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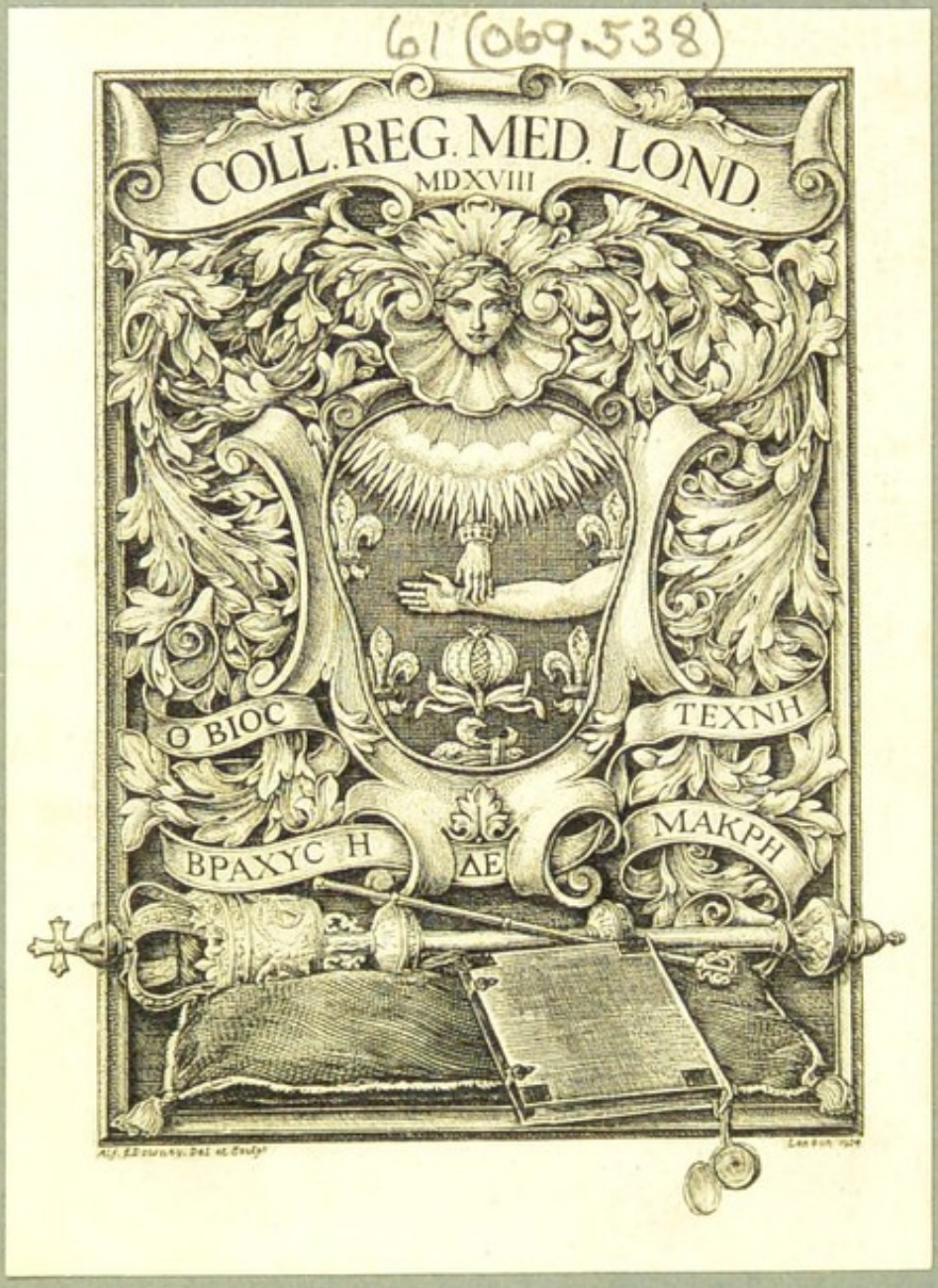

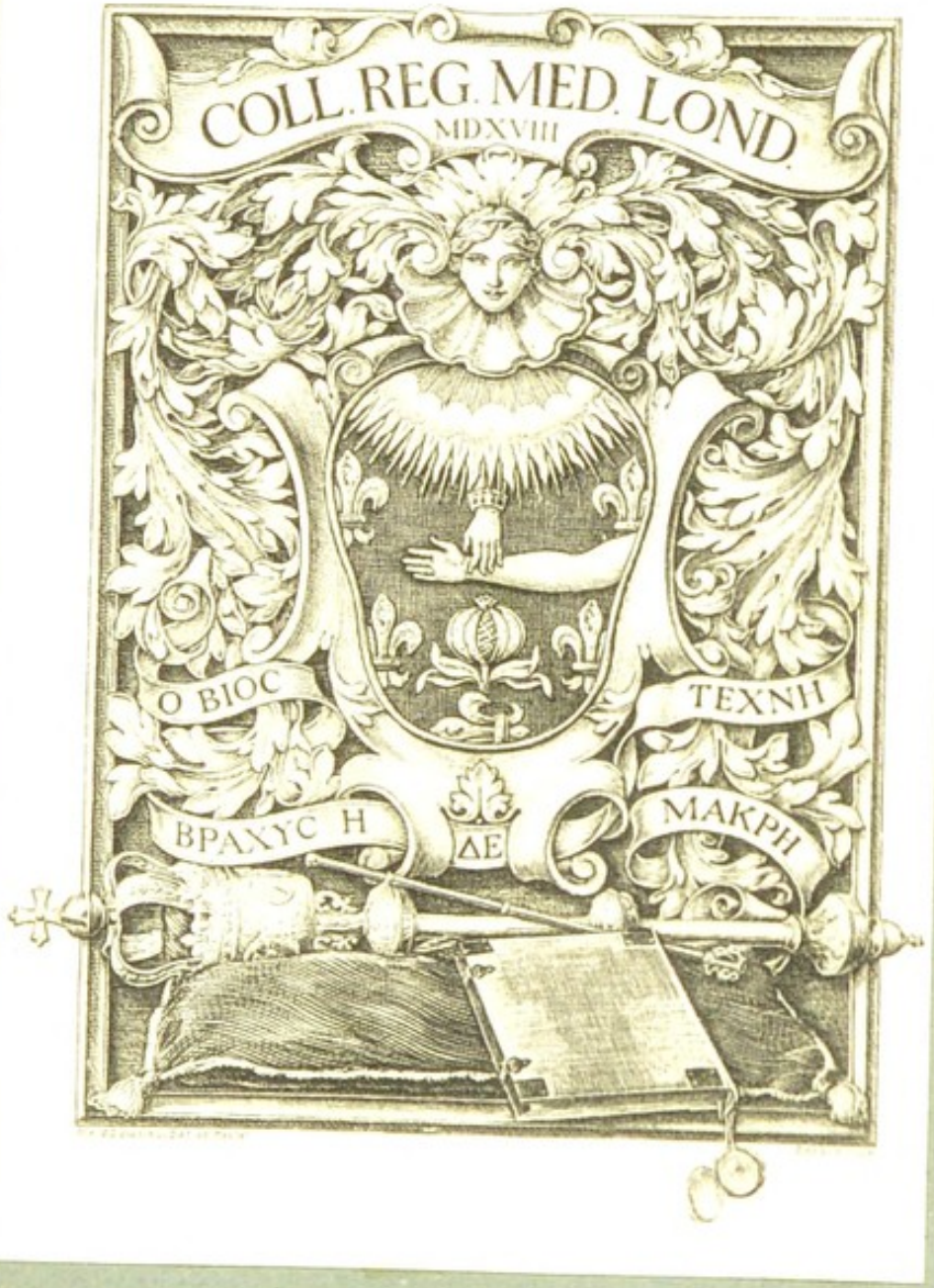
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CATALOGUE

OF THE

PATHOLOGICAL MUSEUM.

MINISTRY OF EDUCATION, EGYPT.

Cairo — SCHOOL OF MEDICINE.

CATALOGUE

OF THE

PATHOLOGICAL MUSEUM

BY

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PREFACE.

The collection of specimens forming the basis of the Pathological Museum in the Government School of Medicine, Cairo, owed its existence to my predecessors, especially Prof. M. Armand Ruffer (Alexandria), and later to my immediate predecessor, Prof. Symmers (now of Queen's College, Belfast).

A small catalogue, containing the titles, with occasional short descriptions of specimens, was prepared by Prof. Symmers and Mr. Madden, primarily as a guide to the Museum for the use of Members of the International Medical Congress which was held in Cairo in December 1902. Since 1905, however, a considerable number of preparations have been added to the Museum, and the foregoing catalogue had become quite inadequate for general use. The present catalogue, which was commenced in November 1909, will be found to contain an account of all specimens existing in the Museum at the end of March 1910. I have employed, with some modifications, the decimal system of classification applied to Museums by Dr. M. E. Abbott, Curator of the Pathological Museum, McGill University, Montreal.

The titles of the various sections are identical with, and follow in the same order as those of the

various systems of the body detailed in the Anatomical Chart (see pp. VIII, IX.). The numbers on the right-hand side of the pages, opposite the title of every specimen, require only a brief explanation. In every line of numbers occurs a colon : the numbers *to the left* of the colon refer to the Anatomical Chart, whilst those *to the right* of the colon refer to the Pathological.

Other references occur in many cases, on the left-hand side of the pages, above the title of the specimens. These are : (1) "P. M. J.," i.e., Post-Mortem Journal, the particular volume being indicated by the Roman numeral which follows ; (2) "Path. Rep.," refers to the series of volumes in which records of all microscopical examinations are independently preserved, the Roman numerals, as in the previous case, indicating the particular volume; (3) "Cat. No." In every case in which it has been possible to identify the older specimens with their corresponding numbers in the small catalogue above alluded to, this has been transferred to the preparation in a more permanent form, as well as to the present catalogue.

A. R. Ferguson.

School of Medicine,
Cairo, April 1910.

CLASSIFICATION.

ANATOMICAL CLASSIFICATION.

10. CIRCULATORY SYSTEM.

11. Pericardium.

12. Heart.

1. Myocardium.
2. Left Auricle.
3. Right Auricle.
4. Left Ventricle.
5. Right Ventricle.

13. Endocardium: Valves and Orifices.

1. Mitral.
2. Aortic.
3. Tricuspid.
4. Pulmonary.

14. Arteries.

1. Aorta.
2. Pulmonary.
3. Cerebral.
4. Coronary.
5. Others in thorax.
6. Others in abdomen.
7. Arteries in limbs.
8. Arteries in head and neck.

15. Veins.

1. Venæ cavæ.
2. Pulmonary.
3. Cerebral: dural.
4. Coronary.
5. Portal.
6. Other veins.

16. Capillaries.

17. Blood: Blood-clot.

20. RESPIRATORY SYSTEM.

21. Nares.

1. Accessory sinuses.
2. Naso-pharynx.

22. Larynx.

1. Epiglottis.
2. Vocal cords.
3. Thyroid cartilage.
4. Cricoid cartilage.

23. Trachea.

24. Bronchus.

1. Peribronchial tissue.

25. Lungs.

26. Pleura and Subpleural tissue.

30. DIGESTIVE SYSTEM.

31. Mouth.

1. Lips.
2. Tongue.
3. Salivary glands.
4. Hard palate.
5. Teeth.

32. Pharynx.

1. Soft palate.
2. Fauces.
3. Tonsils.
4. Uvula.

33. Œsophagus.

34. Stomach.

1. Cardia.
2. Body.
3. Pylorus.

35. Intestine.

1. Duodenum.
2. Jejunum and Ileum.
3. Appendix and Cæcum.
4. Colon.
5. Rectum.
6. Anus.

36. Liver.

1. Gall bladder.
2. Bile duct.

37. Pancreas.

1. Duct.

38. Peritoneum: Mesentery.

1. Omentum.
2. Retroperitoneal tissue.
3. Intestinal peritoneum.
4. Pelvic peritoneum.
5. Pelvic retroperitoneal

40. LYMPHATIC SYSTEM AND DUCTLESS GLANDS.

41. Lymphatic vessels.

42. Lymphatic follicles.

43. Lymphatic glands.

1. Cervical.
2. Axillary.
3. Inguinal.
4. Mediastinal: bronchial.
5. Mesenteric: abdominal.
6. Retroperitoneal.

44. Thymus.

45. Spleen.

1. Capsule.
2. Pulp.
3. Trabecular tissue.
4. Malpighian bodies

46. Thyroid.

47. Suprarenal.

50. URINARY SYSTEM and MALE GENERATIVE ORGANS.

51. Kidney.

1. Pelvis and calyces.

52. Ureter.

53. Bladder.

54. Prostate.

55. Vesiculæ seminales.

1. Vas deferens: spermatic cord.

56. Testis.

1. Epididymis.
2. Tunica vaginalis.

57. Urethra.

58. Penis.

59. Scrotum.

TIVE ORGANS.

61. Vulva.
62. Vagina.
63. Uterus.
    1. Cervix uteri.
    2. Corpus uteri.
64. Oviducts.
65. Ovary.
66. Broad ligament.
    1. Parovarium.
67. Gravid uterus.
    1. Puerperal uterus.
68. Ovum.
    1. Fœtus.
    2. Membranes : placenta.
69. Mamma.
    1. Nipple.
    2. Areola.
    3. Ducts and acini.

