ. The upper eight dorsal vertebræ are much affected, and the bodies of the seventh and eighth are destroyed, exposing the dura mater of the cord. It is here that considerable curvature of the spine has taken place.

Presented by Professor T. W. Wilson.

1027 Caries of the bodies of the last two dorsal and the three upper lumbar vertebræ.

1028 Preparation showing a section of lumbar and three lower dorsal vertebræ in a case of fatal lumbar abscess. The ulcerative destruction of the cancellated osseous structure and the disintegration of the intervertebral cartilage is admirably illustrated, more especially in the three upper lumbar vertebral regions.

1029 A preparation of the spinal column showing spina bifida.

Presented by Sub-Assistant-Surgeon Tameez Khan.

1030 Necrosis of the sacrum and ileum, the result of syphilis. At the lower part of the anterior surface of the sacrum an abscess was seen, which communicated with an external abscess seated over the posterior surface of the bone.

Presented by Professor Allan Webb.

(C.) Of the Bones of the Upper Extremities.

1031 Caries of the scapula from a subject in the dissecting room.

Presented by Gopaul Chunder Dutt.

1032 Caries of the head of the humerus which was removed by the operation of resection.

Presented by Professor J. Fayrer.

1033 Humerus, and some of the soft parts and integument, showing compound comminuted fracture of the surgical neck, extending into the joint; oblique fracture of the shaft at the junction of the upper with the middle third, and transverse fracture of the olecranon: the ulna up to the point of fracture has been inadvertently detached. These injuries were inflicted on the patient (a Hindoo woman, aged thirty-five)

by a fall from a roof twenty-five feet high. Amputation at the shoulder-joint.

Presented by Professor J. Fayrer.

1034 Compound fracture of the lower third of the shaft of the humerus. The lower end of the broken bone is seen protruding through the soft structures.

1035 Fracture of the inferior third of the radius. The broken ends slightly override each other, and are retained within the periosteum which is only ruptured at one small point. No deposition of plastic material has taken place, on account of the age and debility of the patient, who died three weeks after from the effects of injury to the head received at the same time as the fracture.

Presented by E. T. Koch, Student.

1036 Compound fracture of the lower ends of the radius and ulna, and of the carpal and metacarpal bones.

Presented by Mr. Raleigh.

1037 Preparation showing compound fracture of the lower third of the radius and ulna.

Presented by Dr. Bowser of Bancorah.

1038 Compound fracture of the radius and ulna close to the wrist joint.

1039 Compound fracture of the radius and ulna at the wrist joint. Hand is mortified.

Presented by Dr. Esdaile.

1040 Compound comminuted fracture of the radius and ulna at the wrist.

Presented by Professor R. O'Shaughnessy.

1041 Osteo-sarcoma connected with ulna and wrist.

Presented by Professor R. O'Shaughnessy.

1042 Compound fracture of the metarcapal bones. There was also dislocation of the thumb.

1043 Fracture of the head of the first phalanx of the forefinger.

Presented by Professor R. O'Shaughnessy.

1044 Fracture of the phalanges of the index finger from the bite of a horse. Diseased tendon and bone are shown. The finger was amputated.

(D.) Of the Bones of the Lower Extremities.

1045 Section of the upper third of the femur of a woman who died after amputation of the thigh on account of suppuration of the knee-joint, affecting the cancellated structure of the lower part of the femur. The cancellated tissue was found infiltrated with pus. From the same subject as No. 62.

1046 Fracture of the neck of the femur within the capsule with the formation of a false joint.

Presented by Ameer Oodin, Student.

1047 Fracture of the neck of the femur *within* the capsule with subsequent necrosis of a portion of the head of the bone.

Presented by Dr. Oxley, of Singapore.

1048 Fracture of the neck of the femur *within* the capsule.

1049 Simple comminuted fracture of the neck of the femur *within* the capsule, and of the trochanter major.

Presented by Professor J. Fayrer.

1050 Simple fracture of the neck of the femur (right) *without* the capsule, and of the trochanter major at its root.

Presented by Professor J. Fayrer.

1051 Oblique fracture of the left femur just below the trochanter major. No bony union has taken place.

Presented by Professor J. Fayrer.

1052 Comminuted fracture of the upper third of the femur.

1053 Fracture of the right femur at the middle of its shaft. The broken ends are riding over each other

and their opposed surfaces are generally united by fibrous tissue.

1054 Fracture of the upper third of the femur, with only a partial union of the anterior and internal portions of two fragments by means of a soft fibro-cartilaginous substance. The posterior and external portion of the upper extremity of the lower end is ulcerated and necrosed.

Presented by Professor Harrison.

1055 Osteo-enchondroma of the lower third of the left femur, involving the knee-joint, and filling it with fibro-cartilaginous material. The section exposes the outer region of the growth, and shows the divided outer condyle, patella, the outer protuberance of the tibia, and the head of the fibula. A small exostosis is seen springing from the upper surface of the shaft.

1056 Section of a very large medullary tumour, involving the whole of the condyles and lower third of the femur. On the other side of the preparation, the fungating character of the growth is well demonstrated.

Presented by Professor F. J. Mouat.

1057 Tibia, a considerable portion of which has been necrosed.

Presented by Professor Harrison.

1058 Necrosis of the tibia and fibula, with extensive destruction of the soft parts.

Presented by Professor R. O'Shaughnessy.

1059 Compound comminuted fracture of the tibia at its upper third.

1060 Compound comminuted fracture of the lower third of the tibia.

1061 Compound comminuted fracture at the lower third of the tibia.

1062 Compound comminuted fracture of the tibia and fibula at the ankle joint.

1063 Compound comminuted fracture of the lower third of the tibia and fibula.

1064 Compound fracture of the tibia.

1065 Compound comminuted fracture of the tibia.

1066 Compound comminuted fracture of the upper part of the tibia.

1067 Compound fracture of the tibia and fibula, with great laceration of the soft parts. From an adult native male patient.

Presented by Professor O'Shaughnessy.

1068 Ununited compound fracture of the left tibia and fibula of six months' standing. From a native patient, aged thirty-five years.

1069 Compound fracture of the tibia and fibula near the ankle.

Presented by Professor O'Shaughnessy.

1070 Compound comminuted fracture of the tibia and fibula. Amputation above the knee-joint performed.

Presented by Professor J. Fayrer.

1071 A bony tumour connected with the greater part of the length of the left fibula. The largest diameter is about that of the human head. Numerous enlarged veins ramified in the integument. A longitudinal section showed that it consisted of a number of lobules or nodules from one to two inches in diameter, almost distinct from one another. "The structure was spongy or cancellous, microscopically it appeared osseous, excepting two nodules, one of which was partly cartilaginous, and partly bony; the other consisted of nothing but fibrous tissue in course of development, being made up of fusiform cells, and rounded or oval cells. Has the ossification taken place partly from cartilage, and partly from fibrous tissue? The popliteal vein was distended with a plug (embolism) as large as a hen's egg. There is a similar one half an inch lower

down. These plugs consisted of shrivelled exudation cells and fat. They were evidently of fibrinous origin in process of degeneration." (Walker.) The growth was of twenty-one months' standing, and was probably malignant. Patient succumbed about twenty-four hours after the operation from shock.

§ XIX.—Of the Joints (Moist Preparations.)

(A.) Of the Joints of the Upper Extremities.

1072 A simple dislocation of the radius and ulna backwards and outwards at the elbow-joint. The head of the radius is fractured, and the fragment is lying loose in the joint. The brachialis anticus is completely torn through near its insertion.

Presented by Professor Allan Webb.

1073 Preparation showing dislocation of the head of the radius on the anterior surface of the ulna. The eminentia capitis of the humerus is perfectly freed from the cup-shaped cavity of the radius.

Presented by Sub-Assistant-Surgeon Tameez Khan.

1074 Two preparations illustrating luxation of the radius backwards.

1075 The parts forming the elbow-joint shattered by a gun-shot. The head and an inch and a half of the shaft of the radius, and a portion of the right condyle of the humerus, have been blown away.

1076 The bones forming the elbow-joint removed by resection. There is bony formation on the articular surfaces of the ulna and condyles of the humerus, illustrating partial anchylosis.

Presented by Professor J. Fayrer.

1077 A large malignant growth springing from the neighbourhood of the elbow, and involving the destruction of the joint.

Presented by Professor J. Jackson.

1078 Compound fracture and dislocation of the small bones of the wrist from the radius and ulna.

Presented by Professor O'Shaughnessy.

1079 Carcinoma of the ulna and soft parts, involving the wrist-joint (*melanotic.*)

1080 Extensive necrosis of the bones of the carpus, and destruction of soft parts for which amputation was performed at the middle of the fore-arm.

1081 Necrosis of the carpus and destruction of the wrist-joint with great enlargement of lower third of the radius. There is also extensive alteration and disintegration of the soft parts of the hand.

1082 Necrosis of the phalanx of one of the fingers involving the joint.

(B.) Of the Joints of the Lower Extremities.

1083 Destructive disease of the acetabulum with partial dislocation, upwards and forwards, of the head of the femur. The head of the bone is denuded of articular cartilage, and partially necrosed.

Presented by Mr. E. T. Koch, Student.

1084 Dislocation of the head of the left femur on to the back part of the ischium.

Presented by Professor O'Shaughnessy.

1085 Preparation showing comminuted fracture of the acetabulum.

1086 Knee-joint showing the effects of chronic inflammation of the synovial membrane which is thickened and opaque. There is partial ulceration of the cartilage covering the patella. There were burrowing

abscesses in the popliteal space, and effusion of lymph between the muscles in the same region.

Presented by Professor Harrison.

1087 Preparation showing general thickening and alteration of the synovial membrane of the knee-joint; partial ulceration of the articular cartilage of the condyles of the left femur, and of the outer half of the corresponding patella. There is also partial necrosis of the bone underneath the ulcerated spots; destruction of the mucous ligament, and a deposit of lymph covering the internal semilunar cartilage.

1088 Preparation exhibiting analogous appearances.

1089 Extensive destruction of the articular cartilages of the condyles of the femur, and of the head of the tibia, with great alteration and thickening of the remaining synovial membrane. The semilunar cartilages are also completely destroyed.