71. Dura mater.
72. Pia-Arachnoid.
73. Brain.
    1. Cerebrum.
    2. Cerebellum.
    3. Pons.
    4. Medulla.
    5. Pituitary body.
    6. Ventricles.
    7. Basal Ganglia.
74. Spinal cord.
    1. Cauda equina.
75. Nerves.
76. Sympathetic system.
77. Ear.
    1. External ear.
    2. Middle ear.
    3. Internal ear.
78. Eye.
    1. Retina.
    2. Iris : choroid.
    3. Sclerotic : cornea.
    4. Lens.
    5. Vitreous.

SYSTEM.

81. Skin, hair, nails.
82. Cellular tissues.
    1. Fascia.
    2. Fatty tissue.
83. Muscle.
    1. Tendon.
    2. Tendon sheath.
    3. Diaphragm.
84. Bursa.
85. Cartilage and perichondrium.
86. Bone marrow.
87. Periosteum.
88. Ligament.
89. Synovial membrane.

91. Bones of cranium.
92. Bones of face.
    1. Superior maxilla.
    2. Inferior maxilla.
93. Vertebræ.
94. Sternum.
    1. Hyoid.
95. Ribs.
96. Upper extremity.
    1. Clavicle.
    2. Scapula.
    3. Shoulder joint.
    4. Humerus.
    5. Elbow joint.
    6. Radius : ulna.
    7. Wrist joint.
    8. Small bones of hand and wrist.
    9. Small joints of hand and wrist.
97. Lower extremity.
    1. Os innominatum.
    2. Hip joint.
    3. Femur.
    4. Knee joint.
    5. Patella.
    6. Tibia : fibula.
    7. Ankle joint.
    8. Small bones of foot.
    9. Small joints of foot.
98. Pelvis.

01. Head.
    1. Scalp.
    2. Occipital.
    3. Temporal.
02. Face.
    1. Forehead.
    2. Eyelids.
    3. Orbit.
    4. Nose.
    5. Cheek.
    6. Parotid region.
    7. Chin.
    8. Sub-maxillary.
03. Neck.
    1. Mesial anteriorly.
    2. Episternal.
    3. Anterior triangle.
    4. Supraclavicular.
    5. Posterior triangle.
    6. Vertebral (cervical).
04. Thorax.
    1. Sternal.
    2. Infraclavicular.
    3. Mammary.
    4. Inframammary.
    5. Axillary.
    6. Scapular.
    7. Vertebral (dorsal).
05. Abdomen.
    1. Epigastrium.
    2. Umbilical
    3. Hypogastrium : pubic.
    4. Lumbar.
    5. Iliac.
    6. Inguinal.
    7. Perineum : sacrococcygeal region.
    8. Vertebral (lumbosacral).
    9. Pelvic.

09. Foot.
    1. Sole : heel.
    2. Dorsum.
    3. Great toe.
    4. Toe.

08. Lower extremity.
    1. Hip : buttocks.
    2. Thigh.
    3. Knee : popliteal.
    4. Leg.
    5. Ankle.

07. Hand.
    1. Palm.
    2. Dorsum.
    3. Thumb.
    4. Finger.

06. Upper extremity.
    1. Shoulder.
    2. Upper arm.
    3. Elbow.
    4. Forearm.
    5. Wrist.

PATHOLOGICAL CLASSIFICATION.

10. CONGENITAL AND DEVELOPMENTAL ABNORMALITIES.

11. Malposition.

12. Malformation.

1. Absence of parts.
2. Suppression of parts.
3. Persistence of fœtal characters or structures.
4. Defective closure.
5. Excess in size.
6. Stenosis.
7. Fusion of parts.

13. Excess in number.

14. Teratoma.

15. Fœtal disease.

16. Ectopic gestation.

1. Abortion.

17. Defective development (after birth).

1. Hypoplasia.

20. MECHANICAL, etc., LESIONS.

21. Laceration: Fracture.

1. Fracture with union.
2. Fracture with malunion.
3. Fracture without union.
4. Fracture comminuted.
5. Fracture with necrosis.
6. Fracture spontaneous.
7. Rupture.

22. Perforation: Fistula.

23. Dislocation: Displacement.

1. With fixation.
2. Hernia.
3. Intussusception.
4. Volvulus.
5. Torsion.

24. Deformity.

1. With fixation.

25. Obstruction.

1. Stenosis (not cicatricial).
2. Atelectasis.

26. Compression.

1. Collapse.
2. Strangulation.

27. Dilatation: Distension.

1. Local, diverticulum, aneurysm.
2. General.
3. Emphysema.

28. Foreign body.

1. Loose body.
2. Retained structures.

29. Chemical and thermal lesions.

1. Chemical, corrosive.
2. Thermal.

30. CIRCULATORY DISTURBANCES.

31. Anæmia.

32. Hyperæmia.

1. Active.
2. Passive.

33. Hæmorrhage.

1. Single.
2. Multiple.
3. Diffuse.

34. Thrombus.

1. Simple.
2. Infective.

35. Embolus.

1. Simple.
2. Infective.

36. Infarct.

1. Simple,
2. Infective.

37. Oedema.

40. RETROGRESSIVE DISORDERS.

41. Atrophy.

1. Simple.
2. Senile.
3. From pressure.
4. From vascular lesions.
5. From general causes.

42. Degeneration: Infiltration.

1. Cloudy swelling.
2. Fatty degeneration.
3. Fatty infiltration.
4. Hyaline.
5. Amyloid.
6. Mucoid.
7. Colloid.
8. Pigmentation.
9. Calcification ; ossification.

43. Calculus: Concretion.

44. Necrosis.

1. Coagulation-necrosis.
2. Caseation.
3. Liquefactive necrosis.
4. Septic : toxic.
5. Gangrene.
6. With cavitation.
7. With slough (sequestrum).

45. Ulcer (not inflammatory).

1. Simple.
2. Malignant.

46. Casts.

47. Trophoneuroses.

50. INFLAMMATIONS.

51. Parenchymatous.

1. Acute.
2. Chronic.

52. Catarrhal.

1. Acute : suppurative.
2. Chronic.

53. Interstitial and Fibrosis

1. Capsular.
2. With enlargement o organ.

54. Exudative.

1. Serous.
2. Fibrinous.
3. Diphtheritic.
4. Suppurative, diffuse.
5. Suppurative, local absces
6. Hæmorrhagic.

55. Inflammation associated with:

1. Proliferation : sclerosis.
2. Degeneration : rarefaction.
3. Ulceration : cavitation sinus : erosion.
4. Necrosis.
5. Stenosis (cicatricial).
6. Thrombosis : vegetations
7. Adhesion.
8. Cicatrix : scar.

56. Specific.

1. Tuberculosis.
2. Tuberculosis miliary.
3. Syphilis.
4. Actinomycosis.
5. Leprosy.
6. Dysentery.
7. Diphtheria.
9. Anthrax.

57. Specific *(continued)*.

1. Malaria.
2. Small Pox.

60. PROGRESSIVE DISORDERS.

61. Regeneration.

62. Hypertrophy.

1. With dilatation.

63. Benign Tumours.

1. Lipoma.
2. Fibroma.
3. Chondroma.
4. Osteoma.
5. Myxoma.
6. Glioma.

64. Benign Tumours.

1. Myoma.
2. Neuroma.
3. Angeioma.
4. Lymphangeioma.
5. Lymphadenoma.
6. Papilloma.
7. Adenoma.
8. Psammoma.

65. Sarcoma.

1. Round-celled.
2. Spindle-celled.
3. Mixed-celled.
4. Giant-celled.
5. Melanotic.
6. Plexiform.
7. Alveolar.
8. Glio-sarcoma.
9. Lympho-sarcoma.
10. Myxo-sarcoma.
11. Angio-sarcoma.
12. Chondro-sarcoma.
13. Osteo-sarcoma.

66. Carcinoma.

1. Squamous.
2. Rodent ulcer
3. Glandular.
4. Columnar.
5. Endothelioma.

70. PARASITES.

71. Vermes.

CESTODA :—

1. Tænia saginata.
2. Tænia solium.
3. Tænia echinococcus.
4.
5.

NEMATODA :—

6. Ascaris trichocephalus.
7. Ascaris oxyuris.
8. Anchylostoma duodenale.
9. Filaria Bancrofti.
10. Dracunculus medinensis.
11.
12.

TREMATODA :—

13. Fasciola hepatica.
14. Schistosomum hæmatobium.

72. Bacteria.

15. Pathogenic Cocci.
16. Pathogenic Bacilli.
17. Higher Bacteria.

73. Protozoa.

18.
19.
20.

67. Cysts.

1. Retention : distension.
2. Degenerative.
3. Congenital.
4. Parasitic.
5. Cystoma.
6. Papillomatous.
7. Dermoid.

80. GENERAL NUTRITIONAL DISEASES.

81. Anæmia.

1. Chlorosis.
2. Pernicious anæmia.
3. Splenic anæmia.
4. Leucocythæmia.
5. Hodgkins' disease.

82. Hæmorrhagic diseases.

1. Purpura.
2. Scorbutus.
3. Infantile scurvy.

83. Diseases connected with Ductless Glands.

1. Exophthalmic goitre.
2. Myxœdema.
3. Cretinism.
4. Addison's disease.

84. Diabetes.

85. Diseases characterized by joint affections.

1. Rheumatism.
2. Osteo-arthritis.
3. Gout.

86. Diseases characterized by Bone affections.

1. Rickets.
2. Osteomalacia.
3. Acromegaly.
4. Hypertrophic Pulmonary Osteo-arthropathy.

87. Diseases due to Poisons of extraneous origin.

1. Alcohol.
2. Lead.
3. Phosphorus.
4. Arsenic.
5. Mercury.

88. Uræmia.

90. SURGICAL, etc.

91. Operation.

CIRCULATORY SYSTEM.

of the fluid exudate of the final stage, and has permitted the accumulation of compact fibrine in several layers until the present striking appearances have been produced.

PERICARDITIS, Fibrinous. 11 : 54·2.

The heart is that of a young child. The right auricle has been opened by removal of a triangular flap of its wall. The entire anterior surface of the heart is covered with a finely granular fibrinous exudation. This has been artificially removed from the posterior surface of the left ventricle over a triangular area, leaving the muscular wall exposed.

PERICARDITIS, Fibrinous. 11 : 54·2.

The shaggy layer of fibrine which is present over the entire surface is of such thickness as apparently to greatly enlarge the heart. The thickness of the exudation is well seen round the aorta where it is cut through, and also over the right ventricle, a triangular portion of whose wall has been removed in order to display this feature.

PERICARDITIS, Acute. 11 : 54·2.

The entire heart is preserved unopened; portions of lung and bronchus have been left attached at the base. The entire pericardial surface is covered by a uniform, yellow, granular, fibrinous layer.

PERICARDITIS, Fibrinous: Abscess of Heart. 11 : 54·2.
12 : 54·5.

The entire heart is preserved unopened. The surface of an abscess in the myocardium is exposed at the upper part of the right ventricle, which is congested. A scanty fibrinous exudation exists over parts of the surface.

PERICARDITIS: Acute, Fibrinous. 11 : 54·2.
KIDNEY: Metastatic Abscesses. 51 : 54·5.
PENIS: Suppurative Periurethritis. 58 : 54·4.

The initial lesion here is the suppurative inflammation in and round the penile urethra. The micro-organisms concerned have reached the blood stream, producing a generalized acute fibrinous pericarditis, and also numerous metastatic abscesses in the kidney substance. The penis is displayed in sagittal section in the upper part of the preparation, and the parietal pericardium has been removed from the heart, which is seen below.

PERICARDITIS, Septic. 11 : 54·2·4.

The specimen is one of fibrino-purulent pericarditis occurring in the course of a necrosis of the tibia. The heart has been opened longitudinally in the plane of the interventricular septum, and the parietal layer of the pericardium has been partially reflected, to shew the shaggy nature of the exudation.

PERICARDITIS, Fibrinous : 11 : 54·2.
PERICARDITIS, Tubercular. 11 : 56·1.

The anterior portion of the pericardium has been removed, and the heart is displayed lying in the sac. A portion of the trachea and bronchial glands is adherent to the posterior aspect of the preparation. Several of these glands, particularly those round the arteries springing from the arch of the aorta, are caseous throughout. It is surmised that the pericardial sac has been infected from this source. The exposed surface of the heart is covered, and the parietal pericardium is lined by a very thick rough layer of fibrine.

PERICARDITIS, Fibrinous : Bronchial Glands, Tuberculosis. 11 : 54·2. 43·4 : 56·1.

The anterior portion of the pericardium has been removed, and the heart, covered with a thick, irregular, fibrinous layer, is displayed in the cavity of the pericardial sac, which is much dilated. Numerous enlarged bronchial glands, shewing tubercular infiltration in various stages, are adherent at the upper part of the pericardial sac posteriorly. Considerable portions of lung tissue have also been left adherent to the serous membrane posteriorly, as well as a portion of the central tendon of the diaphragm. Viewed from the front, two small caseous glands are seen in section, closely impinging on the inner aspect of the pericardium at this point, and further to the right is a softened caseating gland in close proximity to the pericardium.