1090 The knee-joint opened, illustrating extensive ulceration and destruction of the articular cartilages of the patella, of the tibia, and condyle of the femur.

1091 An opened knee-joint showing ulceration of the articular cartilage of the head of the tibia, thickening of the synovial membrane, and ulceration and peeling off of the cartilage of the condyles of the femur. A large abscess at the upper part of the leg communicates with the interior of the knee-joint.

Presented by Professor O'Shaughnessy.

1092 Preparation showing complete destruction of the articular cartilages of the knee-joint and necrosis of the subjacent bones. There is also a comminuted fracture of the inferior part of the lower third of the femur.

Presented by Professor A. Webb.

1093 Preparation showing extensive ulceration of the cartilages of the knee-joint and synovial membrane

with superficial necrosis of the subjacent osseous structure.

Presented by Dr. Baddeley.

1094 Two diseased knee-joints from a patient of the College Hospital. One shows ulceration of the articular cartilages and of the subjacent bone with efforts at reparation by the formation of new bone; and the other, necrosis of the head of the tibia, with no reparative effort whatever. In the material provided for repair, cartilage advancing into bone was found as indicated by the presence of lacunæ and short canaliculi.

Presented by Professor Allan Webb.

1095 Preparation showing caries of the right tibia, destruction of the internal similunar cartilage of the corresponding knee-joint, and of the articular cartilage of the tibia lying below it; ulceration of the cartilage and internal condyle of the femur, and burrowing abscesses of the thigh and leg.

Presented by Professor Allan Webb.

1096 Complete destruction of the articular cartilages of the left knee-joint with partial destruction of the semilunar cartilages of the same, and caries of the condyles of the femur and head of the tibia. Thigh was amputated.

Presented by Professor Allan Webb.

1097 Compound dislocation of the head of the tibia outwards from the condyles of the femur. The patient recovered from the injury with great deformity, so much, indeed, that he consented to an amputation above the knee, from which he perfectly recovered.

Presented by Dr. Wise, of Dacca.

1098 Strumous destruction of the semilunar and articular cartilages and synovial membrane of the knee-

joint, with necrosis and strumous infiltration of the neighbouring osseous and soft structures.

Presented by Professor O'Shaughnessy.

1099 Scrofulous destruction of the cartilages of the knee-joint, and infiltration of the neighbouring soft parts.

Presented by Professor J. Jackson.

1100 Osteo-carcinomatous tumour, involving the condyles of the femur, and leading to the destruction of the knee-joint. The growth is as large as a child's head.

1101 Compound fracture of the tibia and fibula, and dislocation of the astragalus forwards.

1102 Compound dislocation of the astragalus backwards. The tibia protrudes through the soft parts on the instep, all of which are ruptured.

Presented by Dr. Esdaile.

1103 Compound dislocation of the astragalus outwards, with fracture of the fibula, and protrusion of the tibia through the soft parts.

1104 A very fine illustration of talipes vulgus in a native child.

Presented by Professor Edward Goodeve.

§ XX.—Addenda Miscellanea.

1105 Antimortem depositions of fibrine like ribbed buttons attached to the right auricular wall by thin pedicles.

Presented by Professor Norman Chevers.

1106 Finely laminated coagulum of fibrine from a spontaneously cured case of aortic aneurism.

Presented by Professor Edward Goodeve.

1107 The entire mucous membrane of about a foot of the intestine which separated as a slough. The interruptions to the continuity of the tubular membrane indicate the situations and the number of the ulcers which had perforated the mucous membrane.

1108 Two portions of mucous membrane perforated in several places by penetrating ulcers, and discharged by a patient suffering from dysentery on the ninth day of the disease.

Presented by Kristo Dhurn Ghore.

1109 A large portion of desquamated cuticle from the posterior part of the left foot of a native patient who had a sloughing ulcer and elephantiasis of the right leg. This leg was amputated. But elephantiasis already existing in the left one to a small extent became aggravated, and was accompanied with the characteristic fever, during which this specimen of cuticle exfoliated.

Presented by Professor J. Fayrer.

1110 An elephantoid tumour of the right leg and foot. The tumour was of four years' standing. At first it was accompanied by fever recurring "at regular intervals during every full moon." During the last two years of the growth of the tumour it increased rapidly. From the consequent over-distension of some parts, the swelling began to give way at several points, leading to the formation of ulcers of varying shapes and sizes. These healed up spontaneously, and they were succeeded by fresh crops which underwent a similar cycle of changes. Hence, the ulcers were of variable duration, some having existed longer than others. About two inches below the knee the swelling commenced, extending to and including the whole of the foot and toes. At its greatest circumference, the leg measured twelve inches. The girth of the foot

was about fifteen inches. The tumour was hard and unyielding. Its surface presented numerous irregular elevations and depressions, cicatrices of healed-up ulcers and fresh ulcerations. The existing ulcers were five in number. The largest was situated on the external aspect of the leg, about two inches above the ankle. It was surrounded by an irregular thickened margin, and gave exit to a thin yellowish matter. Three ulcers are placed above this large one, and have nearly cicatrized. There was a large ulcer on the *dorsum pedis*, surrounded by indurated, thick, and irregular margins. It reached from the inner side of the foot to about an inch from the outer margin. It was superficial at some parts, at others it penetrated even to the bones by fistulous communication.

Presented by Professor Allan Webb.

1111 Elephantoid tumour of the left leg and foot with a sloughing ulcer in a native.

Presented by Professor R. O'Shaughnessy.

1112 Sloughing ulcer in an elephantoid leg. Amputation, recovery. From same subject as 1109. Patient was sixty years old. This is a good example of inflammation occurring during one of the repeated paroxysms of elephantoid fever, passing rapidly into extensive sloughing and destruction of the soft parts.

Presented by Professor J. Fayrer.

1113 A large multilocular ovarian cyst. The abdomen containing it measured forty-five inches in circumference. A string carried round the tumour at right angles to this measurement also gave forty-five inches. From the pubis to the ensiform cartilage over the convexity of the tumour measured twenty-five inches.

From being first noticed it took about four years to reach its present dimensions. The woman at her death was thirty years old. Two days prior to the

fatal issue, the cysts were tapped through one puncture. Decomposition of the remaining portion of the contents of one of the cysts took place, causing great destruction and apparently hastening the advent of death.

The fluid removed by tapping contained abundance of scales of cholesterine.

Presented by Professor T. E. Charles.

1114 Fibrous tumour undergoing, in one portion, softening, degeneration, and apoplectic effusion.

Presented by Dr. Herbert Baillie.

1115 Encysted fatty tumour removed from the neck between the origins of the sterno-cleido mastoid muscle of a native, aged twenty-three years. The cyst is thin and well defined, having a nucleated epithelial lining, a basement membrane and a strong protective layer of connective tissue giving passage to a rich supply of blood-vessels. "Contents lardaceous, consisting of granules, fat and cholesterine, almost all soluble in ether under the field of the microscope." (Ewart.) The man made a slow recovery. A small opening occurred in the trachea from subsequent ulceration, but this eventually closed.

Presented by Professor J. Fayrer.

1116 Epithelial cauliflower-looking excrescences removed from the scrotum of a native, supervening, from protracted irritation, upon elephantiasis scroti, believed to be innocent.

Presented by Professor S. B. Partridge.

1117 Portion of carnified lung with thickened pulmonary pleura over it.

Presented by Professor Norman Chevers.

1118 Arch of the aorta, great vessels springing therefrom, and trachea from below the cricoid cartilage *in situ*. The innominata is about three-quarters of an inch in length and is seen to be within half an inch of the

wound made in performing tracheotomy on the dead subject. The knife must have passed very closely alongside the vessel, just at the point where it divides into the subclavian and carotid. The left carotid arises from the arch by an origin seemingly common to that and the innominata.

Presented by Professor J. Fayrer.

1119 Larynx and trachea with enlargement of the thyroid body. Each lateral lobe is elongated to about three inches and encroaches upon the œsophagus to a slight extent. These are joined in front by two nodular enlargements slightly constricted in the mesial line by a firm and strong band of fibrous tissue. A transverse section of the left lateral lobe shows that the growth consists of cysts with laminated walls, containing solid contents.

1120 Larynx and upper part of the trachea and hypertrophied thyroid body. The two lateral lobes are as large as hens' eggs, connected by the central lobe, almost the size of a pigeon's egg, from which a process is given off.

1121 Heart, lungs, and thymus from an infant three days old.

1122 Ovaries of a woman at the eighth month of utero-gestation, who died on the 2nd May, after parturition. Showing sections of corpora lutea, indicated by the crosses.

Presented by Mr. Sakes.

1123 Parts forming the knee joint exposed. The interior of the joint is perfectly healthy. The inner side of the condyle is superficially necrosed, and communicates with burrowing abscesses. The patient, Sheik Azzier, was a Mahommedan coachman, aged sixteen years. He was admitted on the 10th April, 1864, at 9.30 P.M., with a lacerated wound over the inner aspect of the

upper part of the right knee-joint, caused by the sudden falling of a horse on which he was riding. The thigh was amputated on 12th April, 1864. Death.

1124 Preparation showing peeling off of the articular cartilage from strumous disease of the cancellated structure of head of the left humerus. The patient, aged thirty-one, a Dane, was admitted into hospital on the 6th December, 1862, suffering from pain in the left shoulder-joint. He had first felt symptoms of mischief three months before his admission, but had never intermitted his work as an able seaman. The pain of late had considerably increased. His general health appeared good. He was treated with tonics and counter-irritation, the limb being kept in a state of perfect repose. For some time he appeared to improve, but about the end of February, 1863, symptoms of phthisis supervened, and he sank under the disease on the 15th May. The lungs were infiltrated with tubercle. All the other viscera were healthy.

Presented by Professor S. B. Partridge.

1125 Portion of necrosed tibia from a case of amputation of the leg. From the same subject as No. 69.

1126 A large circumscribed ulcer on the dorsal aspect of the metacarpal bone of the thumb. It is excavated in the centre, and surrounded by thickened, indurated, and raised margins.

§ XXI.—Of the Bones (Dry Preparations).

(A.) Of the Bones of the Cranium.

(1.) *Hypertrophy.*

1127 Portion of the calvarium exhibiting great hypertrophy of the frontal bone. Both tables and the intervening cancellated structure are equally affected, and there is superficial caries of the external and internal surface.

(2.) *Caries.*

1128 Extensive caries of the frontal bone. The ulcerated portion is bounded by hypertrophied bone. Within this, the whole of the outer table is destroyed, and in the left aspect there is an irregular fragment necrosed —not actually separated—embracing a part of the subjacent inner table.

Presented by Dr. F. Oxley, of Singapore.

1129 Erosion of the frontal bone in two localities; of the borders of the coronal and sagittal sutures, the former having been partially replaced by osseous substance; and of a portion of the left parietal bone. These erosions were lying underneath scrofulous tumours. The sagittal, squamous, and lambdoidal sutures are ossified.

Presented by Dr. F. Oxley, of Singapore.

1130 Caries of the adjacent borders of the frontal and parietal bones. Both tables have been completely destroyed by the ulcerative process, leaving an opening as large as a shilling.

1131 Superficial caries of the outer table of the left, and of a small part of the right parietal bone, also of a

very small portion of the occipital bone. On the internal aspect of the frontal bone there are several excavations, interspersed with osseous protuberances.

(3.) *Necrosis.*

1132 Necrosis of the bone forming the left frontal eminence and the root of the nose. The patient, a native, was admitted into hospital on the 20th April, 1854, with syphilitic ulcers on the forehead, which destroyed the periosteum and caused necrosis of the frontal bone. On *post mortem* examination, it was found that the ulceration had passed through, and that the dura mater was adherent. A great quantity of serum was lying between the dura mater and arachnoid, and in the ventricles of the brain, which was generally softened, especially its anterior lobes.

Presented by Professor Allan Webb.

1133 A large sequestrum from the head of an elephant. The polygonal arrangement of the capacious frontal cells of this animal are well illustrated.

(4.) *Fracture.*

1134 Calvarium, with numerous pieces of bone removed by trephining for comminuted fracture of the frontal, and the lateral and lower part of the right parietal bone. 8th June, 1863.

Presented by Mr. Geo. Swan, Student.

1135 Extensive fracture of the bones forming the superior region of the skull, with diastasis of the coronal, sagittal and lambdoidal sutures. "The subject of this was Private John McDougall, æt. twenty-seven years, resident in India five years and one month, a baker by occupation, stout, and of sober habits, admitted into hospital on the 26th February, 1846, at 7.30 A.M., in a state of partial insensibility, from injury

to the brain, caused a few minutes previously by a fall from his horse; could not answer questions, but pointed to his head as the seat of injury; pupils dilated, pulse slow and intermitting, respiration laborious, countenance pale, skin warm. There is a mark of contusion on centre of parietal bone. On examination, there appears to be a fracture across the occipital bone with effusion beneath the scalp. He is very restless, and threw up about four ounces of coagulated blood. No hæmorrhage from nose or ears; 8.30 A.M. breathing more stertorous and slow, still remaining insensible. Patient has had one feculent stool in bed. Skin cold, pulse intermitting: 9.30 A.M., continued in same state, and expired just now."

Sectio Cadaveris eight hours after death. External appearance of body stout and muscular. *Head*—On removing the scalp, under which there was an immense quantity of dark-coloured extravasated blood, an extensive fracture of the occipital bone was discovered, the lines intersecting each other and extending into the parietal bones, and running down the frontal bone into the left orbit, the coronary, sagittal and occipital sutures being entirely separated. Other viscera normal.

Presented by Dr. Mouat, of H.M.'s 15th Hussars, Bangalore.

1136 Fracture of the external and internal tables (the latter being most extensive) of the left parietal bone just over the situation of the middle meningeal artery, and complete diastasis of the coronal suture. From a native dacoit.

1137 Fracture of the frontal and left parietal bones, with slight depression, from a patient in the surgical ward.

Presented by Baboo Nil Madhab Mookerjee.

1138 Fracture transversely across the whole of the right—continued $2\frac{3}{4}$ inches into the left—parietal bone, with depression of the inner table. The fracture of the

outer table of the left parietal bone has been repaired by bony union, and part of that in the right parietal has been all but bridged by osseous tissue. A good deal of new bone has also been deposited around the depressed portion of the internal table.

Presented by Professor Allan Webb.

1139 Part of the calvarium of a Mussulman showing the occipital bone completely cut through. The right transverse process and corresponding inferior articulating process of the fifth cervical vertebra were cut off by the same blow, so as, apparently, to have wounded the vertebral artery. Patient lived nine days.

Presented by Dr. Mountjoy, of Akyab.

1140 Calvarium of a European sailor killed by lāthi blows in the Akyab bazaar, showing violent loosening of the coronal suture, of part of the longitudinal, and slight fissures in the left parietal and corresponding part of the frontal bone. Patient lived two days.

Presented by Dr. Mountjoy, of Akyab.

1141 Calvarium of a European sailor who was killed by falling from the main deck of a vessel down to the hold, upon stone ballast, showing fracture of the occipital, and fracture, with great depression, of a portion of the left parietal bone, measuring four inches by two. The bone is driven in cleanly. Patient survived six days. There was perfect paralysis in all nerves below the origin of the pneumogastric.

Presented by Dr. Mountjoy, of Akyab.

1142 Skull of a native, showing a clean fracture running perpendicularly across the temporal bone, just above the superior root of the zygoma, and obliquely through the left side of the frontal, across the anterior and superior angular portion of the left parietal, and extending into the right parietal near the posterior superior angle of the same. The opening made by

Dr. Webb with the trephine is seen to the left of the line of fracture in the left parietal, performed for the relief of compression caused by extravasated blood extensively effused at the base, and pressing upon the medulla oblongata. The fracture crosses a branch of the anterior meningeal artery.

Presented by Professor Allan Webb.

1143 Portion of parietal bone showing fracture and depression of the inner table.

Presented by Professor Allan Webb.

1144 Fracture of the skull. The frontal bone has been perforated to the extent of two inches.

Presented by Dr. Herbert Baillie.

1145 Portion of the calvarium showing one hole as large as a sixpence, and several clean cuts which have divided the external table.

Presented by Professor Norman Chevers.

1146 The anterior part of the skull of Garrett Rourke, H.M.'s 18th Regiment, who was shot through the head at the attack on the Great Pagoda of Rangoon. The bullet entered just behind the left frontal eminence (where the skull has been trephined), and is now lodged where it was found, after having made a tolerably clean hole (without any comminution of surrounding bone) in the inner side of orbital plate of the right side. At the point where the ball entered, the margin of the hole is irregular externally, and internally a portion of the inner table is depressed.

Presented by Dr. J. Fayrer, Field Hospital, Rangoon.

1147 A portion of the skull (left side) showing complete capillary fracture of the petrous portion of the temporal bone, extending from jugular fossa to its superior border, involving both the anterior and posterior surfaces of this portion of the temporal bone. There

is slight caries of the internal surface of the mastoid portion.

Presented by Professor Allan Webb.

1148 Extensive fracture of the bones of the left side and base of the skull, of the malar, the ala of the superior maxillary, the coronoid process of the lower jaw, the temporal and inferior and anterior part of the parietal bones leading to rupture of the middle meningeal artery; comminuted fracture of the temporal, leading to separation of the alar from the mastoid portion, transverse fracture of the petrous bone, fracture of a part of the occipital, and complete separation of the petro-occipital articulation; fracture across the body of the sphenoid and comminuted fracture of the orbital plate of the same.

Mohun Oeb, aged thirty years, Hindoo labourer, admitted on 26th February, 1847, at 4 P.M., insensible. Had fallen into a pukkah drain while carrying a heavy load of sugar. The left side of the head and temple are severely bruised. The left eyelids are swollen to an enormous degree and ecchymosed, so that the eye cannot be seen. There is complete loss of motion and sensation; respiration is natural; pulse slow and small; surface of the skin is cold, but dry; pupils dilated; there is a free discharge of blood from the left ear, nose, and mouth. There are no discoverable signs of fracture of the skull.

℞ Shave head, and apply cold lotion.
℞ Olei Tiglii gtt. ii.

7 P.M.—Patient rallied a little since his admission; bowels not acted upon by the croton-oil; skin warmer than before; pulse slow and more full.

℞ Olei Ricini ʒ i.
Ol. Terebinth, ʒ i.
Ft. enema statim.

27th February, 7 A.M.—Quite conscious, and is able to sit up and answer questions; skin hot, especially that of scalp; complains of great heaviness of head and headache; pulse full and quick; thirst great and urgent. Had two stools after the enema.

℞ Hirudines xii. to temples.
℞ Repeat enema.

10 A.M.—Four copious stools from injection; still complains of heaviness of head and headache; skin warm; pulse quick and full; thirst continues; there is oozing of serum from left ear.

℞ Cold to head.

1.30 P.M.—Much the same as before; patient is quite rational; oozing of serum continues; considered a sure indication of fracture of the base of the skull.

℞ Hirudines xii. to temples.
℞. Hydrarg. chlor. grs. x.
Ol. tiglii gtt. ii. M. statim.
℞ Cold to head.

7 P.M.—After the leeches had fallen off the patient gradually became insensible and motionless, with stertorous breathing, dilated pupils, and fixed eyes; pulse small and feeble; oozing of serum continued.

9 P.M.—Patient expired at this hour, coma increasing up to the period of death.

P.M.—28th February, at 5 P.M.—On removing the scalp, a large quantity of blood was seen under the temporal muscle of the left side; and on opening the skull the blood was found extravasated, to a great extent, between the dura mater and brain, immediately opposite the temporal region. The anterior inferior angle of the left parietal bone was fractured, and the arteria meningea media torn through. From this the fracture

extended into the orbit, breaking the orbital plate of frontal bone into two or three pieces. The floor of orbit was in the same state. Petrous portion of temporal bone was broken into two, on its anterior surface, fracture passing as far backwards as the mastoid process, which was also broken, laying open the mastoid cells. This fracture extended into the *meatus auditorius externus* of the left side to the extent of eight or nine lines. Near the junction of the temporal with occipital bone, there was another fracture running upwards and inwards to meet the one just described, at the sphenoidal cells, which were laid open. The orbital and maxillary processes of the malar bone were torn through at their articulation at the external angular process of frontal, and malar process of the superior maxillary bone. This last process was broken off from the external surface of the bone last mentioned. The antrum was opened posteriorly. The lower jaw was also observed to have been broken a little more than an inch below the condyle, and including a portion of the coronoid process.