TUBERCULAR PERICARDITIS: 11 : 56·1.
TUBERCULAR BRONCHIAL GLANDS. 43·4 : 56·1.

The walls of both ventricles have been removed, leaving the inter-ventricular septum, and shewing the thickened pericardium. The aorta has been preserved in continuity. Numerous caseous nodules are seen; particularly on the septal aspect of the right ventricle, in the new formed tissue between the pericardial layers. A remarkably thick caseous layer is also seen circling round the cut extremity of the aorta, which has suffered some concentric compression. Viewed from the septal aspect of left ventricle, several caseous glands are seen in section, just at the origin of the aorta.

PERICARDITIS, Tubercular. 11 : 56·1.
11 : 44·2.
26 : 54·2.

The anterior portion of the pericardium has been removed, and the remainder partially everted. Both surfaces of the membrane are covered with densely nodular caseous-looking exudation. Over the exposed portion of the wall of the right auricle are scattered a number of small discrete tubercle nodules. Some tubercular glands are apparent at the back of the specimen. A portion of the left pleura is adherent posteriorly; over it is a finely reticulated fibrous exudation.

PERICARDITIS, TUBERCULAR. 11 : 56·1.

The ventricular walls have been removed, leaving only the inter-ventricular septum. Numerous small caseous nodules are seen in the thickened tissue between epicardium and pericardium. The parietal pericardium is seen to be considerably thickened. Numerous recent coagula are present between the trabeculated muscles of the right ventricle.

HEART: Chronic Aneurysm. 12·1 : 27·1.

The anterior wall of the left ventricle has been removed. There is some fibroid transformation of the muscle in the lower part of the ventricle, and at the apex, where the wall is extremely thin, is a well-defined aneurysmal bulging. Advanced degeneration of the coronary artery was found on dissection.

The subject, a night-watchman, fell dead while pursuing some thieves attempting to steal from the property he was guarding.

Cat. No. 408.

SMALL ANEURYSM in wall of Left Ventricle. 12·1 : 27·1.

The specimen consists of a small portion of the left ventricle, which has been divided to shew a small globular aneurysmal cavity approximately the size of a cherry. It has a definite fibrous tissue lining, apparently continuous with the endocardium. The ventricle has a thick coating of fat externally, and the site of the aneurysm is indicated by an adherent patch of parietal pericardium.

P.M.J. III. 42.

HEART: General Dilatation. 12 : 27·2.

The heart is enlarged, and weighed at autopsy 470 grammes. The right side in particular is dilated, and the tricuspid orifice is very wide (in the fresh state, it admitted five fingers easily). The left ventricle is also dilated, its wall at the thickest being not more than 1 cm. The aorta also is dilated; there was evidence during life of aortic regurgitation.

The patient, a male aet. 58 years, succumbed during an attack of acute bronchitis. There was marked pulmonary emphysema.

HEART: Dilatation of Right Side. 12 : 27·2.

The entire heart is preserved. There is extreme dilatation of the right auricle and ventricle in which the tricuspid orifice also shares. The myocardium is fatty, this change being well seen on the inner aspect of the wall of the right ventricle in the cut section; patches of similar change are also visible on the septal aspect of the left ventricle; this chamber is also moderately dilated.

HEART: Thrombus (*ante mortem*). 12 : 34·1.

The left ventricle, from which the apex has been cut off, is shewn. A yellowish, shrunken, fibrinous coagulum is lying in the middle of the ventricular cavity, and passes upwards between the mitral cusps. On the external surface of the ventricle, several small petechial areas are seen.

HEART: Thrombosis. 12 : 34·1.

A portion of the ventricle is displayed; two globular thrombi are seen projecting from between the trabeculæ of the muscle. The upper of these is rough and granular; the lower has a comparatively smooth surface.

THROMBUS: Left Ventricle. 12 : 34·1.

A conical mass of thrombus is seen, springing from the apex of the left ventricle and passing upwards and slightly to the left, terminating opposite the anterior mitral curtain. The mass of thrombus was originally of conical form, but has become flattened during the process of preservation.

HEART: Fibroid Transformation. 12·1 : 53.
HEART: Thrombosis. 12·1 : 34·1.

The left ventricle, widely open, shews a remarkably extensive area of fibroid transformation of dull white colour, offering a sharp contrast to the remainder of the muscle. The change affects principally the muscle on the septal aspect of the ventricle, but has also extended on the anterior surface of the wall of the ventricle. The fibroid area is, in its lower part, near the apex of the heart, concealed by a compact mass of recent, red thrombus.

HEART: General Dilatation : Fibroid Transformation. 12·4 : 53. 12 : 27·2.

The heart is considerably increased in size, this being due to dilatation of all its cavities. There is an excessive amount of superficial fat, particularly over the right ventricle. Widely scattered areas of fibroid transformation are also present over every part of the inner surface of the left ventricle.

HEART: Fibroid Transformation, left ventricle. 12·1 : 55·1.

The septal aspect of the left ventricle is composed of a dense white fibrous tissue, especially thick and opaque in upper part of ventricle. Towards the apex it becomes thinner, and the endocardium at the extreme apex is approximately normal.

HEART: Syphilitic Gumma. 12·1 : 56·3.

The heart, which has been preserved entire, has been opened on its anterior aspect, so as to bisect longitudinally the inter-ventricular septum, which is held widely apart by a glass rod. An irregular, yellowish-white, fibro-caseous infiltration extends from the surface inwards for a distance of 2·5 cm. Areas of compact caseous degeneration are best seen on the left side of the preparation.

HEART: Gumma in Ventricular Septum: Fibrosis. 12·1 : 56·3. 12·1 : 53.

The basal part of the inter-ventricular septum is very considerably thickened, and is the seat of a diffuse, opaque, yellowish, gummatous growth. Small, irregular patches of fibroid transformation are scattered over the muscle of the left ventricle.

HEART: General Hypertrophy and Dilatation "(Cor Bovinum)". 12 : 62·1. 12·1 : 42·3.

The heart has been preserved unopened. Both ventricles share equally in the general globular enlargement of the organ. The surface (particularly the posterior aspect) is covered with an excessive quantity of fat, which is specially abundant at the apex.

HEART: Hypertrophy of. 12·1 : 62.

The specimen consists of a transverse section of both cardiac ventricles. Both are hypertrophied, the left ventricle in particular shewing marked thickening of its wall. The increased thickness of the inter-ventricular septum, which bulges into the cavity of the right ventricle, is also well displayed.

The specimen was obtained from a case of advanced interstitial nephritis.

HEART: General Hypertrophy: 12·1 : 62·1.
Dilatation of Right Ventricle. 12·5 : 27·2.

The upper segment of the heart is preserved. The removal of the anterior parts of the ventricles demonstrates a hypertrophic condition, which is specially noticeable in the thickness of the wall of the right ventricle, and in the interventricular septum. The tricuspid orifice is also widely dilated.

HEART: Dilatation of Right side: 13·3 : 27.
Fatty Degeneration. 12·1 : 42·2.

The ventricular cavities are widely open on either side of the septum; the myocardium generally is pale, and some yellow mottling is visible on the septal aspect of the left ventricle. There is distinct dilatation of the right ventricle, in which the tricuspid orifice shares.

P.M.J. II. 30.

MITRAL ENDOCARDITIS (Acute). 13·1 : 54·2.

The part of left ventricle in relationship with the mitral valve only has been preserved, the wall of the auricle having also been cut away close to the mitral ring. The mitral valve is the seat of an acute vegetative endocarditis, the masses of fibrinous exudate being unusually large and firm. Viewed from above, the mitral orifice is almost occluded by the masses of vegetations, and, from the ventricular aspect, the valvular orifice is lined by numerous rounded or dendritic masses.

The subject was of Austrian nationality, over 70 years of age: the kidneys shewed necrotic infarctions.

ACUTE MITRAL & AORTIC ENDOCARDITIS. 13·1·2 : 54·2.

Irregular dendritic masses of fibrinous exudation are seen hanging from the middle of the margins of the aortic cusps, and also peeping out from between the mitral curtains. The muscle of the left ventricle on the septal aspect has a fatty appearance, and a well-marked gubernator band is present.

ACUTE MITRAL ENDOCARDITIS. 13·1 : 54·2.

The left ventricle, widely open, is displayed. The anterior curtain of the mitral valve has been reflected upwards towards the aorta, in order to display its inner (auricular) surface. This, along with the corresponding surface of the posterior curtain, is covered with a number of small beaded projections of fibrinous exudation. The aortic valve is free from any inflammatory change.

CHRONIC MITRAL ENDOCARDITIS : Stenosis. 13·1 : 55·5.

The left auricle and the greater part of the ventricle have been cut away, and the mitral valve has been slung in a horizontal position. The auricular endocardium is white and sclerotic in appearance, and the mitral orifice, viewed from this side, has the form of an irregular chink with thickened margins. Towards the right, as viewed from the auricle, is an adherent mass of thrombus. The chordæ tendineæ, as seen on the ventricular aspect, are considerably thickened and shortened.

CHRONIC MITRAL ENDOCARDITIS. 13·1 : 55·5.

The specimen consists of the mitral valve and the appendage of the left auricle in continuity. The mitral curtains are thickened, and there are some small fragments of recent vegetations on the margins of the curtains. The auricular appendage is seen to be filled with compact thrombus.

CHRONIC MITRAL ENDOCARDITIS : Stenosis. 13·1 : 55·5. 12·1 : 55·1.

The entire heart is preserved, and its four cavities are displayed. Viewed from the auricles, marked stenosis of the mitral orifice is seen. The opening is represented by a sickle-shaped fissure. The endocardium of the left auricle is also markedly sclerosed. Both the right side cavities are dilated, the wall of the right ventricle being also hypertrophic and fatty. On the septal aspect of left ventricle is a small white patch of fibroid transformation.

P.M.J. III. 133.

CHRONIC MITRAL ENDOCARDITIS : (Stenosis). 13·1 : 55·5. 12 : 27.

Viewed from above, the stenosis of the mitral orifice is extremely striking. The orifice is reduced to a crescentic fissure, the margins of which are closely approximated. The dilatation of the right side, and more particularly that of the right auricle, is also extreme in degree, its wall in parts near the appendix being diaphanous.

HEART: Acute Aortic Endocarditis. 13·2 : 54·2.
13·2 : 62.1.

The specimen consists of the upper half of the left ventricle and a small portion of the aorta in continuity with it; the cusps of the aortic valve are covered with a brownish, granular exudation of considerable volume. The exudation hangs downwards to some extent from the cusps; their lines of junction are masked, and considerable regurgitation must have occurred. The mitral valve is unaffected. The left ventricle is the seat of a considerable degree of hypertrophy and dilatation.

HEART: Acute Aortic Endocarditis: Valvular Aneurysm: Rupture. 13·2 : 54·2.
13·2 : 27·1·22.

The upper half of the left ventricle with the aortic valve and first part of the ascending arch of the aorta have been preserved. The valve is the seat of an acute endocarditis affecting specially the anterior of the right posterior cusps, the former of which has been divided in opening up the heart. The shaggy masses of fibrine are seen depending from both cusps. A ragged aperture in the right posterior cusp with edges everted towards the vertical marks the site of the ruptured valvular aneurysm. A small amount of similar exudation is present on the left posterior cusp, which, however, has suffered to a much less extent than the others.

HEART: Aortic and Mitral Endocarditis: Dilated Left Ventricle. 13·2 : 54·2. 13·1 : 54·2. 12·4 : 27·2.

The left ventricle, widely opened, presents itself. The cavity is dilated, and the wall in places rather thin. An acute endocarditic process, affecting the aortic valve, is seen to have resulted in the almost complete destruction of the component cusps of the valve. Masses of a pale, gelatinous-looking exudation are seen hanging downwards from the free edges of the aortic cusps. Slight infection of the adjacent portion of the anterior curtain of the mitral valve has also occurred. In spite of its extent, the endocarditis is of a benign type. Numerous reddish coagula of recent *ante-mortem* formation are seen peeping out between the trabecular muscles of the ventricular wall.

CHRONIC ENDOCARDITIS of Aortic and Mitral Valves. 13·2 : 55·1. 13·1 : 55·5.

The segments of the heart displaying the aortic and mitral valves are hung separately. The cusps of both valves are irregularly thickened, and those of the mitral valve in particular are contracted, producing stenosis of the mitral orifice. In addition, minute fragments of more recent vegetation are seen on the free edges of two of the aortic cusps.

ULCERATIVE ENDOCARDITIS of Aortic Valve. 13·2 : 55·3. 12·1 : 42·2.

The entire heart with ventricular cavities opened, has been preserved in spirit. A deep erosion is seen at the base

of the aortic valve, passing towards and involving the anterior mitral curtain. The aortic cusps are almost entirely destroyed by the ulcerative process. The myocardium generally is pale, and towards the apex of the left ventricle, shews extensive fatty degeneration.

AORTA: Ulcerative Endocarditis. 13·2 : 55·3.
HEART: General Dilatation. 12 : 27·2.