Presented by Professor R. O'Shaughnessy.

1149 Transverse fracture of the petrous portion of the temporal bone; of the temporal into the external meatus of the ear, running in the long axis of the same; of the occipital into the foramen magnum just behind the right, and cutting the posterior third of the left condyle; also of the left orbital plate, &c.

The subject from whom this preparation was procured was a healthy European soldier, named Andrew White. He was twenty-eight years old, and admitted into hospital at 1.30 A.M. on the 2nd September, 1847. He is perfectly insensible; extremities cold; pupils contracted; pulse small and frequent; breathing stertorous; face and forehead covered by a cold and

clammy perspiration. No external wound can be detected, but there is an oozing of blood from the right ear.

It was ascertained from the European police officer who brought him, that he had fallen (while in a state of intoxication—his breath confirmed the supposition) from the second story of the Caledonian Tavern. He was then picked up and removed to hospital.

℞ Ammon. carb. grs. v.
Spt. ether, sulph. gtt. xxx.
Mistur. camphoræ ℥ i. M. ft. haustus.

To be given every hour.

6 A.M.—Reaction has set in; pulse full, about ninety; skin warm; urine drawn off. When the last ounce was being taken away, he opened his eyes. A few questions were put to him relative to his name, age, occupation, and the accident. He answered the three first distinctly and satisfactorily; as to the last, he gruffly muttered that he knew nothing about it, and then relapsed into his former state of insensibility.

℞ V. S. ad ℥ xxiv.
℞ Calomel grs. vi.
Olei tiglii gtt. iii.
Misce. ft. pilula statim.
℞ Shave the head and apply cold to it.

11 A.M.—Bowels not moved. He is a little sensible; pupils widely dilated; very restless; pulse frequent and compressible.

℞ repet. pilula.

2 P.M.—Quite sensible; complains of severe pain in the head and right shoulder and arms. There is paralysis of the right side of the face; thirst great;

stomach irritable; very restless; bowels still unmoved.

℞ Hirudines xxiv.

Six to be applied to each ear and each temple.

℞ Repet. pilula.

If it have no effect, then administer a castor oil and turpentine enema.

September 3*rd*, 1 P.M.—Perfectly sensible; still complains of much pain of head, shoulder and arm; face still paralyzed; thirst urgent; stomach irritable; exceedingly restless.

℞ Repet. pilul. et enema.
℞ Continue cold to the head.

6 P.M.—Bowels unmoved; urine passed voluntarily, and in full stream. Facial paralysis more marked.

℞ Repet. pilula and cold to head.

September 4*th*, 8 A.M.—Bowels unaffected; patient perfectly sensible; looks drowsy; had no sleep from pain in head, right shoulder and arm; paralysis of face same as in last report.

℞ Olei ricini,
,, terebinth a a. ℥ i.
,, tiglii gtt. iv.
Misce. ft. haustus statim.

If this does not move the bowels in five hours, then administer the following:—

℞. Hydrarg. submur. gr. x.
Pulv. jalap co. ℥ i.
Aquæ ℥ i. Misce. ft. haustus.

Apply twenty-four leeches to the temple.

1 P.M.—Bowels moved twice; stools very offensive and straw-coloured; very restless; facial palsy persistent; stomach irritable.

5 P.M.—Bowels moved thrice since last report; stools same as then described; pulse small; pain in the head very severe; quite sensible; restless but drowsy; thirst urgent; stomach somewhat quieter.

℞ Emplast. cantharides nuchæ applicandum.
℞ Calomel ℈ i.
Pulv. jalap co. ʒ i.
M. ft. pulv. statim.

September 5th, 8 A.M.—Died at 6 A.M., in a comatose state.

Post mortem examination was conducted by Dr. Maxton, police surgeon.

Head.—On removing the skull-cap, a large quantity of coagulated blood was found towards the right side. On opening the skull, the brain was observed to be highly congested, and serum was effused along the longitudinal sinus. The substance of the brain itself was very vascular and softened. The calvarium was free from any fracture, but towards the base of the skull the following were seen after the dura mater was detached from the bones, viz., a fracture of the petrous portion of the right temporal bone leading to the verge of the foramen magnum, and another immediately on the opposite of this opening. The petrous bone is broken on every side, though *in situ*. There are likewise two capillary fractures of the orbital plate of the frontal bone, and at the site of each there was a dark clot of blood forming a baggy state of the dura mater, which must have exercised considerable pressure upon the brain. The ventricles did not contain much serum. The choroid plexus was highly congested.

Chest.—Heart contracted; pericardium contains an unusual amount of fluid; lungs adherent to thorax.

Abdomen.—The liver was very large, and ruptured on its convex surface to the extent of about an inch, and a couple of thread-like bands were lying across the lips of the divided parts, evidently showing an effort of nature to glue up the opening by deposition of fibrous material. Stomach rather inflamed.

Presented by Mr. Thomas, Student.

1150 Fracture of the left temporal bone, and of the orbital plate of the right frontal bone of an old Hindoo. The line of the former fracture is along the long axis of the meatus auditorus externus, then it runs along the anterior border of the petrous portion of the temporal and cuts across the condyloid cavity, where lower jaw is articulated.

10*th September*, '47, 8.30 P.M.—Sambo, æt. 50, a Hindoo, of an extremely emaciated frame of body, brought into hospital at this hour, from the Garanhutta bazaar, where he met with the accident as stated by the policeman who accompanied him.

It is stated that the patient was knocked down by the shaft of a buggy coming forcibly against his person, while being furiously driven through the streets. The following are the symptoms:—Head, trunk, and extremities icy cold; pulse small, and hardly perceptible; the right pupil is contracted; (the character of the other could not be ascertained owing to the presence of an old cataract;) breathing oppressed, though not stertorous. There is an oozing of blood from the left ear; evinces much irritability when any part of the body is pinched, and, on questions being put in a loud voice, he opens his eyes, gives utterance to a few indistinct words, and then falls back into the former

state. Immediately before admission he vomited once.

℞ Spt. Ether Sulph. ʒ p.
Ammon. carb. gr. v.
Mist. camphoræ ℥ i. M. ft. haustus.

To be given every hour.

℞ Ginger frictions on the surface of the body.
℞ Hot bottles to the extremities.

11 P.M.—The breathing of the patient has become quite stertorous, the skin hot, and the vessels of the forehead distended; the pulse is regular, and can be felt quite easily.

Fast sinking into a state of insensibility; has vomited twice since admittance.

℞ Venesectio ad viii ℥*
℞ Omit the whole of the previous remedies.
℞ Cold water to the head.
℞ Ol. ricini.
,, terebinth a a. ℥ i.
,, tiglii gtt. iii.
Ft. haust. statim.

11*th September*, '47, 6 A.M.—The patient is in a state of complete insensibility, the pupil *contracted* to the size of a pin's head; skin of an equable temperature, pulse intermittent; breathing is loud; the discharge of blood continues from the ear, the bowels not moved from the draught of last night.

℞ Hydrarg. submur. gr. vi.
Ol. tiglii gtt. iii.
Ft. pil. statim.

* The patient being so very old and infirm, it was thought proper not to bleed to a further extent.

After four hours give the following, if unmoved :—

℞ Ol. ricini.
,, terebinth āā ℥ i.
,, tiglii gtt. iii.
Ft. inject.
Shave head and apply cold.

10 A.M.—Much in the same state as last noted, with the exception that the pupil has now become dilated, and paralysis of muscles of the left cheek has taken place. The bowels are unmoved. Bladder relieved by the catheter.

℞ Injection of the above immediately.
℞ Cont. cold to head.

1.30 P.M.—The patient at this hour was visited by the professor, who, finding the temporal arteries in a state of extreme distension, the surface of the body quite warm, and the pulse small, though regular, recommended and opened accordingly the temporal artery of the left side.

At present, on being spoken to in a loud voice, shows symptoms of a degree of consciousness, but relapses into a state of obliviousness shortly after. Bowels not moved. The paralysis of the face continues ; pupil dilated.

℞ Bleeding from the temporal artery to ℥ x.
℞ Hyd. submur. gr. vi.
Ol. tiglii gtt. iii.
Ft. pil. statim.

After three hours, if not moved, the injection as follows :—

℞ Ol. ricini.
,, terebinth āā ℥ i.
Ft. inject.
℞ Cold to head.

8 P.M.—No material change observable. Bowels unmoved.

℞ Rpt. pills as before.

12*th September*, 1847, 6 A.M.—The patient is in a comatose state; the head and the surface of the body dry and hot, pulse small and intermittent, pupil contracted, bowels moved thrice last night, but very scantily.

℞ Rept. injection as yesterday.
℞ Continue cold to head.

10 P.M.—The patient in a state of complete insensibility, breathing stertorous, skin hot and dry, pulse rapid. The paralysis of the face very distinctly marked. The eyelids, on being touched, do not indicate the slightest amount of irritability. Bowels moved only once since last report. The pupil dilated.

℞ Cont. cold to head.

13*th September*, '47, 6 A.M.—The patient precisely the same as noted last.

Treat.: Cont. cold to head.

9 A.M.—The patient died at this hour in a state of coma.

Post mortem Appearance Ten Hours after Death.

On an incision being made into the scalp a large quantity of dark-coloured blood gushed out, chiefly from the left temporal region, and from the substance of the temporal muscle of the same side being extravasated with blood. The dura mater, when exposed, presented signs of active congestion in its entire

extent. The brain was of a brilliant scarlet appearance, having its vessels distended, and also the longitudinal sinus filled with blood. The arachnoid thickened and very vascular. In the middle of the base of the skull, towards the *right side, was discovered a large coagulum* lying between the dura mater and the brain, and the portion of brain corresponding with it was *so softened* and *mingled* with the clot, that its substance could barely be recognized. The cerebrum, when cut into, rapidly presented large bloody drops. The ventricles held a small quantity of serum. The choroid plexus was congested, and of a dark colour. There was extravasation of blood between the dura mater and the skull on the left side, corresponding with several fractures situated in various directions, all about the petrous portion of the temporal bone, one of them extending upwards towards the parietal bone.

Black clots were likewise observed on the right orbital plate of the frontal bone, and, on removing these, capillary fractures came into view.

Both posterior clinoid processes were broken across, and lying, *in situ*, quite loose.

The sutures of the skull were nearly all perfectly ossified.

Presented by A. Thomas, Dresser.

(B.) Of the Bones of the Face.

(*a.*) *Of the Upper Jaw, &c.*

(1.) *Hypertrophy.*

1151 Hypertrophy of the cancellated structure of the upper jaw of a horse.

(2.) *Necrosis.*

1152 Skull and bones of the face, showing complete destruction of the bones of the hard palate from syphilitic disease.

Presented by Sub-Assistant-Surgeon Tameez Khan.

1153 Necrosis of the alveolar processes *en masse* of the upper and lower jaw.

(3.) *Anchylosis of a Tooth.*

1154 Anchylosis of a wisdom tooth to the alveolar process of the upper jaw.

(4.) *Osseous Tumour.*

1155 Section of an osseous tumour removed from the left cheek of a native of Bengal.

Presented by Professor Brett.

(5.) *Necrosis of a Pterygoid Process.*

1156 Necrosis of the pterygoid process, the result of syphilis, removed from the nose.

Presented by Professor Allan Webb.

(*b.*) *Of the Lower Jaw.*

(1.) *Necrosis.*

1157 Skull, with the small remains of extensively diseased and necrosed lower jaw attached.

1158 The left half of the lower jaw of a native, the right having been destroyed as far as the condyle by necrosis.

Presented by Professor Allan Webb.

1159 Necrosis of the left half of the lower jaw.

Presented by Professor Allan Webb.

1160 Necrosis of the largest portion of the lower jaw of a native. The whole of the jaw was removed on Friday, 19th May, 1854, at 8 A.M., by Professor Allan Webb. The patient did well after the operation. The disease was of eight months' duration; not the result of mercury or syphilis, but of inflammation. In a native of Parway, aged thirty.

Presented by Professor Allan Webb.

1161 Three pieces of necrosed bone from the lower jaw.

Presented by Dr. J. Ratton.

1162 Portions of necrosed alveolar processes with four teeth, *in situ*, from the lower jaw.

(2.) *Fracture.*

1163 Transverse fracture of the body of the lower jaw, on the right side, in front of the first molar tooth.

(3.) *Osseous Tumour.*

1164 Osseous skeleton of an osteo-sarcoma of the lower jaw.

(C.) OF THE BONES OF THE SPINAL COLUMN.

(1.) *Caries.*

1165 Caries of the anterior arch of the atlas.

1166 Five cervical and the whole of the dorsal and lumbar vertebræ. Caries of a part of the body of the second dorsal, of the articulating surfaces of the 11th and 12th dorsals, with destruction of the intervertebral cartilage. There is a slight curvature in the upper part of the dorsal region, formed by the 2nd, 3rd, and 4th dorsals, the convexity being sinistral. A second greater curvature lower down, constituted by the last four dorsal vertebræ, displays a dextral convexity. A

third extreme curvature is formed by the diseased second and third lumbar vertebral, and possesses a sinistral convexity.

1167 Caries of the bodies of four dorsal vertebræ.

1168 Caries of the three upper and three or four last dorsal vertebræ, with destruction of the intervertebral cartilages. There is lateral curvature, with the convexity dextral.

1169 Caries of the 7th, 8th, 9th, 10th, 11th, and 12th dorsal vertebræ, and of the 1st, 2nd, 3rd and 4th lumbar vertebræ. The bodies are entirely destroyed. Spinal curvature, with the convexity pointing backwards.

1170 Caries and destruction of the greater part of the body of the first lumbar vertebra, with considerable attenuation or atrophy of the intervertebral substance intervening between it and the last dorsal vertebra.

1171 Caries of the bodies of the first and second lumbar vertebræ.

Presented by Professor Edward Goodeve.

1172 Caries of a portion of the body of the fourth lumbar vertebræ.

Presented by Dr. Theodore Cantor.

(2.) *Anchylosis.*

1173 Anchylosis of the second and third cervical vertebræ.

1174 Partial anchylosis of five dorsal vertebræ by a deposit of osseous material in, or by ossification of, the anterior common ligament of the right side.

(3.) *Fracture.*

1175 Fracture of the atlas through the right articular surface, and of the body of the axis; dislocation of the

atlas from the axis by a musket-ball now lying between the right articular surfaces and the odontoid process. The annular ligament is cut across. From a European who lived nine days after the receipt of the injury.

1176 Fracture of the odontoid process of the axis, the result of a fall from the top of a house, followed by instant death. From a native female.

1177 Fracture of the bodies of the fifth and sixth cervical vertebræ.

Presented by Professor T. W. Wilson.

1178 Fracture of the first lumbar vertebra.

Presented by Professor Allan Webb.

1179 Fracture of the arches of the three inferior lumbar vertebræ.

(4). *Dislocation.*

1180 Partial dislocation of the fifth from the sixth dorsal vertebra.

(D.) Of the Sternum and Ribs.

(1.) *Ricketts.*

1181 Sternum much bent upon itself from ricketts.

(2.) *Caries.*

1182 Caries of the upper part of the sternum and of the bones forming the sterno-clavicular articulations.

(3.) *Fracture.*

1183 Fractured rib of an ox partially united.

1184 Fracture of ten ribs on the left side of the body, at different situations. Complete bony union has taken place.

Presented by Mr. G. H. Daly.

(4.) *Malformation.*

1185 Bifurcation of the fourth rib, on both sides, at their sternal extremities.

Presented by Messrs. Barker and Vanderstratten, 30th Nov., 1861.

(E.) Of the Bones of the Upper Extremities.

(*a.*) *Clavicle.*

(1.) *Caries.*

1186 Superficial caries of the acromial and sternal ends and of a portion of the inferior surface of the right clavicle.

1187 Caries of the clavicle mostly at the sternal half of the bone.

Presented by Professor Edward Goodeve.

(2.) *Fracture.*

1188 Fracture of a clavicle badly united. The fracture has been oblique, and the broken ends have over-ridden each other. The bone is also slightly twisted.

1189 Fracture of the right clavicle well united.

(*b.*) *Scapula.*

(1.) *Osteo-myelitis.*

1190 Sections of the head of the left scapula from a European who died of pyæmia after secondary amputation at the shoulder joint. The sections across the corocoid process and joint show the state of the cancellated structure after low inflammation and suppuration of bone in a case of pyæmia. 12th September, 1863.

Presented by Professor J. Fayrer.

(2.) *Fracture.*

1191 Transverse fracture of the body of the scapula of a sheep. Ossification of the material thrown out is well shown.

1192 Longitudinal fracture of the body of the scapula by a sword-cut. The imperfect nature of the union, after seventy-four days, is shown. The patient was a Chinese, named Wheo Teng Cheong, apparently about thirty years of age, brought into hospital on the night of 22nd of August, 1845, having been attacked by some unknown individual and severely wounded by a sword in the right shoulder, arm and neck. The principal wound completely divided the scapula longitudinally through the centre of its spine, another wound at right angles to this nearly severed the inferior border of the scapula close to the origin of the teres major muscle. The injuries on the arm and neck were of minor importance. The strength of the antagonizing muscles was such as to prevent the divided ends of the spine of the scapula from being accurately approximated. The wounds were, however, treated with cold water dressing, and strict antiphlogistic regimen observed. The healing process at first advanced favourably, but latterly the man lost flesh daily, and was eventually attacked with colliquative diarrhœa, under which he sank on the 3rd November, 1845, having been seventy-four days under medical treatment. The condition of the scapula shows an effort of nature to form a bony reunion under most unfavourable circumstances. The humerus was not preserved, but the synovial membrane was completely absorbed, as if preparatory to union by anchylosis between the humerus and

scapula in consequence of the joint having been so long motionless.

Presented by Dr. William Twill, Resident Surgeon, Singapore.

(*c.*) *Humerus.*

(1.) *Hypertrophy.*

1193 Hypertrophy of the shaft of the right humerus.

(2.) *Caries.*

1194 Caries of the upper portion of the humerus.

1195 Caries of the head of the humerus.

1196 Caries and necrosis of the lower extremity of the humerus.

(3.) *Necrosis.*

1197 A portion of necrosed bone removed from the humerus of the right side, on the 8th June, 1861.

Presented by Professor J. Fayrer.

1198 One large and two small sequestra from the humerus.

1199 A sequestrum taken from the humerus, while the patient was under the influence of chloroform, on the 5th February, 1848.

(4.) *Fracture.*

1200 Fracture through head of the left humerus and reparation by a considerable formation of new bone, which must have interfered with the movements of the joint.

1201 Fracture of the shaft of the humerus showing complete bony union. At the site of fracture there is considerable thickening, caused by the deposition of new bone.

1202 Fracture and imperfect union of the bones of the

wing of an adjutant, showing, to great advantage, the provisional callus which has encased the broken ends of the bones.

1203 Angular union of a fracture of the shaft of the humerus at the junction of the middle with the lower third. The convexity of the bent bone is forwards. There is a good deal of thickening of the site of fracture, particularly at the sides and the concavity of the bend.

Presented by Mr. Mohendro Nath Sirkar.