The inflammatory process has attacked the three cusps of the aortic valve; the affection is most intense, however, in connection with the anterior and right posterior cusps. Depending from the latter, is an irregular mass of fibrinous exudation, whilst a similar mass is also seen in connection with the anterior curtain, above the mitral valve. The septum between the two cusps has been destroyed by the acute process. The ventricular cavities are moderately dilated, and the left ventricle in addition shews a moderate degree of hypertrophy.

ACUTE AORTIC ENDOCARDITIS: 13·2 : 55·6.
CHRONIC MITRAL ENDOCARDITIS with STENOSIS. 13·1 : 55·5.

Shaggy, pendulous vegetations are seen hanging from all the aortic cusps. They are voluminous, and have a recent appearance. Independent masses of fibrinous vegetations are seen also below the aortic valve, on the upper part of the septum, and on the ventricular aspect of the anterior mitral curtain.

Both mitral and aortic valves are altered by chronic endocarditis; this is particularly visible in the case of the mitral valve, the orifice, as viewed from above, being reduced to a narrow crescentic aperture with rigid margins.

P.M.J. III. 46.

AORTIC & MITRAL ENDOCARDITIS. 13·2 : 55·6.

The upper half of the heart, opened in such a manner as to display the aortic valve and the anterior curtain of the mitral valve, has been preserved. There are clusters of fibrinous vegetations on the aortic cusps, particularly near their junctions. Dendritic masses of similar vegetations are seen also hanging from the inferior margin of the anterior mitral curtain.

AORTA: Rupture of. 14·1 : 21·7.

The preparation consists of the upper half of the heart with the aorta opened to display the rupture. A glass rod has been passed through the aperture in the aorta. The opening of a smaller aperture is seen immediately above the glass rod. The portion of aorta seen is highly atheromatous.

ANEURYSM, Arch of Aorta. 14·1 : 27·1.

The specimen consists of a small portion of the left ventricle with the aortic arch, which has been opened in the plane

of the axis of the aorta. The first part of the aortic arch is the seat of a localized, spherical aneurysm, the cavity of which is in great part filled with firm, pale, laminated clot. The aorta elsewhere is seen to be atheromatous.

ANEURYSM, Arch of Aorta. 14·1 : 27·1.
ATHEROMA of Aorta. 14·1 : 55·2.

The preparation displays the heart and aortic arch in continuity. Both cardiac ventricles have been opened. There is no noticeable hypertrophy of the left ventricle. Occupying the first portion of the arch is an almost globular aneurysm, the size of an orange, which is completely filled, as seen in section, by a well-marked stratified coagulum. The aorta elsewhere is highly atheromatous.

ANEURYSM: First Part of Aortic Arch. Atheroma. 14·1 : 27·1. 14·1 : 55·2.

The entire heart (unopened) and aortic arch have been preserved. A globular aneurysm, the anterior portion of the wall of which has been removed, occupies the ascending portion of the aortic arch. The orifices of the innominate and the left common carotid arteries are involved in the sac. The orifice of a small secondary aneurysm, partially filled with clot, is seen in the posterior wall of the larger aneurysm. The upper part of the main aneurysmal cavity is occupied by laminated clot.

P.M.J. III. 146.

ANEURYSM of Aortic Arch. 14·1 : 27·1.

Immediately above the heart, both ventricles of which are opened, a large globular aneurysm is seen. The innominate artery springs from it on the left side, and about an inch of the left common carotid artery is seen emerging from near the right border of the specimen. The posterior wall of the aneurysm, as viewed from the front, is lined by dark brownish blood clot. The trachea seen adherent to the posterior wall of the aneurysm shews slight erosion between two of its cartilaginous rings.

The subject was of Greek nationality, aet. 40 years, and exhibited widespread arterio-sclerotic changes.

ANEURYSM of Aortic Arch. 14·1 : 27·1.
14·1 : 21·7.

The preparation consists of the heart and aortic arch. The aneurysm occupies the summit of the arch. The orifice of the innominate artery is seen immediately to the left of the aneurysm. A certain amount of laminated clot occupies the summit of the aneurysm. An irregular aperture, the result of rupture, is seen in the posterior wall of the aneurysm to the right. The trachea and œsophagus have been preserved, and they have suffered considerable displacement.

P.M.J. IV. 263.

THORACIC AORTA : Aneurysm of. 14·1 : 27·1.

The aneurysm is situated in the first portion of the descending part of the aortic arch. It is of oval form, about

the size of a hen's egg. An elliptical opening in its long axis reveals the interior, containing a small quantity of recent blood clot. The opening of the aneurysm from the aorta is in the form of a long narrow slit or fissure, passing obliquely across the aorta 1·5 cm. below the orifice of the left subclavian artery. The aorta shews diffuse atheromatous patches.

ABDOMINAL AORTA, Aneurysm of. 14·1 : 27·1.

(Two specimens from same case.)

The specimen—a large globular aneurysm—was situated in the abdominal aorta, and had caused erosion of the lumbar vertebræ. The aneurysm, displayed in section, is completely filled with stratified coagulum, which is of very dark colour in the central portions. The stratification is well shown in the peripheral portions.

ABDOMINAL AORTA, Aneurysm of. 14·1 : 27·1.

The preparation is from the same case as that previously described.

P.M.J. III. 30

AORTA: Atheroma, with calcification. 14·1 : 55·1. 14·1 : 42·9.

A portion of the thoracic aorta, the seat of very advanced atheromatous changes, is shewn. The orifices of the intercostal arteries, which are seen in the centre of the opened

vessel, are not particularly involved in the process. Numerous irregular areas of calcification of greyish-yellow colour, are scattered over the surface.

AORTA: Extremely advanced Atheroma. 14·1 : 55·2. 14·1 : 42·9.

The basal portion of the heart, with the first part of the aortic arch, is preserved. The inner surface of the latter is extremely rough and irregular, the sharp edges of numerous calcareous plates freely projecting into the interior of the vessel. Small patches of thrombus of dark colour are observed here and there, but there is remarkably little thrombosis in view of the very advanced degeneration present.

LIVER: Cavernous Angeioma. 15 : 27·1.

A small fragment of liver of pyramidal form has been mounted, in the apex of which is visible a spherical dark blood-coloured tumour, about the size of a hazel nut. It illustrates particularly well the appearance of a recent cavernous angeioma.

LIVER: Thrombosis of Hepatic Vein and Inferior Cava. 15·1 : 34·1.

A quadrangular portion from the posterior aspect of the liver has been preserved, enclosing part of the inferior vena

cava as it emerges from the organ. The entire cavity of the large venous orifice is filled with a reddish-brown thrombus, with some central softening. The case was one of wide-spread infection of the abdominal and pelvic veins with Bilharzia worms.

RESPIRATORY SYSTEM.

RESPIRATORY SYSTEM.

Cat. No. 602.

NOSE : Round Celled Sarcoma. **21 : 65·1.**

The specimen includes the nasal orifices and a small portion of the mesial aspect of the upper lip. The growth (a sarcoma) has involved both nasal chambers, and entirely filled up the anterior portion of the superior maxilla. The growth is seen to have completely filled the nostrils, and to have destroyed the skin for some distance round these.

Cat. No. 603.

SARCOMA of Nasal Cavity. **21 : 65·1.**

An ulcerated growth is presented, in which two ragged apertures with depressed margins (the greatly altered nostrils) can be observed. Inferiorly the growth is bordered by short stiff hairs, indicating its invasion of the upper lip. The cut aspect includes part of the palate and the vomer.

NASAL PHARYNX : Large Fibroid Polypus. **21·2 : 63·2.**

A white solid mass, apparently fibrous in character, from the posterior nares. Its size, considering its site of origin,

is quite remarkable. It measures 10 cm. vertically by 6 cm. transversely, and had produced extreme deformity by pressure on surrounding structures. The external surface, which is enveloped by a capsule, shows in the upper part of the preparation some septic changes with ulceration.

LARYNX: Syphilitic Ulceration. **22 : 56·3.**
22 : 55·3·5.

The larynx, which is that of an adult male, shows considerable thickening, puckering and general deformity, as viewed from within. In a situation corresponding with the middle of the thyroid cartilage, is a fissured stellate ulcer with indrawn margins. The mucous membrane of the larynx generally shows, in addition, a considerable amount of superficial ulceration. The epiglottis is very considerably thickened, and was in the fresh state highly œdematous. The tracheotomy wound is visible in the usual situation.

The patient, a male æt. 35, was admitted with urgent dyspnœa, requiring immediate relief by tracheotomy.

LARYNX: Syphilitic Ulceration: Goitre. **22 : 56·3.**
46 : 64·7.

The larynx of an adult, fully opened in the posterior median line, is seen, having in the centre of its thyroid cartilage the rounded opening of a thyrotomy wound. The thyroid gland has been preserved in its natural position, and its lateral lobes show a distinct but not great enlargement. The

epiglottis is shortened and deformed, and the whole of the mucous membrane of the upper part of the larynx and trachea is beset with irregular areas of superficial ulceration. The specimen comes from a case of syphilitic ulceration of the larynx in which the degree of dyspnœa consequent on the syphilitic affection was accentuated by the presence of a moderate sized goitre.

LARYNX: Syphilitic Ulceration: 22 : 56·3.
Perichondritis: 22·3 : 55·4.
Necrosis of Cartilage.

The larynx and associated parts of a young subject. The brownish colour is due to the age of the preparation. Viewed from the posterior aspect, the epiglottis is seen to have suffered deformity with shortening and irregularity of its edges. The larynx proper is everywhere ulcerated, its lining membrane being thrown into a number of small papillomatous elevations. All traces of the laryngeal ventricles and of the true vocal cords have disappeared. The thyroid cartilage seen in section had undergone necrosis: it was found devoid of perichondrium, and the eroded cartilage, as seen in the fresh state, was bathed in a considerable quantity of pus.

LARYNX: Diphtheria. 22 : 56·8.
23 : 54·3.

The larynx and upper part of the trachea of a young child have been opened in the posterior median line to show the characteristic ragged membranous exudation. The opening

of a tracheotomy wound in the form of a crescentic chink is visible from the front. The rima glottidis is œdematous, and the interior of the larynx is greatly narrowed by the adherent investing membrane. In the upper part of the trachea, the diphtheritic membrane is thicker and more shaggy than elsewhere.

LARYNX: Soft mucous Fibroma. 22 : 63·2·5.

Occupying and largely occluding the orifices of the rima glottidis, is a globular swelling covered by a pale mucous membrane. The epiglottis arches over the narrow chink through which air was admitted. Examination of the tumour showed it to be a myxo-fibroma, in which the myxomatous tissue greatly predominated, conferring an almost jelly-like consistence on the mass. The swelling, which was tense and globular in the fresh state, is now wrinkled and shrunken from gradual diffusion of its fluid into the preservative medium. A slight hæmorrhage surrounds the tracheotomy wound, which the dyspnœa rendered necessary.

P.M.J. III. 115.

Peculiar Cyst of Larynx. 22 : 67.
22 : 25.

Larynx of a young male subject, æt. about 30. The rima glottidis is occupied, and to a large extent obstructed, by a tense cystic swelling on the right side. The swelling itself is elongated and ovoid in form, with its longer axis directed outwards and slightly backwards. In the fresh state it had a

spongy elastic consistency on palpation. It was everywhere covered with normal-looking mucous membrane, and had nowhere suffered ulceration. When first seen also, it bulged considerably into the gullet on the right side. Careful dissection made at the time, revealed the fact it had no anatomical relationship with the thyroid body, the lateral lobes of which are preserved in the specimen, and are seen not to be enlarged. The dead white colour of the globular swelling visible as the specimen is viewed from the front, is due to the fact that a hard paraffin was injected into the swelling in order to preserve its form. The superior thyroid artery coiled over the specimen in an oblique direction to reach the corresponding lobe of the thyroid body. The cyst was filled with homogeneous yellow colloid material, which, under the action of formalin, became a very firm jelly. The lining of the cyst was composed of a delicate cuboidal epithelium.

The precise nature of the cyst is uncertain, but it is suggested that it may have arisen in connection with an aberrant portion of the thyroid gland, or possibly in connection with one of the parathyroids.

The subject complained only of sore throat six weeks before admission to hospital, but also suffered from dyspnœa and dyspha gia, both of which increased greatly prior to and during hospital residence.

LUNG: Bronchiectatic Cavities: Anthracosis. 24 : 27·2. 25 : 42·8.

A small portion of the upper lobe of the lung of a young subject. The lung tissue everywhere shows a deep bluish-

black pigmentation (anthracosis). Visible in both halves of the cut section are about a dozen small sharply-defined cavities. These are all bronchiectatic in character, and in one or two instances an open connection with a bronchus can be seen. Several of the cavities present a typical membranous lining of either white or pale yellow colour. There is no sign of tuberculosis in the lung, and it is considered that these cavities may have had their origin in association with the presence of a foreign body. The process, however, has not been associated with much, if any, suppuration. A portion of the pleura, seen at the apex, is considerably thickened.

BRONCHUS: Foreign body. **24 : 28·1.**

The air passages from the larynx to the bronchial bifurcation were removed and carefully opened along the posterior median line. Peeping out from the opening below and resting in the lumen of the left bronchus is a prominent reddish-brown elliptical body, probably the seed of some plant. There was a good deal of acute laryngeal œdema, due to the irritation caused by the foreign body.

LUNG of Child: Atelectasis: Anæmia. **25 : 25·2.**

A portion of the lung of a young child, showing a diffuse pneumonic consolidation interrupted by extensive areas of atelectasis. The pneumonic portions, as viewed from the external surface, are of white colour, and stand out from

the remainder of the surface of the lung, which is by comparison very dark. The latter is, of course, the unexpanded portion. Viewed from the cut surface it is seen that the inflammation has been really of broncho-pneumonic character.

LUNG: Vesicular Emphysema. 25 : 27·3.

Various portions of the lung have been selected and hung together. The specimen has been prepared by draining the lung as free from blood as possible, inflating the lung tissue by means of a blow-pipe, and rapidly drying. The typical changes produced by vesicular emphysema are well seen both on the surface and in the cut section. The dark colour of the lower portion of the specimen is due to incomplete removal of the contained blood. The open spongy character of the lung, as well as the presence of numerous vesicles and bullae, which appear by transmitted light like so many translucent sacs, sufficiently illustrate the condition.

LUNG: Advanced Vesicular Emphysema. 25 : 27·3.

The specimen consists of the entire right lung, which has been fully inflated and afterwards ligatured at the root and dried. The lung is in a condition of very advanced vesicular emphysema, which is particularly manifest in the upper lobe. Viewed in a certain position by transmitted light, the entire thickness of this lobe is seen to be diaphanous, extremely little of the inter-alveolar interstitial tissue persisting. It is

remarkable that, in spite of the extremely advanced emphysematous condition, the comparatively sharp anterior edge of the lung has been preserved without being obscured by any of the cyst-like bullous dilatations which so often characterize the disease.

LUNG: Hæmorrhagic Infarction. 25 : 36·1.

The preparation contains in the middle of its cut surface a hæmorrhagic infarction of indefinite limits. The portion of lung concerned is the lower lobe of the right organ. Centrally the infarction is composed of a mass of dark blood-red colour which gradually fades through various shades into the colour of the normal lung substance. Surrounding the infarction proper is a zone of greyish consolidation. The pleura is normal.

LUNG: Gangrene: Septic Foci. 25 : 44·5.
25 : 54·5.
26 : 54·2.

The antero-lateral part of the right lung, but excluding the middle lobe, has been preserved. At the extreme base of the lower lobe, a small gangrenous cavity is situated, surrounded by darker-coloured necrotic lung tissue. Elsewhere throughout the lung and particularly in the lower part of the lower lobe, are several yellowish areas of purulent softening probably the results of infection by insufflation from the cavity. A recent greyish-red thrombus is seen in one of the main branches of the pulmonary artery. There is a certain amount of acute pleurisy.

LUNG: Gangrenous Cavities: Thrombus in Cavity. **25 : 44·5. 25 : 44·6. 25 : 34·1.**

The specimen consists of half the upper part of the left lung. In the upper lobe are three or four cavities of varying size, the largest of which, measuring 6 × 4 cm., occupies the lower part of the upper lobe, the others being situated in the apical region. Depending from the roof of the large cavity described, is a brownish nodular mass closely resembling the thrombus which forms round an arterial rupture. The characters of the cavities generally, and that of the large cavity in particular, are not consistent with the view that they are tubercular in origin. The specimen suggests rather a gangrenous process, the smaller cavities having originated perhaps by septic insufflation.

LUNG: Acute Pneumonia: Grey Hepatization. **25 : 54·2·4.**

A slice of lung showing the uniform consolidation and mottled appearance of acute pneumonia in the stage of grey hepatization. The lung tissue has been deeply pigmented in character so that the specimen illustrates remarkably well in its present consolidated condition the mottled appearance which frequently accompanies this stage of the pneumonic process.

LUNG: Acute Pneumonia: Grey Hepatization. **25 : 54·2·4.**

The specimen illustrates the late stage of grey hepatization towards the close of an attack of acute pneumonia.

In the region of the apex, resolution changes are more manifest; everywhere else, however, the lung tissue is uniform and densely consolidated, the exudation being richly cellular, and having almost the colour of pus.

LUNG: Acute Pneumonia: Hepatization. **25 : 54·2·4. 26 : 54·2.**

The stage of the process illustrated in the specimen is one in which the earlier and later stages of hepatization are mingled. Traces of an antecedent red hepatization are seen in the mixed colour of the exudation present over the surface. The naturally occurring pigment of the lung, which is much broken up by the exudation, offers a markedly mottled appearance in the cut section. As usual, a certain amount of acute pleurisy accompanies the process.

LUNG: Numerous Septic Foci: Hæmorrhage. **25 : 54·5·6.**

A pyramidal wedge of the right lung has been preserved. Scattered throughout the cut section and visible in larger numbers under the pleura are very numerous yellow septic foci, which, in the majority of instances, are surrounded by zones of hæmorrhage more or less localized in character. At the apex of the lung, however, is a more extensive and diffuse area of alveolar haemorrhage surrounding a number of similar foci, closely set together. It is suggested that these are the results of septic insufflation from a focus higher up in the respiratory tract.

LUNG: Large Abscess Cavity. 25 : 54·5.
25 : 55·3·4.
25 : 53.

The specimen is taken from the basal part of the right lung. A portion of the central tendon of the diaphragm is adhering over one aspect of it. It is seen that the lung tissue is excavated, there being a single monolocular, almost spherical, cavity with a purulent lining in the lower part of it. The cavity has probably formed in connection with the irruption of a large hepatic abscess through the diaphragm.

LUNG: Chronic Tuberculosis: Gangrene: Pneumonia. 25 : 56·1.
25 : 44·2.
25 : 44·5·6.
25 : 54·2.
26 : 55·7.

A section of the right lung showing part of the trachea and the main bronchus entering from the root. Situated round the visible termination of the open bronchus is a bilocular cavity with dark-coloured ragged lining. A second cavity with a slough which is almost separated from its wall occupies the lateral aspect of the upper lobe. The extreme apex is occupied by four or five small caseous foci, and immediately round these is a small irregular cavity. The lining in this part of the lung has many of the characteristics of old fibro-caseous tuberculosis, but the larger cavities referred to above are of definitely gangrenous character. The remainder of the lung tissue is consolidated, and shows a chronic thickening of the peri-vascular and peri-bronchial

structures. The bronchial lymph glands are much enlarged, deeply pigmented, but not obviously tubercular. The pleura at the apex and base in particular is very much thickened. Recent thrombi are seen peeping from the cut orifices of two branches of the pulmonary artery.

LUNG: Acute caseating Phthisis: 25 : 56·1.
Cavity formation: Hæmorrhage. 25 : 44·6.

The process is advanced, enormous caseous deposits being seen in several parts of the lung substance. In the cut section are visible several cavities of irregular form, of which the largest is seen in the upper part of the specimen to the left as one views the preparation. This cavity has a thick yellow caseous lining, and although it exhibits no evidences of recent hæmorrhage, the blood-clot seen at the foot of the preparation was found in it at the time of death. The other cavities all furnish evidence of recent active formation, and in one or two places show bridging strands, probably composed of small arteries. Viewed from the pleural aspect, small groups of tubercles are visible beneath the serous membrane, which in places exhibits an exudation due to acute fibrinous pleurisy.

LUNG: Chronic caseating Phthisis: 25 : 56·1.
Hæmorrhage: Catarrh. 25 : 54·6.
26 : 54·2.

The specimen consists of the lateral part of both lobes of the left lung, the root structures having been cut away. The entire upper lobe, together with the adjacent part of the

lower lobe, is the seat of chronic caseous and fibrotic phthisical processes. The lower three-quarters of the lower lobe is occupied by a considerable quantity of recent blood, which evidently fills the lung alveoli, giving the specimen a reddish-brown colour at this part. At the extreme apex is a small irregular cavity with a thin caseous lining, capped by a considerable thickness of chronically inflamed pleura. Another cavity, smaller in size but similar in character, is present at the base of the upper lobe. The tissue of this lobe otherwise presents a firm, greenish-white, marled appearance. The bronchial glands seen in section are prominent and deeply pigmented. An acute fibrinous exudation is present over almost the entire pleural surface.

LUNG: Acute diffuse caseating Phthisis: Miliary Tubercles. **25 : 56·1**
25 : 44·2.
25 : 56·2.

The specimen consists of a slice from the upper lobe of one lung of about 2 cm. thickness. It is the seat of a mixed tubercular condition, chronic caseating phthisis predominating. Between the caseous deposits, however, large numbers of minute tubercle nodules of miliary character are seen.

LUNG: Acute caseating Phthisis with excavation: Chronic Pleurisy. **25 : 56·1.**
25 : 44·2.
26 : 55·7.

The specimen consists of a slice taken from the upper two-thirds of the right lung of a young subject, a small portion

of the middle lobe, apparently free from tuberculosis, being seen at the margin of one of the cut surfaces. The upper half of the specimen shows seven or eight small ragged cavities, lined by or partially filled with caseous material, whilst the remainder is dotted with innumerable foci of recent caseous deposits of varying size. The pleura in the upper part of the specimen has undergone considerable thickening.

LUNG: Acute bronchogenic Caseating Tubercle: Excavation: Acute Pleurisy. 25 : 56·1. 25 : 44·2·6. 26 : 54·2.

The preparation consists of a slice taken from the outer side of the left lung, the structures at the root not being present in the specimen. The extreme upper part of the specimen consists of a uniform ragged caseous mass, having in its immediate vicinity two irregular cavities still showing traces of caseous material in their interior. Throughout every other part of the lung tissue are scattered large numbers of solid caseous tubercular nodules, showing every variation in size. A certain degree of acute pleurisy accompanies the process.

LUNG: Acute caseous Phthisis: Cavity-formation: Disseminated nodular bronchial Tuberculosis: Acute Pleurisy. 25 : 56·1. 25 : 44·2·6. 26 : 54·2.

In the preparation, which is a longitudinal slice from the left lung of an adult, are seen evidences of advanced phthi-

sical excavation in the upper part, and of a bronchial caseous nodular infection of the lung in the lower part. The cavities have the usual character of those of recent formation, the caseous lining being thick and shaggy. The lower part of the preparation suggests a bronchial affection by insufflation from the older foci in the upper part. There is acute fibrinous pleurisy over the upper lobe.

LUNG: Acute Phthisis: Cavity-formation: Acute Pneumonia. 25 : 56·1. 25 : 44·2. 25 : 51·1. 26 : 54·2.

The preparation, which is a thin slice taken from the upper part of one lung, shows a collection of some half-dozen small ragged branching cavities of phthisical character. The surrounding lung tissue is consolidated, and has a uniformly grey or slightly marled appearance. A zone of hæmorrhage near the extreme apex separates a caseous collection above from the pneumonic process beneath.

LUNG: Acute diffuse caseating Phthisis: Perforation of Pleura: Pneumothorax: Acute Pleurisy. 25 : 56·1. 25 : 44·2. 26 : 22. 26 : 54·2.

The specimen is taken from the left lung, the upper lobe of which is present in its entirety, as well as the upper portion of the lower lobe. The lung is, throughout, the seat of an

advanced bronchogenic caseating tuberculosis with cavity-formation in the upper part. The process everywhere bears evidence of having been acute in character. The pleura, which is acutely inflamed, is at one point perforated, and in another place is translucent and almost ready to perforate.

P.M.J. II. 45.

LUNG: Acute Phthisis: Diffuse Caseation: Acute Pneumonia. **25 : 56·1. 25 : 44·2. 26 : 54·2.**

The specimen consists of the upper two-thirds of the left lung. A diffuse tubercular process occupies the entire upper lobe, extensive caseation having occurred. Numerous small cavities are present throughout the diseased area; they are not, however, specially congregated in the neighbourhood of the apex. Certain of these cavities appear to be bronchiectatic, the bronchial glands are enlarged and deeply pigmented, a certain amount of pneumonic consolidation of homogeneous grey character is present around the caseous areas.

The subject was a male æt. 20, with a clinical history of very rapidly progressive disease. There was extensive pleurisy, and ulceration of the intestine was a marked feature.

P.M.J. II. 45.

LUNG: Acute Phthisis: Diffuse Caseation: Acute Pneumonia. **25 : 56·1. 25 : 44·2. 26 : 54·2.**

Another preparation from preceding case.

CAT. No. 338.

LUNG of Child: Caseating and Acute Phthisis. 25 : 56·1. 25 : 44·2.

The left lung of a child of ten or eleven years of age. With the exception of the upper part of the lower lobe, the whole of the lung tissue is affected with nodular caseating tuberculosis, more advanced in the apex than at the base. There is some fibroid overgrowth in the upper part of the lung, and the lobe has a shrunken appearance. The appearances of the disease in the lower part of the lung suggest that it has arisen here by insufflation. The bronchial glands, which are enlarged, are definitely involved in the tubercular process.

LUNG: Acute Phthisis: Cavity-formation: Associated with acute Pneumonia. 25 : 56·1 (44·2). 25 : 51·1 (52·1). 26 : 54·2.