1204 Comminuted fracture of the left humerus from a gunshot wound with feeble attempt of nature to repair the mischief. From the arm of a Burmese who received the injury in a dacoity. The limb was removed, and the man made a good recovery. The account of the case is given below :—

Parts of the left humerus of a Burmese man of middle age, who was shot through the arm in a dacoity near the town of Dalla. The arm was amputated on the thirtieth day after the injury, as, from the reduced state of the man's health, it appeared the only chance of saving his life. The operation was performed near the shoulder-joint ; and the man has rapidly recovered his health and strength. The specimen is interesting as showing the amount of injury a single ball may produce, and that the necessity for amputation may occur, although for the most part gunshot-wounds of the arm do not entail so serious a loss. Some of the lower fragments of the shaft of the bone had been lost before the man was seen, but sufficient remains to show how extremely the bone has been split; as also the efforts of nature to throw off the necrosed parts. October 6th, 1852.

Presented by Dr. Fayrer, Assistant-surgeon, Field Hospital, Army of Ava.

(5.) *Tumours.*

1205 A species of acicular bony growth from lower end of the humerus, having, as seen in the section, direct continuity of structure with the humerus itself.

1206 Portions of new bone of similar kind.

(*d.*) *Radius and Ulna.*

(1.) *Atrophy.*

1207 Bones of the fore-arm twisted, shortened, and atrophied with a certain degree of softening. The lower ends of the ulnæ have lost their usual appearance. The bones of the lower extremities were similarly affected. From a subject in the dissecting-room.

Presented by Professor W. Walker.

(2.) *Caries.*

1208 Caries of the shaft of the ulna. The bone presents a worm-eaten appearance, and is somewhat thicker than natural.

Presented by Professor R. O'Shaughnessy.

1209 Caries of the right ulna.

(3.) *Necrosis.*

1210 Three sequestra, each about four inches long, from the radius of a young native lad, consequent upon inflammation in the debilitated state of constitution following small-pox.

Presented by Professor R. O'Shaughnessy.

1211 Bones of the arm and fore-arm, together with some ornaments which were found in an alligator's stomach. The extremities of the bones are not present.

(e.) *Bones of Hand.*

1212 Macerated bones of the lower half of the right fore-arm and hand, with osseous spiculæ entering into the composition of a tumour which involved the whole of the hand.

(F.) Of the Bones of the Pelvis.

(1.) *Mollities.*

1213 Mollities of the left os innominatum.

(2.) *Fracture.*

1214 Fracture of the right pubis and ischium in a native. The bladder was ruptured.

Presented by Professor Allan Webb.

1215 Fracture of the body and descending ramus of the os pubis.

Presented by Professor Allan Webb.

1216 Extensive fracture of both ilia, sacrum, and the body and ramus of the right os pubis.

Presented by Professor Allan Webb.

1217 Comminuted fracture of the sacrum; particularly on the right side, and of the body and descending ramus of the corresponding os pubis. A portion of the ascending ramus of ischium and of descending ramus of the pubis wanting. There is also a capillary fracture of the acetabulum at the junction of the pubis with the ilium; and a corresponding capillary fracture of the ascending ramus of the ischium of the same side.

Presented by Professor J. Jackson.

(G.) Of the Bones of the Lower Extremities.

(*a.*) *Femur.*

(1.) *Hypertrophy.*

1218 Hypertrophy of the shaft of the femur. The cancellated structure is almost wholly obliterated by earthy infiltration.

1219 Hypertrophy and eburnation of the shaft of the femur.

1220 Thickened periosteum and hypertrophy of the femur.

1221 Great hypertrophy of the femur, consisting, principally, of augmentation of the cortical layer in all directions. A longitudinal section brings this to view.

1222 Enlargement, underneath a node of the upper half of the internal aspect of the left femur with caries of the sides of the condyles.

(2.) *Atrophy.*

1223 Cellular degeneration of the femur and the upper part of the tibia, from a Hindoo boy, whose thigh had been amputated.

Presented by Professor R. O'Shaughnessy.

1224 Left femur bent from ricketts, the convexity pointing anteriorly.

1225 Right femur bent from ricketts, convexity pointing forwards.

1226 Section of the lower third of the femur, bent from ricketts. At the middle of the concavity of the bend, the cortical layer of the shaft is distinctly thickened.

(3.) *Caries.*

1227 Caries of the femur.

1228 Caries of the femur with portions of earthy degeneration and eburnation.

1229 Caries of the lower extremity of the left femur, with hypertrophy (node) of the cortical part of the middle third of the shaft.

1230 Caries with enlargement of the lower third of the right femur.

(4.) *Necrosis.*

1231 The upper third of the shaft of the right femur, with head and neck. Four inches of the shaft are necrosed, the line of separation being situated just below the trochanters. It is surrounded by a quantity of new bone which is irregular and perforated by numerous holes.

1232 Necrosis of a large portion of the upper part of the shaft of the left femur extending six or seven inches from the line of the trochanters downwards. The shaft has been strengthened by a deposit of new bone.

1233 Enlargement of the femur below the trochanters, perforated by two large holes leading down to what would seem to have been necrosed bone in the interior. It is surrounded more or less, but especially, anteriorly, by exostotic growths.

1234 Spiculæ extracted from an old case of fracture of the femur.

Presented by Professor R. O'Shaughnessy.

(5.) *Fracture.*

1235 Fracture of the neck of the left femur within the capsular ligament. A portion of the trochanter major is broken off. There is no bony union.

1236 Oblique fracture of the neck of the left femur within the capsular ligament. There is no osseous union.

1237 Partially united fracture of the neck of the left

femur, externally to the capsular ligament, with impaction of the same into the cancellated structure of the trochanter major, which presents a vertical split extending inferiorly below the trochanter minor. Section shows the impaction very distinctly.

Case of Fracture of the Cervix Femoris external to the Capsular Ligament.

Thomas Weeks, æt. 53, a stout, muscular seaman of the screw steamship, *Calcutta*, was admitted into the General Hospital on March 18, 1854.

He had fallen from the top of the spare spars, on board the ship, on to the deck, a height of about ten feet, and alighted on the great trochanter of the left side. Being unable to rise, he was carried to the hospital, where the following symptoms were noted: —

Decumbency on the back, left leg everted, powerless, a good deal of ecchymosis about trochanter major. No perceptible shortening, no crepitus; great pain produced by any muscular exertion, but flexion and extension can be performed passively to a considerable extent without inconvenience.

No treatment was adopted except perfect rest in bed, and support with pillows. He soon began to move the limb with his hands, and the other leg, and in twenty-two days was able to go about with crutches. At this time there was apparent shortening, as the toes only reached the ground. This was attributed to interstitial absorption, the more readily as the trochanter was now found somewhat flattened. The foot continued everted. He could never bear much weight upon it, the attempt to do so producing pain in the situation of the hip-joint.

The patient died of apoplexy during the very hot

weather in May, just two months after the accident, and the *post mortem* examination reveals the following condition of the injured part :—The great trochanter was split, and the neck driven into its cancellous structure. The femur, in fact, consisted of three pieces, viz. :—

1st. The head and neck separated from the rest of the bone by a fracture which encircled the root of the neck.

2nd. The small trochanter, and upper part of great trochanter, with the intervening process of bone, which were forced inwards towards the acetabulum.

3rd. The shaft was rotated outwards upon the neck, leaving a deep fissure in front between the fragments.

Partial bony union had taken place, a good deal of callus having been thrown out, especially underneath the neck. The neck was slightly more horizontal than natural, so that there must have been a little shortening from the first, though it was not perceived immediately after the accident.

The accompanying preparation exhibits a good example of impacted fracture. The split in the trochanter major, which extends downwards to below the small trochanter, will be seen to be merely linear posteriorly. In all probability the fibrous investment of the bone remained entire here, holding together the two fragments, which thus firmly grasped the neck, accounting for the absence of crepitus, and the possibility of passive motion without pain.

The anterior aspect shows the amount of displacement of trochanter inwards, and the eversion of the shaft, leaving a deep fissure in front.

The section shows the extent to which the impaction had taken place laterally by the relative position

of the points A and B, which in the natural state would be in contact, and the line of shaft and neck continuous.

Presented by Dr. J. B. Scriven, Second Assistant-Surgeon, Presidency General Hospital.

1238 Fracture and separation of the left trochanter major, and longitudinal splitting of the femur for 3½ inches, continuous below with a transverse capillary fracture of a part of the shaft.

1239 Specimen showing extensive comminuted fracture of the femur below the trochanters, and embracing a considerable portion of its upper third. The case is as follows:—Gunner William Radcliffe, aged 27, was wounded at the battle of Goozerat on the 21st February, 1849, by a round shot striking the anterior and upper part of the left thigh, by which the bone was splintered a little below the neck and the soft parts much injured. He was brought into Lahore on the 3rd April, and on the 6th, forty-four days after the receipt of the injury, amputation at the hip joint was performed. The wound, at first affected with gangrene, eventually did well, and in the process of healing, his constitution previously weakened by profuse suppuration, he sank under the prolonged debilitating effects of so severe an injury. He died on the 20th of the same month, fourteen days after the operation; sufficiently long to prove the success of the operation itself, and to render it apparent that, had the limb been removed some time before, the chances are he might have recovered.

Presented by Surgeon P. F. H. Baddeley, Artillery Div., Lahore.

1240 Comminuted fracture of the upper third of the left femur, with imperfect formation of new bone adhering to the upper and lower fractured extremities, as well as to the comminuted portions effected through their

periosteal aspects. The subject of this was a Burmese, who was shot through the thigh at the capture of Rangoon, on the 13th or 14th of April. He was brought to the Field Hospital some days afterwards. He died on the 4th August, 1852, from debility and exhaustion produced by the discharge from the wound and an attack of diarrhœa. The thigh was full of sinuses, extending in all directions, and the cavity of the callus also contained a quantity of pus. There was no opportunity of performing amputation. The man's condition, when brought to the hospital, precluded it, and subsequently it was not deemed advisable.

Presented by Dr. Fayrer, Field Hospital, Rangoon.

1241 Section of the femur of a hog which had been fractured at its middle; the bones have overridden each other, but complete bony union has been effected.

1242 Fracture of the lower part of the middle of the right femur, in which section shows that very perfect bony union has taken place. There is, however, bending of the bone inwards, which must have occasioned slight deformity.