The specimen consists of a slice of the left lung of about 4 cm. in thickness. The two lobes are fused together, the pleura between them being considerably thickened (well seen on that side of the specimen in which a large irregular cavity is situated). The tubercular process is evidenced by a number of small caseating nodules present in both lobes, but better seen in the upper lobe. The lower lobe is in addition the seat of an acute pneumonic process, the consolidation having a uniform pale yellowish-grey colour, suggestive of the old "caseous pneumonia" of Laennec. As mentioned above, a large cavity is present in the upper part of the lower lobe, with extremely ragged walls. It appears

to be lined with caseous material, and may have had its origin in the breaking down of a caseating focus, but to some extent has no doubt been the result of the pneumonic process. A general acute pleurisy accompanies the affection in the lung.

LUNG: Acute diffuse Phthisis: Large Cavity: Acute Pneumonia: Tuberculosis of Bronchial Glands: Thrombus in Pulmonary Artery.

25 : 56·1.
25 : 44·6.
25 : 52·1.
43·4 : 56·1.
14·2 : 34·1.

The specimen consists of a section through the right lung from apex to base, and includes the structures at the root. The upper third of the lung is occupied by an almost spherical cavity. The wall of this cavity is on the inner side composed of a layer of consolidated and caseous lung tissue of from 1 to about 3 cm. in thickness, but at a point on its upper and outer aspect, consists of slightly thickened pleura only; its thickness here is not more than 3 mm. Two other irregular cavities communicate with this and with each other almost immediately below it. The remainder of the lung tissue is consolidated, the exudation towards the base having a uniform yellowish colour. Three or four bronchial glands, seen in cut section, are deeply pigmented, and contain several small tubercular nodules. The pulmonary artery seen in section in two places is filled with a recent clot. A certain amount of chronic thickening of the pleura has occurred.

LUNG: Diffuse caseating Phthisis: Hæmorrhage. 25 : 56·1.
25 : 44·2.
25 : 33·3.
26 : 54·2.
26 : 55·7.

The outer half of right lung has been preserved. It is the seat of a diffuse caseating tubercular process, which is more evident in the lower than in the upper lobe. A collection of four or five small cavities with membraniform lining is present at the lower part of the upper lobe, which elsewhere is the seat of diffuse alveolar hæmorrhage. The bronchial glands are enlarged, pigmented, and in one case partially caseous. The accompanying pleurisy has both acute and chronic characters.

LUNG: Tuberculosis: Perforation: Pneumothorax. 25 : 56·1.
25 : 44·6.
26 : 22.

The specimen is of considerable age, and has been continuously preserved in spirit. The tubercular process is very general, and there are two cavities with the usual characters in the upper part of the lung, both of which impinge on one aspect of the pleura. Perforation of one of these has occurred, giving rise to pneumothorax. The pleura exhibits a localized chronic thickening. In addition there is a certain amount of acute pleurisy.

LUNG: Tuberculosis: Perforation: Pneumothorax: Acute Pleurisy. 25 : 56·1. 26 : 22. 26 : 54·2.

A generalized tubercular process with a good deal of nodular and diffuse caseation, but with very little cavity formation, is seen in the cut section of the lung. The lung tissue elsewhere is consolidated, the consolidation having a reddish colour. The greater part of the pleura covering the portion of lung preserved, is obscured by an abundant fibrinous exudation. In the middle of this exudation is a prominent funnel-shaped aperture, the fibrine around its margins being everted and of a somewhat dendritic form. It is doubtless from this perforation that infection of the pleura with pneumothorax occurred.

LUNG: General Tuberculosis: Acute Pneumonia and Pleurisy. 25 : 56·1. 25 : 54·2. 26 : 54·2·6.

In this lung, one of whose lobes has been preserved, an acute pneumonia has overtaken a chronic nodular tuberculosis. Accompanying the former process there has also occurred a fibrinous and hæmorrhagic pleurisy. The tubercular part of the lesion is visible in the form of numerous small areas of yellow caseation with a few cavities of small size. The pneumonic consolidation is very complete in degree. It is of greyish colour. Viewed from above, the lung tissue is seen to be moderately emphysematous, though this is much obscured by the degree of consolidation.

LUNG: Tuberculosis: Large Cavity. 25 : 56·1.
25 : 44·2·6.

A very large cavity, measuring 8 × 6 cm. and comparatively simple in formation, occupies the lung tissue and impinges along one aspect of the pleura. It is lined with a certain amount of compact caseous material; in places the lining has an almost membranous character. No communication with the bronchus was established at *post mortem* examination, and the cavity in the fresh state is filled with recent blood-clot. Numerous small softening tubercular foci are seen throughout the lung, which exhibits a fine degree of vesicular emphysema.

LUNG: Tuberculosis: Acute Pneumonia: Chronic and Acute Pleurisy. 25 : 56·1.
25 : 54·2.
26 : 55·1.
26 : 54·2.

A chronic tubercular process with caseous nodules and several cavities, one of them the size of a walnut, occupies the upper part of the lung, the lobes of which are completely adherent. A cap of thickened pleura surmounts the lung at the apex. In the lower lobe a pneumonic process has occurred, the consolidation being of reddish colour in the upper part and greyish colour below. Scattered throughout this lobe, and more easily seen where the consolidation is darker in colour, are fairly numerous small caseous nodules. An acute pleurisy with a small amount of fibrinous exudation is present over the lower lobe. The bronchial glands seen in section at the root, are prominent, pigmented, and in one instance almost completely caseous.

LUNG: Acute miliary Tuberculosis 25 : 56·2.

The specimen consists of a pyramidal portion of one lobe. It is deeply congested, and is studded throughout with innumerable minute grey tubercles. Little or no caseation is visible in any of these, the infection having been rich and the process acute. Although they are easily visible under the pleura, there is no accompanying pleurisy.

LUNG: Acute Tuberculosis: Chronic caseating Tuberculosis of Bronchial Glands: Sub-acute Pleurisy. 25 : 56·2. 43·4 : 56·1. 26 : 54·2.

The specimen consists of half of probably the upper lobe of the left lung, including the part nearest the root. At this part, which presents itself in the middle of the cut section, is seen a group of four enlarged, partially caseous, and deeply pigmented tubercular lymphatic glands. A small, deeply penetrating cavity lined with caseous matter is visible in the lower part of the preparation, and round it, in sparse numbers, are groups of recent grey tubercles of small size. The entire pleura is covered with a thick "stippled" fibrinous exudation.

LUNG: Syphilis: Large Gumma at Apex. 25 : 56·3. 25 : 44·2.

The upper part of the lung of a young subject containing at the apex a spherical mass sharply demarcated from the remaining lung tissue. This nodule, which measures $4\frac{1}{2}\times$

4 cm. is centrally more deeply pigmented than the remainder of the lung tissue, and peripherally is composed of a firm white tissue broken up into a series of more or less distinct lobules, many of which have centrally a compact caseous appearance. On the inner aspect it impinges closely on the pulmonary artery and adjacent portion of the pericardium (seen cut in the preparation). Fusion between the nodules of the latter structure has apparently occurred. From this point of adhesion, radiating white lines traverse the deeply pigmented portion already described. The mass was regarded as an old syphilitic gumma.

LUNG: Tertiary Syphilis: Gumma. **25 : 56·3.**
25 : 44·2.

In the left lung, the lower lobe of which has been widely laid open, is seen a large (6×5 cm.), rather indefinite, pigmented and caseous mass. The lung tissue round this has a distinct concentric disposition, but without much evidence of encapsulization or fibrosis. The mass itself is very dense and compact in character, and shows only at one point a small cavity from necrotic softening. Its position is indicated on the pleura by islands of dead white colour. The lesion illustrated—a gumma of tertiary syphilis—is unusually large.

LUNG: Syphilis: Diffuse Gumma-Formation: Acute Pleurisy. **25 : 56·3.**
26 : 54·2.

The entire right lung is preserved, its interior being displayed simply by means of the primary incision made at *post mortem* examination. The lung tissue itself is deeply

pigmented, which throws into prominent contrast the ramifying and nodular masses of white tumour-like tissue which are present throughout the lower part of the organ. These, at first sight, have many of the characters of a diffuse sarcomatous growth of the lung, but on close inspection very numerous small caseous islets are seen in the midst of the white tissue. In the upper part of the lung, an irregular series of intercommunicating honeycombed cavities are seen. There is a universal acute pleurisy with abundant fibrinous exudation.

LUNG: Multiple metastatic Sarcomata. **25 : 65·1.**

The entire left lung has been preserved unopened. Considerable numbers of white sarcomatous nodules are seen beneath the visceral pleura in several places, having all very much the same dimensions, viz., from 7 to 20 mm., only the larger of them being associated with hæmorrhage or umbilication. It will be noted that at one point the two lobes are fused together by a bridge of white tumour tissue, 4·5 cm. in length. The tumours are of course metastatic in character. The site of the primary tumour is unknown.

LUNG: Multiple metastatic Sarcomata. **25 : 65·1.**

The lower lobe of the left lung in section has been preserved. Scattered throughout the cut surface are five or six small white homogeneous tumour nodules, while over the pleural

surface some 25 similar nodules are scattered. In one or two instances these show softening with resulting umbilication.

LUNG: Secondary Sarcomata. 25 : 65·7.

The lung (left) is the seat of a deep bluish-black generalized pigmentation, to which the white tissue of the tumours visible in it presents a marked colour contrast. The larger of these tumours seen in section is composed of a soft homogeneous yellowish-white tissue, which on careful scrutiny is seen to be divided up into small lobules. The tumours appear to be simply set in the lung tissue without any investing capsule. In their nature they are metastatic sarcomata, the primary seat of which was in the thyroid gland.

LUNG: Secondary Sarcoma. 25 : 65·9.
25 : 55·3.

A diffuse tumour growth occupies the lung tissue, and is distributed chiefly round the open sections of bronchi and of vessels. Here and there the growth may be seen either replacing the wall of the bronchus or actually projecting into the lumen of a bronchial tube. It therefore appears to be following the path of the peribronchial and perivascular lymphatics. Several small cavities, apparently the result of an associated septic process, are present in the lower part of the preparation.

LUNG: Lympho-sarcoma. 25 : 65·9.
25 : 44·6.
25 : 53.

In this preparation, which consists of a vertical section through the outer part of the left lung, is seen an enormous malignant tumour of sarcomatous character. Where the tumour tissue is most recent, it is white in colour, homogeneous in appearance, and soft in consistency. A large irregular central cavity is seen in the cut section, the result of necrotic softening. Elsewhere, small interstitial hæmorrhages have occurred in the tumour on the outer aspect. The growth has extended through to the pleura, and must have infected generally the pleural cavity. The surviving lung tissue is the seat of chronic interstitial fibrosis, and at the confines of the tumour has a concentric disposition round it.

P.M.J. III 49.

LUNG: Diffuse malignant growth (Endothelioma). 25 : 66·5.
25 : 52·2.
26 : 55·7.

A thin slice of the right lung from apex to base has been mounted. A lobar division by a fine white line passing obliquely across the specimen is seen on one cut surface. The appearances presented by the tissue above and below this line vary: above, the lung tissue is deeply pigmented, consolidated, and traversed by a reticulum of greyish-white tissue. In the lower part, whilst this greyish reticulum is also visible, the remainder of the lung substance is homogeneously consolidated and of a reddish colour. A consi-

derable degree of irregular thickening of the pleura has also occurred. Complete occlusion of the pleural cavity by old adhesion had in fact occurred.

The subject, an Egyptian male æt. circ. 30, was admitted in a condition of extreme illness, with cough, dyspnœa, and other signs of fluid in the chest. He also had a high, oscillating temperature. On *post mortem* examination, the condition of the right lung, the description of which is given above, suggested an antecedent lobar pneumonia which had never completely resolved, and in which intra-alveolar new formation of tissue, it was thought, had probably occurred. Microscopical examination, however, revealed a diffuse malignant growth resembling endothelioma in structure, which had arisen, it was considered, primarily in connection with the alveolar epithelium. The thin-walled alveoli contained loose masses of flat cells with prominent oval nuclei—in a degenerated and vacuolated condition. Comparatively few leucocytes were encountered amongst these cell-masses: a finely fibrillated stroma having in some parts the characters of mucous tissue was present throughout. A rich infiltration of the stroma with small groups of compressed cells similar to those described as existing in the alveolar spaces gave typical appearances of malignancy. The left pleural cavity contained about 1500 cubic cm. of blood-stained fluid. No definite source of hæmorrhage was found, but there was a good deal of extravasated blood amongst the connective tissue adhesions on this side. There was also a pericarditis, chiefly over the anterior surface of the heart, which was judged on various grounds to be of between two and three months duration.

PLEURA: Chronic Inflammation: Thickening. 26 : 53. 26 : 55·1·7.

The specimen has been preserved in its entirety in order to illustrate the extreme degree of fibroid thickening which accompanies a very chronic pleurisy. A portion of the pericardial sac is firmly adherent near the root. The extreme degree of thickening is well seen over the postero-lateral and diaphragmatic surfaces.

TONGUE: Squamous Cell Epithelium. 31·2 : 66·1.

The tumour is seen to be situated on the right lateral half of the tongue. It is seen as a prominent, deeply excavated ulcerated mass with thick and elevated margins.

SUBMAXILLARY GLAND: Chondro-Sarcoma. 31·3 : 65·12.

The tumour, which is lobulated, was very dense in consistence, and in the fresh state showed clearly the bluish translucency of a tumour containing a good deal of cartilage. Traces of surviving submaxillary gland tissue are seen at the back of the specimen.

P.M.J. III. 93.

CARCINOMA of Pharynx: Stenosis. 32 : 66·1. 33 : 25·1.

An irregular hard ulcerated malignant growth is seen in the gullet, extending from the level of the middle of the thyroid cartilage over a distance of about 7 cm. downwards.

The rounded, warty and overhanging nature of the inferior edge is particularly well seen in the gullet. There is a good deal of stenosis of the gullet associated with the growth. In the fresh state small masses of food stuff mixed with necrotic portions of the tumour were found lying in the recesses of the growth, and the unopened œsophagus, at the point of its greatest stenosis, just admitted a crowquill.

The posterior line of the trachea is bulged slightly forwards by the tumour, but is not ulcerated; its mucous membrane, however, is congested, granular and inflamed. The lymphatic glands of the left sub-maxillary angle were greatly enlarged and involved by cancer.

The subject, a male æt. 50, is said to have suffered from dysphagia for 6 months prior to admission to hospital. He had noticed a gradual enlargement of the glands of his neck during this period. During the ten days preceding hospital residence, the taking of food of any kind became almost impossible.

CARCINOMA OF PHARYNX: Stenosis. **32 : 66·1.**
33 : 25·1.

An irregular ulcerated growth separated into two almost equal portions by the longitudinal incision made to open the gullet, which seemed to occupy the whole thickness of the pharyngeal wall. On the left side of the specimen (viewed from behind) is a rounded body about the size of the kernel of a hazel nut, and probably an associated cancerous lymphatic gland, is seen. Five or six small white cancerous nodules are seen in the cut face of the tissues immediately

to the left of this nodule. Considerable stenosis of the pharynx and œsophagus has resulted. The trachea, although inflamed, appears to be free from tumour, and there is no obstruction of its lumen.

DIGESTIVE SYSTEM.

DIGESTIVE SYSTEM.

STOMACH : Dilatation. Chronic Catarrh. **34 : 27·2. 34 : 55·2.**

A large part of the posterior wall of the stomach is shown. The organ has been dilated, and the wall is thin. Prominent radiating rugæ are seen traversing the wall in an oblique direction. Between these, the mucous membrane is thickened, granular, and in places almost papilliform. It exhibits in fact a condition described by French writers under the name of " état mamelonné. " The condition was one of chronic gastric catarrh, with dilatation secondary to pyloric obstruction.

STOMACH : Chronic Catarrh. **34 : 27·2.**

A small rectangular portion of the posterior wall of the stomach has been preserved to illustrate the effects of chronic gastric catarrh. The thickened, rugose, and closely mammilated appearance of the mucous membrane sufficiently illustrates the condition. In certain areas (chiefly towards the left of the specimen), where the mucous membrane is apparently much thinner, or is even almost transparent, this must have been partly brought about by *post-mortem* digestion of the mucosa.

P.M.J. IV. 450.

STOMACH : Acute Gastritis. **34 : 52·1.**
34 : 55·3.

A rectangular portion of the stomach, measuring 14 × 19 cm., and taken from the posterior wall of the organ, has been mounted. The appearances presented are virtually those of a very diffuse but superficial ulceration, partially covered in places with a membraniform exudation. Although a slate-coloured pigmentation is visible over the rugose part of the specimen, the remainder showed in the fresh state an acutely congested appearance, and traces of this are still easily observable.

The patient, a male æt. 45, was admitted with signs of acute bronchitis and a uniform enlargement of the liver, but with a very indefinite history of the illness, which was obviously acute and severe. He died after a short hospital residence, and the *post mortem* findings were in accordance with the diagnosis of typhus fever.

STOMACH : Diffuse Scirrhous Cancer. **34 : 66·3.**

The preparation consists of one-half of the stomach, which is the seat of a diffuse scirrhous cancer involving nearly the whole of the stomach wall visible in the preparation. The organ is both rigid and contracted, its walls, as seen in cut section, varying from $\frac{1}{2}$ to 2 cm. in thickness.

P.M.J. IV. 224.

STOMACH : Myoma at Cardiac Orifice of exceptional size. 34·1 : 64·1.

The specimen represents the posterior part of the stomach, which has been mounted with its greater curvature upwards, and as the inner surface of the organ faces the observer, the pyloric end is towards the right. At the cardiac end is seen a remarkable collection of white lobulated tumours, the largest of which projects freely into the cardiac end of the stomach. This tumour is completely covered by mucous membrane, in which numerous tortuous and congested vessels are easily seen. In this situation it was, of course, inevitable that great obstruction to the entrance of food was occasioned, and the œsophageal opening was reduced to a narrow chink, the size of a crow-quill, which passed through the tumour on the left side. It was impossible to avoid the conclusion at the *post-mortem* examination that the tumour was malignant, and that the apparently independent white masses in its neighbourhood were lymphatic glands, invaded by cancer. Microscopical examination, however, made in various parts of the mass, revealed conclusively its benign nature, the structure being everywhere the same, namely a myoma of unstriped muscle. It was not, however, abundantly nucleated, and many of the muscle fibres were vacuolated, or showed other evidences of degeneration. Numerous small vessels occurred throughout the tumour, and these showed a peri-vascular infiltration with lymphocytes.

The patient, a male subject æt. 40, was admitted to hospital with "profound anæmia, pellagra, and effusion into both pleural cavities." He only lived six days after admission

to hospital. At *post mortem* examination, the state of nutrition of the body was, considering the situation and effects of the tumour, very fair indeed. There were no very advanced cutaneous or other evidences of pellagra. The liver was not enlarged (weight 1,520 grammes), and was the seat of advanced fatty changes. The lower end of the œsophagus was considerably dilated, and its muscular wall in the upper part hypertrophied. The non-ulcerated character of the tumour, in view of its size, was noted as remarkable at the *post-mortem* examination, and the abrupt character of its margins, without any surrounding infiltration, was a feature which also attracted notice. Several spicular calculi of small size and black colour were found impacted in small pouches in the œsophagus at the upper extremity of the tumour mass.

The patient was the subject of both Bilharziasis and Anchylostomiasis, very numerous parasites associated with both infections being present.

DUODENUM: False Diverticulum. 35·1 : 27·1.

The pouch, which is of unusual size (6 × 3½ cm.), is seen to depend from the mesenteric line. It is of a generally oval and somewhat lobulated form, and communicates with the intestine by a rounded aperture covered with mucous membrane about 12 mm. in diameter. It had not given rise to any great disturbance, and was accidentally found at *post-mortem* examination.

DUODENUM: Solitary Ulcer. 35·1 : 45·1.

In the specimen the pyloric portion of stomach and 9 cm. of duodenum are displayed. Situated 1·5 cm. from the pyloric ring, with its boundary almost impinging upon the cut edge of the bowel at this part, is a clean solitary oval duodenal ulcer. Its floor is formed by remains of muscular coat and peritoneum, and it is seen on reversing the specimen that the pancreas, a portion of which is still adherent to the bowel, has not been involved in the process. The edges of the ulcer are raised, rounded and thickened, fading gradually into the healthy mucous membrane. A well-developed and normal-looking duodenal papilla is seen with its orifice directed downwards at the lower edge of the preparation.

DUODENUM: Chronic Ulcer. 35·1 : 55·3. 37 : 55·3.

The preparation (an old one, preserved in spirit and therefore somewhat bleached), shows a large flat duodenal ulcer with rounded overhanging edges, its floor being formed entirely of pancreatic tissue. The gaping orifice of the pancreatic vein is seen in its immediate neighbourhood, and on the left of the lower aspect of the ulcer, an oval mass of reddish brown clot is seen, lying in a grooved recess. The presence of bile staining in this part of the ulcer would indicate that it had not been far removed from the duodenal papilla.

DUODENUM: Anchylostomiasis. 35·1 : 71·8.

A length of 25 cm. of the duodenum and upper jejunum has been mounted to show the effects of a rich anchylostomal infection. Viewed by transmitted light, about a dozen of the parasites are seen still adherent to the mucous membrane. Scattered everywhere throughout this portion of bowel are many petechial points of hæmorrhage indicating the sites of attachment of worms which have died or been loosened by treatment. The intestine is atrophied, the degree of atrophy being indicated not only by the general diaphanous appearance of the bowel, but also by the visibility of the transverse muscular fibres of the bowel wall in the middle part of the specimen.

P.M.J. III. 129.

DUODENUM: Anchylostomiasis. 35·1 : 71·8.

Upwards of 60 specimens of the anchylostoma duodenale are seen affixed in various positions throughout 40 cm. of duodenum.

The specimen can only be studied by transmitted light. It will be seen that the large majority of the worms are attached to the mucosa between the valvulæ conniventes, in some instances being, as it were, sheltered by the valvular projection of the mucous membrane above them. The evidences of old bites, although present, are not numerous, but the whole of the duodenal mucosa is in a catarrhal condition. The bodies of the worms, as usual, present several shades of colour varying from a yellowish white to a dark

brown or almost black tint. The latter have acquired this from accidental ingestion of the blood, whereas the former are distended by the detritus of cells of the mucous membrane. The peritoneal surface is quite unaffected.

The subject, a male fellah, æt. 25, was admitted in an urgent condition of illness, suffering from dyspnœa, irregular diarrhœa, anasarca, and profound prostration. On *post-mortem* examination, the effects of a profound anæmia were apparent in every part of the body. The heart, which exhibited the mottled or " thrush-breast " character of extreme fatty degeneration, was generally dilated. The intestine, which was exceedingly white and pallid throughout, was in its upper part heavy from œdema, and on being opened, was found to contain a tenacious slightly blood-stained mucus, in which very many dead and detached anchylostoma worms were found. The very considerable number of worms present in the portion of bowel which has been preserved sufficiently testifies, apart from this, to the abundant character of the parasitic affection. The patient also had some infiltration of the urinary bladder due to the presence of bilharzial ova.

The blood, bone marrow, etc., in this case exhibited most of the features presented by this disease in a case of progressive pernicious anæmia.

ILEUM: Intussusception caused by Tapeworm. 35·2 : 23·3. 35·2 : 71·1.

The specimen is apparently one of intussusception of the small intestine only. The outer receiving wall of the bowel has been opened and laid back, so that the whole thickness of the entering portion of intestine is plainly exposed. Depending from the extremely narrow orifice of the intussusceptum (see lower part of preparation), is a portion of the body of a tapeworm, in which the segments are plainly visible. There is no doubt that the irritation caused by the presence of the parasite resulted in the abnormal peristalsis which has occasioned the intussusception.

ILEUM: Compound Intussusception. 35·2 : 23·3. 35·2 : 44·5.

An intussusception of most unusual size, affecting entirely the ileum. The intussuscepted portion is gangrenous at its extremity, which is seen peeping out from the enlarged opening at one end. The entering portion of bowel is packed tightly into the rounded neck of the intussusception. Three rectangular windows made in the intussuscipiens permit of the study of the various layers of the bowel involved. The last of these, which has been cut to a depth of 1½ cm., shows an extremely narrow, solid-looking mass, which represents the innermost of the entering layers of bowel.

ILEUM : Intussusception caused by Tumour. 35·2 : 23·3. 35·2 : 63·2.

The whole process has taken place in the small intestine. The apex of the intussuscepted portion, which has been freely displayed by laying open the intussuscipiens, is seen to be formed by an oval, solid, polypoid mass of considerable size, 5 × 6 cm. The tumour was a solid one of adeno-fibromatous character, which had by its weight dragged inwards and downwards that portion of intestinal wall from which it grew, and so caused intussusception of the whole of the remaining portion.

ILEUM : Strangulation : Gangrene. 35·2 : 26·2. 35·2 : 55·4.

An irregular loop of the small intestine, the upper part of which is in a gangrenous condition, is visible. Just where the gangrenous portion passes into a healthier portion of the bowel, a deep kink (sharp bend or notch) is apparent. It is at this point that acute obstruction by strangulation had been produced. A certain amount of inflammatory exudate is visible over the discoloured portion of peritoneum, and the membrane itself has at places almost a sloughing appearance. A transverse, sub-peritoneal bulla is visible in the healthier portion of the bowel in the close vicinity of the site of strangulation. The acute congestion of the vessels in the sub-peritoneal layer is very noticeable.

INTESTINE: Strangulation: Hæmorrhage. 35·2 : 26·2.
35·2 : 33·3.
35·2 : 62.

A loop of small intestine, the extremities of which have been sewn together, is mounted in circular fashion. The portion mounted had been for long involved in an incarcerated hernia, which, for some reason, had become strangulated. The hypertrophy of the muscular walls of the bowel, and the fibrotic and thickened state of the mesentery, testify sufficiently to the partial obstruction which the bowel had suffered for so long. The diffuse congestion and acute character, as well as the sub-peritoneal hæmorrhages present, are of course the results of the acute period of strangulation.

INTESTINE: Effects of Strangulation. 35·2 : 32·2.
35·2 : 33·3.
38·3 : 44·7.