1243 Fracture of the shaft of the left femur at the lower part of the middle third. Section shows that the bones have overridden each other about three inches. The upper fractured extremity, which is in front, has become rounded off, and the dense cortical layer formed over it is continued downwards, and merged in that of the lower fragment. The same is noticed at the end of the lower fractured extremity, but it is comparatively irregular and rugged. Both the periosteal and cortical layers of the adjacent bones have been substituted by cancellated structure. The increased compactness of a part of this indicates the position where this transformation has been accomplished.

1244 Fracture of the femur of a pheasant. The bones override, but the apposed surfaces, though separated a quarter of an inch, are joined by bony material.

1245 Oblique fracture of the shaft of the left femur at its lower third. There is considerable overriding of the broken ends, each of which terminates in a conical bony point. Notwithstanding the great mal-position that must have existed, the cortical and periosteal structures of the apposed bones have been, to a considerable extent, joined by the development of new bone. The overriding is lateral, the upper fractured end lying outside, the lower on the inner aspect.

1246 Transverse fracture of the lower third of the left femur. A good deal of new bone has been deposited above and below the site of fracture, and there is noticed an increased density of the cancellated structure exposed at the broken ends; but no bony union has taken place.

(6.) *Exostosis.*

1247 Exostosis of the femur.

1248 Fracture and reparation of the thigh bone of a sheep, with subsequent hypertrophy and exostosis.

(*b.*) *Of the Tibia and Fibula.*

(1.) *Ricketts.*

1249 Right tibia bent from ricketts.

1250 Tibia bent and thickened from ricketts. There is a good deal of chalky infiltration of cancellated structure and medullary lamina of the shaft.

(2.) *Caries.*

1251 Caries of a portion of the shaft of the tibia.

1252 Caries of the right tibia and fibula, with irregular

deposition of new bone on the surface, and anchylosis of the lower third of the bones to each other.

1253 Caries of the right fibula.

1254 Caries of the left tibia.

1255 Caries of the left tibia.

1256 Caries of the left tibia and fibula.

1257 Caries of the tibia, destruction of the middle third of the shaft, and anchylosis of the tibia and fibula by the production of new bone between them.

(3.) *Necrosis.*

1258 Necrosis of a large portion of the shaft of the tibia. The fibula is partially covered with new bone.

1259 A portion of necrosed tibia which exfoliated, reparation having been effected by granulation.

Presented by Professor R. O'Shaughnessy.

1260 Right tibia, with two large pieces of necrosed bone *in situ*, removed by Dr. Webb.

Presented by Professor Allan Webb.

1261 Necrosis of the left fibula. The necrosed bone is seen partially incarcerated by altered and hypertrophied bone. A part of the substance appears to have been lost.

Presented by Professor Allan Webb.

1262 Necrosis of the middle third of the fibula, removed after death from Nyel Chund Ghose, who underwent Symes' operation, on October 31, 1861, for cancer of the foot.

Presented by Professor J. Fayrer.

1263 Portion of the left tibia of a Chinaman, showing a cavity, from necrosis, underneath an old ulcer.

1264 A necrosed portion of the tibia of a native, aged fourteen years, who had been suffering upwards of five months.

Presented by Professor R. O'Shaughnessy.

1265 Necrosis of the greater portion of the shaft of the right tibia, from the upper to the lower epiphysis. The dead bone is enclosed posteriorly and laterally by new bone, which is continuous with the head and inferior extremity of the tibia, but it is open in front. It is quite loose, but it is so incarcerated that it cannot be dislodged through any of the openings. A good deal of new osseous structure is thrown out around the fibula, which at the lower three or four inches is anchylosed to the tibia.

Presented by Dr. Rose, of Penang.

1266 Exfoliated lamina of bone removed from the right tibia.

Presented by Professor S. B. Partridge.

1267 Four large sequestra from necrosed tibia.

Presented by Mr. C. E. Raddock.

1268 A small sequestrum.

1269 A small sequestrum from the tibia of a Hindoo girl.

1270 A larger sequestrum, three inches in length, from tibia.

1271 A sequestrum from the upper part of the shaft of the tibia.

Presented by Professor Allan Webb.

(4.) *Fracture.*

1272 Fracture of the upper third of the left tibia, rather oblique, and showing little or no attempt at repair.

1273 Oblique fracture of the left tibia and fibula at their upper thirds, with partial union.

1274 Transverse fracture of the middle third of the tibia and fibula.

1275 Transverse fracture of the middle third of the tibia and fibula. There is partial union of the latter, but none of the former.

1276 Fracture of the shafts of the left tibia and fibula at the junction of the middle with the lower third. Malposition, or overriding of the broken ends is displayed. There is complete union of the apposed bony surfaces.

1277 Fracture of the lower third of the right tibia and fibula, overriding of the broken ends; perfect ossific union and fine rounding off of the projecting ends. The upper fractured extremity of the fibula has united itself substantially to the outer side of the tibia about an inch above the ankle-joint.

1278 Fracture of the right fibula within three inches of the malleolus, overriding fully two inches; union between the apposed surfaces complete notwithstanding.

1279 Fracture of the right fibula within four inches from the head, overriding of an inch of the fractured ends; very complete union.

(c.) *Of the Bones of the Foot.*

(1.) *Caries.*

1280 Caries of the left astragalus.

1281 Caries of the right tarsal bones and of the tarsal ends of the metatarsal bones. The internal and middle cuneiform bones are partially anchylosed. The head of the second metatarsal bone is anchylosed to the latter.

(2.) *Anchylosis.*

1282 Perfect anchylosis of the tarsal bones to each other, and of the tarso-metatarsal joints.

(3.) *Fracture.*

1283 Comminuted fracture of the right tarsal and metatarsal bones, some of which are carious, with portions of the articular surface of the tibia.

Presented by Professor Allan Webb.

§ XXII.—Of the Joints (Dry Preparations).

(A.) Of the Joints of the Upper Extremities.

(*a.*) *Shoulder Joint.*

1284 Caries and necrosis of the head of the humerus, with complete separation of the same from the shaft. Caries also of the lower extremity, and of the articular ends of the radius and ulna.

Presented by Professor R. O'Shaughnessy.

1285 Necrosis of a portion of the head and upper part of the shaft of the humerus.

Presented by Professor Edward Goodeve.

(*b.*) *Elbow Joint.*

1286 Mollities of the humerus; caries of the bones forming the elbow and wrist-joint, and of the articular extremities of the metacarpal and first phalangeal bones of right side.

1287 Caries of the bones forming the elbow-joint.

1288 Caries of the bones forming the elbow-joint. Numerous spicular developments of new bone are seen springing from the coronoid process of the ulna, the lower end of the humerus and olecranon process.

1289 The necrosed bones of the elbow-joint removed by the operation of resection.

Presented by Professor J. Fayrer.

1290 Perfect anchylosis of the left elbow-joint.

1291 Transverse fracture of the left humerus just above the condyles, and through the extremity, into the joint. The fracture was compound.

Presented by Professor Allan Webb.

(c.) *Wrist and Carpo-Metacarpal Joints.*

1292 Partial caries of the scaphoid, os magnum, cuneiform and trapezoid, of the metacarpal and first phalangeal bones.

1293 Carpal and metacarpal bones of a Hindoo Faqueer. There is anchylosis of metacarpal bones of the fore and middle fingers to the trapezoid and os magnum, and of the first and second phalanges of the same fingers to each other.

Presented by Mr. G. Daly.

(B.) Of the Joints of the Lower Extremities.

(a.) *Hip Joint.*

1294 Caries of the right os innominatum, most marked in the acetabulum, around which a considerable amount of new bone has been developed. The cavity of the joint is disproportionately large, probably from accumulation of matter and the absorption of the bone.

1295 Portion of the ileum, ischium, and os pubis, showing caries of the right acetabulum. New bone has been formed near the ileo-pectineal eminence.

1296 Caries of the head of the right femur, of the upper half of the posterior surface of the shaft, with a considerable formation of new bone along the upper bifurcation of the linea aspera. One portion stands out fully an inch from the shaft, at right angles to the same, like the trunk of a tree. The spicular character of some of the remaining new bones is well marked.

1297 Caries of the head of the femur (left) with enamel-like deposit on its surface.

1298 Comminuted fracture of the upper third of the left femur, the result of a musket-shot. The abstract of the case runs as follows:—Moung Shive-Ko, a

Burman, aged about thirty, received a musket-shot in the upper part of the left thigh on the 15th February, 1853, causing fracture of the femur into the hip joint. Amputation at the hip joint was immediately performed by the antero-posterior flaps, under the influence of chloroform. Six ligatures were applied, viz., five on arteries, and one on the femoral vein.

After recovering from the shock, which appeared to have been very great, he continued well until the 5th March, when symptoms of tetanus supervened. The flaps had completely united by adhesion, excepting at the inner commissure, where the ligatures emerged, and at the outer commissure, where a small quantity of pus from the cavity of the joint oozed away. The shot wound left in the anterior flap had almost healed, but was kept open to afford a free passage to any pus that might form inside. The ligatures had come away, and everything seemed to be going on most favourably; he was in good spirits, and took his food with a good appetite, and slept well, when on the morning of the 5th of March symptoms of tetanus were found impending.

After taking repeated ℥ i. doses until he had swallowed ℥ vi. of the tincture of the cannabis indicus, the spasms, which on the third day after the first advent of the disease had become very severe and continued, were relieved, and hopes were entertained of the recovery of the patient, as during this time there had been but little alteration in his general aspect. But, on the night of the 16th March the spasms returned with redoubled violence, and carried him off at about 3 P.M. on the 17th.

The stump had completely healed externally. From the shot hole, which was kept open, a few drops of pus escaped of a good colour and consistency.

The exit for it was perfectly free, and the least pressure was sufficient to remove any matter that might have collected.

The body was not examined, owing to the objections of friends.

Presented by Dr. Fayrer, Officiating Civil Surgeon, Rangoon.

1299 Perfect anchylosis of the left hip joint.

1300 Perfect anchylosis of the right hip joint.

(*b.*) *The Knee-Joint.*

1301 Caries of the head and upper part of the shaft of the left tibia, and of the condyles of the corresponding femur, with considerable deposit of new bone on the superior part of the tibia.

1302 Caries and necrosis of the middle third of the right tibia. Superficial caries of the head of the tibia externally, encroaching inwards around the margins of the joint underneath the situation of the articular cartilage.

Presented by Professor J. Fayrer.

1303 Caries of the articular surfaces of the femur, tibia, and patella of the right side. There was found a loose sequestrum in the cavity, now seen in the head of the tibia. The cartilages of the joint were completely eaten away.

Presented by Professor J. Fayrer.

1304 Caries of the inferior third and condyles of the femur, and of the head of the tibia.

1305 Caries of the condyles of the right femur, particularly on the outer aspect of the external condyle.

1306 Fracture of the lower part of the femur transversely and between the condyles, into the left knee-joint. The outer condyle has been pulled upwards more than half an inch, but sufficient osseous union has taken place to fix the parts firmly together. The

upper broken end overrides the lower to the extent of three inches, and a sharp splinter or spicule projects considerably. The apposed bones have been joined by a bridge of new bone, which is irregular and much perforated. The injury inflicted upon the knee-joint seems to have been repaired, for the condyles and articular surface of tibia are healthy. Removed from the body of Charles Wilson.

Presented by Professor J. Fayrer.

1307 Comminuted fracture of lower end of the left femur, extending into the knee-joint.

Presented by Professor R. O'Shaughnessy.

1308 Fracture of the lower part of the lower third of the left femur, extending longitudinally between the condyles into the knee-joint.

The abstract of the case is furnished below :—

Tarrucknath, a Hindoo labourer, thirty-six years of age, admitted into the Medical College Hospital, on the 6th September, 1850, with compound fracture of the femur immediately above the knee-joint, and longitudinal fracture of both condyles. The injury was caused by a fall from the top of a house. On admission, the pointed extremity of the fractured femur was protruding through at the upper edge of the patella, having lacerated and passed through the tendon of the rectus femoris muscle. There was a discharge of synovia from the wound, and great injury of the soft parts surrounding the joint.

Amputation of the thigh was performed shortly after admission to the hospital (when the patient had sufficiently recovered from the shock of the accident) at its lower third, while the patient was under the influence of chloroform. The flap operation was adopted.

12*th September*, 1850.—The patient is doing well.

Presented by Mr. Geo. Daly, House Surgeon.

(c.) *Ankle-Joint.*

1309 Caries of the upper and lower extremities of the left tibia, with eburnation of the middle third of the shaft.

1310 Caries of the lower part of the right tibia and fibula, particularly at the ankle-joint. Opposite the malleoli the tibia and fibula are joined by new bone. Many spicules of bone spring from the interosseous border of the fibula, all pointing upwards and inwards.

1311 Caries of the lower extremities and articular surfaces of the left tibia and fibula.

1312 Caries of the lower extremity of the tibia and fibula, anchylosis and considerable enlargement.

1313 Caries and eburnation of the right tibia, the former being marked on the surface and at the extremities, the latter in the central part, or one-third of the shaft.

1314 Caries of the bones of the left foot, and lower third of tibia and fibula, leading to great destruction of the bones. There is anchylosis of the tibia and fibula, partial anchylosis of the ankle-joint, and considerable formation of new bone over the heel and behind the joint.

1315 Fracture of the right tibia and fibula, near and into the ankle-joint, fibula overriding slightly. Bony union complete.

---

§ XXIII.—Addenda Miscellanea.

1316 The bony framework of (probably) an osteo-sarcomatous tumour.

1317 The osseous skeleton of osteo-sarcoma. Its radiating and acicular character is well marked.

1318 A collection of permanent teeth, showing the effects of caries in destroying the crown and dentine.

1319 A ball of hair, fourteen inches in circumference, taken from the stomach of an alligator, in July, 1840. The hair of which it is composed is black and thick, like that of the Hindoo race.

1320 A bezoar from the stomach of an alligator, fifteen inches round. The hair is densely matted, of a black colour, and of Hindoo origin.

Presented by Mr. Simon Nicolson.

1321 A ball of hair taken from the stomach of an alligator in July, 1840.

1322 A bezoar taken from the stomach of a giraffe in March, 1840. The surface is smooth, and slightly oval. Section shows that it is hollow and lined with the fine hair of the animal.

Wax Models of Skin and other Diseases, &c. (supplied by Mr. Towne, of Guy's Hospital, London.)

(1.) *Papulæ.*

1 Lichen circumscriptus.
2 ,, syphilitica.
3 Prurigo.

(2.) *Squamæ.*

4 Lepra alphoides.
5 ,, nigricans.
6 ,, syphilitica.
6[1] ,, with dark brown stains.
7 Psoriasis labialis.
8 ,, palmaris.
9 ,, inveterata.
10 Horny growth proceeding from the skin of the posterior aspect of the forearm near the wrist.

(3.) *Exanthemata.*

11 Rubeola.
12 Urticaria.
13 Erythema nodosum.
14 Erysipelas.
15 Maculæ of fever.

(4.) *Purpura.*

16 Purpura.

(5.) *Pustulæ.*

17 Impetigo.
18 ,, sparsa.
19 Porrigo favosa.
20 Variola after vaccination.
21 ,, 3rd day.
22 ,, 5th day (confluens).
23 ,, 7th day.
24 ,, 9th day (confluens).
25 Scabies simplex (vesicular).
26 ,, purulenta.

(6.) *Vesiculæ.*

27 Vaccine vesicle (3rd and 4th days).
28 ,, (9th day).
29 ,, (15th and 18th days).
30 Herpes Lupinosa.
31 ,, Iris.
32 ,, Zoster (?).
33 ,, ,,
34 Rupia.
35 Miliaria.
36 Eczema solare.
37 ,, rubrum.
38 ,, ,,
39 ,, ,,

(7.) *Tuberculæ.*

40 Sycosis (follicular).
41 Syphilitic tubercles.

(8.) *Syphilis.*

42 Syphilitic ecthyma.
43 Syphilis tuberculosa.
44 ,, congenitale.

(9.) *Ulceration.*

45 Ulcer on dorsum of hand with diseased bones.
46 Large and foul ulcer (result of syphilis).
47 Ulcer on the hand from glanders.
48 Ulcer with fungoid granulations.
49 Extreme ulceration of face and neck (malignant).

(10.) *Anthrax.*

50 Carbuncle.
51 ,, with crucial incision.

(11.) *Varix.*

52 Varicose veins with ulceration.

(12.) *Cirrhosis.*

53 Dram-drinker's, or hobnail liver.

(13.) *Morbus Brightii.*

54 Kidney of Bright's disease.

(14). *Elephantiasis.*

55 Elephantiasis pedis sinistri.

(15.) *Carcinoma.*

56 Cancer tuberosa.
57 Carcinoma of orbit and contents.
58 Fungous hæmatodes of orbit and contents.
59 Carcinoma of lip, nose, and eye.
60 Cancer of the female breast.
61 ,, of the male breast.
62 Melanosis of the eye.
63 ,, of the leg.

(16.) *Lactating Breasts.*

64 Lactating breast at 6th month.
65 ,, ,, 7th month.
66 ,, ,, 9th month.

(17.) *Fœtus.*

67 Fœtus, 1st, previous to respiration.
68 ,, 2nd, where respiration has commenced.
69 ,, 3rd, respiration established.

(18.) *Old Wax Models.*

70 Scabies.
71 Horny growth.
72 Chicken-pox.

Earthen Models (Plaster of Paris).

1 Disease of the left knee-joint, showing its conformation when distended with fluid.
2 Talipes equinus.
3 ,, vulgus.
4 Cancer of the right mamma.
5 Ulcer of the left arm, with necrosis.

6 Dislocation of head of the left femur into foramen ovale, and anchylosis to its margins.

7 Twins. One is fully formed, the other is acephalous, quite rudimentary, and attached to the epigastrium of the fully-developed child by its abdomen.

8 Cast of child, showing hydrocephalus.

9 Cast of elephantiasis of the labium. Length 12, breadth 8, and thickness 5 inches.

10 Cast of elephantiasis of the labium. Length 16 inches; width, at the widest part, 10 inches; thickness 8 inches.

11 Cast of a man with elephantiasis scroti, measuring 32 inches in length, reaching as far as the ankles, 19 in breadth, and 9 in thickness; in circumference, at the widest and most depending part, it measures 62 inches.

Pelvis.

12 Model of an ovate form of deformed pelvis.

13 Model of a deformed pelvis which is contracted in its antero-posterior diameter with a prominent coccyx.

14 Pelvis with a prominent last lumbar vertebra, slight twisting of the sacrum and contraction of antero-posterior diameter.

15 Obliquely ovate form of deformed pelvis.

16 Deformed pelvis in which the antero-posterior diameter is about an inch and a quarter, and coccyx curved and thrown forwards.

17 Contraction of antero-posterior diameter; increase of transverse diameter.

18 Deformed pelvis in which the ossa pubes are pressed inwards and the outlet is narrow, encroached upon also by the projecting coccyx.

19 Pelvis in which the lateral diameter of brim and outlet is much contracted, or below the average capacity.

20 Deformed pelvis with an abnormally capacious brim and cavity, but with a narrow outlet, owing to the projecting coccyx.

21 Pelvis with straight sacrum, and antero-posterior diameter of brim about an inch and an eighth and antero-posterior diameter of the outlet an inch and three quarters.

Stuffed Monsters.

1 Kid with one head and neck, two bodies and eight legs.

2 Monstrous calf without any hair on the trunk, without eyes, with arrested development of the upper and lower jaw, and a wide mouth consisting only of soft parts.

3 Monstrous lamb, without eyes, with displaced ears and muzzle pointed like that of a musk rat. The lower jaws appear to have been wanting.

4 Monstrous calf with one body and four legs; one neck and two heads completely formed.

5 Monstrous calf with two heads, two necks, one body, and four extremities.

6 Monstrous calf with two heads, one neck, one body, and four extremities.

7 Twin calves joined together at the nates, having two tails, one common anus, eight extremities, and two muzzles somewhat pointed.

LONDON :
PRINTED BY SMITH, ELDER AND CO.,
OLD BAILEY, E.C.