This loop of small intestine, 50 cm. in length, was removed by surgical operation. It had formed part of a large inguinal incarcerated hernia. After reduction to the abdomen, the vitality of its wall had suffered to such an extent that it was deemed advisable to excise it altogether. A marked constriction is apparent in the specimen, below which the bowel is intensely congested. The peritoneum covering this portion of the gut is of dull lustreless yellow appearance and was undoubtedly on the point of sloughing. Traces of an acute peritonitic exudation can be seen over the surface.

ILEUM: Strangulated Hernia. 35·2 : 33·3.
35·2 : 54·2.

The lower part of the loop of the intestine preserved is of a uniform, deep, reddish-purple colour from extreme congestion and hæmorrhage. The turgid vessels are partially obscured in this intensely congested portion. A certain amount of acute peritonitis, as evidenced by thin transparent masses of fibrine which hang from the bowel, has accompanied the other changes.

ILEUM: Tubercular Ulceration. 35·2 : 56·1.
35·2 : 55·3.

A long ribbon of the small intestine, folded on itself to exhibit the whole mucous surface, has been mounted. Every part of the bowel is covered with tubercular ulcers in all stages of the process. Some are no larger than a split pea, whilst others are both extensive and deep, involving the entire circumference of the bowel. In the smaller ulcers the raised "rolled-over" edge confers a typical crateriform appearance to the lesion. In the case of the larger ulcers, the floor has a coarsely reticulated character, and pouches of caseous deposits are visible here and there.

An advanced pulmonary phthisis was associated with this condition of the bowel.

ILEUM: Tubercular Ulcer: Perforation. 35·2 : 56·1.
35·2 : 22.
38·3 : 54·2.

A portion of ileum unopened, 7 cm. in length, has been preserved to show the results of perforation of a tubercular

ulcer. The site of perforation is seen in the form of a ragged tear in the peritoneum, about the middle of the specimen, almost at the opposite diameter, at the point of mesenteric attachment. An acute peritonitis has resulted, as is seen by the opaque yellow exudation of the opposite side of the bowel.

ILEUM: Tuberculosis: Peritoneal Infection. 35·2 : 56·1. 38·3 : 56·1.

A portion of ileum (35 cm. in length), taken from a young subject, has been filled with a preservative fluid and ligatured. Its external surface is covered with multitudes of flattened, grey, caseous nodules, which project from the peritoneal surface, and are distributed equally over every part of the bowel. A certain amount of acute peritonitis is visible.

There was in this case a generalized tubercular infection of the entire peritoneum, the infection having originated with the rupture of a softened caseous mesenteric gland. As usual, there was a certain amount of chronic adhesive peritonitis, one effect of which is seen in the extremely irregular calibre of the bowel at various points.

ILEUM: Tubercular Ulceration. 35·2 : 56·1.

About 30 cm. of ileum have been filled with a preservative fluid, and after distension in this manner, ligatured. A number of tubercular ulcers of the usual form and transversely arranged, are seen throughout the specimen.

The lesions are best viewed by transmitted light.

ILEUM: Tubercular Ulceration: Acute Peritonitis. 35·2 : 56·1. 35·2 : 55·3. 38·3 : 54·2.

The specimen illustrates in a typical fashion the results of advanced tubercular ulceration of the small intestine. The eroded, overhanging character of the edges is very well noticed in the three ulcers in the upper part of the preparation. Many small nodules, the summits of which have just begun to ulcerate, will be observed between the larger and older lesions. A certain amount of acute peritonitis has occurred as a terminal event, and groups of small sub-peritoneal tubercular nodules are also seen—in some cases beneath the fibrinous exudation.

ILEUM: Tubercular Ulceration: Chronic Peritonitis. 35·2 : 56·1. 38·3 : 55·7.

A thin strip of ileum showing several tubercular ulcers with the same illustrative features as those described in connection with the earlier specimens of the series. Viewed from the serous aspect, the ulcerative process is seen to have been accompanied by localized areas of chronic peritonitis Clusters of small tubercular nodules project under the peritoneum, and are clearly visible grouped round the areas of ulceration.

ILEUM: Tubercular Ulceration. 35·2 : 56·1.

A number of typical tubercular ulcers, with the usual appearances and distribution in relation to the circumference

of the bowel, are present in the portion of ileum represented. The valvulæ conniventes are unusually prominent, and this fact helps to emphasize the upper and lower borders of the ulcers.

ILEUM: Tubercular Ulceration. 35·2 : 56·1.

A portion of ileum folded with its peritoneal surfaces in juxtaposition, has been mounted to show a series of 18 tubercular ulcers of rather acute character. The edges of these were, in the fresh state, acutely congested. They are still seen to be so in some instances, and all of them are very ragged and irregular, with small shreds of necrotic tissue hanging from them.

ILEUM: Tubercular Ulceration: 35·2 : 56·1.
Sub-Peritoneal Tubercles. 38·3 : 56·1.

A portion of bowel, 20 cm. in length has been distended with the preservative fluid and ligatured. It is the seat of a tubercular infection which has attacked both the mucous membrane and the peritoneum. Several ulcers of tubercular character are seen by transmitted light, whilst at the upper and lower extremities of the specimen groups of flat, caseous nodules, projecting from the peritoneal surface, are apparent. There was a tubercular peritonitis associated with the process, having the usual characters.

ILEUM: Tubercular Ulceration : Perforation. 35·2 : 56·1. 35·2 : 55·4. 35·2 : 22.

A very severe ulcerative process is visible in the lower part of the ileum, as far as the ileo-colic ring, so that the mucous membrane of the colon, which is completely free from ulceration, presents a very marked contrast. The ulcers have an exceedingly acute character with thin ragged edges and sloughing floors. They do not at first sight present the typical characters of tubercular lesions, but viewing the specimen from the serous aspect and particularly in its lower part, clusters of small, grey or caseous tubercle nodules are easily visible. A comparatively large oval perforation, the aperture of which is only partially concealed by a minute curtain of dead peritoneum, strikes the eye as the specimen is viewed by transmitted light. Slightly lower, to the left of this, is another ulcer in which a mass of thrombus is lodged, hæmorrhage of an active character having taken place here. The curiously spiral twisted appearance of the appendix vermiformis, as seen on the left of the specimen, is very striking.

ILEUM: Tubercular Ulceration. 35·2 : 56·1.

Two portions of the small intestine, each 32 cm. in length, mounted side by side, and showing several areas of typical tubercular ulceration. A localized hæmorrhagic exudation is present under the peritoneum in a position corresponding with each ulcer, and in this situation the lower clusters of small grey tubercles are visible.

INTESTINE: Tubercular Ulceration: Diverticulum. 35·2 : 56·1. 35·2 : 27·1.

A piece of ileum, the seat throughout of an abundant tubercular infection, the resulting ulcers showing variation in size. At its extreme lower part, a very sharply defined pouch or false diverticulum is seen, with an aperture measuring $2\frac{1}{2} \times 3$ cm. The involvement of the edge of this aperture in the process of ulceration gives it almost a bunched out appearance.

ILEUM and MESENTERY: Tuberculosis. 35·2 : 56·1. 38 : 56·1.

A circular loop of ileum with attached mesentery has been mounted to show diffuse infection with tubercle. The tubercle nodules are seen thickly clustered in the form of white, opaque or yellow-coloured masses throughout the mesentery, which is everywhere opaque, the result of considerable inflammatory infiltration. Three or four small polypoid lipomatous masses can be seen springing from the wall of the bowel towards its free aspect.

ILEUM: Typhoid Fever. 35·2 : 56·6.

A portion of the lower part of the ileum, showing about a dozen lesions illustrative of typhoid fever. The oval, nummular, elevated, discoid areas which have arisen in association with the specific inflammation of Peyer's patches, are very clearly illustrated. The more advanced lesions are apparently in the upper part of the preparation, and are here

composed of ragged, reticulated areas with adherent sloughs enclosed in a rounded infiltrated zone of inflamed bowel wall. Those in the lower part of the preparation, on the contrary, show very little ulceration, and are wholly free from sloughs. They represent the lymphoid patches in the stage of tumefaction with very little superficial necrosis. The peritoneum is practically free from inflammation.

INTESTINE: Typhoid Fever: Necrosis. 35·2 : 56·6.
35·2 : 44·4.

The lower part of the ileum, folded back upon itself, illustrates a very severe typhoid infection, the individual lesions being unusually large. The lowest of the series involves the entire circumference of the bowel, which has been cut off immediately above the ileo-colic junction. Most of the ulcers are occupied by opaque, white, sloughy material; in the largest ulcer mentioned above, the necrotic portions of the floor are more distinctly picked out by their green colour (the result of biliary staining). Numerous small crateriform lesions are sprinkled over the mucous surface of the intestine, and in the majority of cases these are surrounded by a zone of acute congestion.

The patient, a Greek woman æt. 23, was admitted in an almost moribund condition, with very severe typhoid symptoms. On *post mortem* examination, she was found to have only slight evidences of an acute peritonitis, but the general condition of the various organs sufficiently indicated the severity of the toxæmia and its effects.

INTESTINE: Typhoid Fever: Hæmorrhage: Recent Thrombus. 35·2 : 56·6. 35·2 : 33·1.

A small portion of ileum has been mounted, in the centre of which is an ulcer largely obscured by a mass of adherent blood clot. It was taken from a case of typhoid fever in which death had resulted from hæmorrhage, a considerable quantity of fluid blood altered in character being found free in the intestine lower down. The occurrence of a mass of red thrombus of this size in association with the erosion of a vessel in the floor of a typhoid ulcer is a comparatively rare phenomenon.

ILEUM: Sub-serous Myoma. 35·2 : 64·1.

A small pedunculated tumour is seen close to the line of attachment of the mesentery, projecting freely in an almost pedunculated fashion from the serous surface. It is lobulated in form, and numerous vessels are seen coursing over its convexity. In structure, it is a fibro-myoma.

JEJUNUM: Solitary Adeno-Myoma. 35·2 : 64·7·1.

A small, almost pedunculated tumour, the size of a hazel nut, is seen projecting from the mucous membrane of the upper part of the jejunum, a small portion of which (10 cm.), has been preserved. The tumour projects mainly from the mucous, but partly also from the peritoneal surface. A small wedge has been removed from the anterior (mucous membrane) aspect of the tumour, and it is here seen that its solid

interior is covered by a thickened mucous membrane. From the external aspect it is apparent that the peritoneum simply forms an enveloping capsule for the little mass.

It has the structure of an adeno-myoma.

ILEUM: Intussusception: Gangrene. 35·2·3 : 23·3.
35·2 : 44·5.

The specimen is an old one, but shows very well the gangrenous character of the extremity of the intussuscepted portion. The outer wall of the bowel (intussuscipiens) has been opened and laid back in order to display the gangrenous portion of the intussusceptum more clearly. A certain amount of ulceration is visible alongside the gangrenous portion of the bowel.

ILEUM: Tubercular Ulceration: 35·2·3 : 56·1.
Perforation. 35·2 : 22.

The specimen consists of the last 22 cm. of ileum with the ileo-cæcal valve in continuity. The mucous membrane of the small intestine is the seat of numerous ulcers of typical tubercular form. In the upper part of the bowel, these are seen to possess the irregular reticulated character and transverse disposition of ulcers of this type. Viewed by transmitted light, two perforations are visible. Two or three glands near the ileo-colic junction are enlarged.

CAT. No. 516.

ILEO-CAECAL VALVE: Tuberculosis. 35·3 : 56·1.

Numerous, small, caseous nodules are seen dotted along the anterior longitudinal muscular column of the caput cæcum, and also over the mesentery of the appendix. The specimen illustrates a comparatively early tubercular infection of the peritoneum of the ileo-cæcal region. It was associated with pulmonary tubercular disease, and also with tubercular ulceration of the intestine higher up.

P.M.J. III. 98.

CAPUT CAECUM: Constriction by Columnar-celled Carcinoma. 35·3 : 66·3. 35·3 : 25·1.

The bowel is the seat of an annular cylinder-celled epithelioma which had produced complete obstruction of the bowel at this point. Viewed externally, considerable cicatricial retraction of the bowel wall was observed, whilst internally the growth is seen as a prominent ulcerated band completely filling up the lumen. Considerable distension of the bowel above the point of obstruction had, of course, occurred.

The patient, a male subject æt. 24 years of age, was admitted with acute symptoms of intestinal obstruction, for the relief of which enterostomy was performed. The patient subsequently died of acute peritonitis. The tumour by its pressure had given rise to moderate hydro-nephrosis and dilatation of the ureter on the right side.

ILEO-COLIC VALVE : Cancer. 35·3 : 66·4.

An annular carcinomatous mass with very prominent lobulated masses forming its edges is seen on the mucous membrane of the colon just at the ileo-colic valve. In view of the large size of the mass, very little involvement of the sub-peritoneal coat, or much contraction due to the presence of the tumour, is present. There appears to have been very little extension of any septic process in connection with the cancerous growth.

COLON : Stenosis. 35·4 : 25·1.

A small portion of colon showing a very well marked stenotic contraction of about 4 cm. in length, and above it a pouch-like general dilatation of the bowel. The obstruction is a result of chronic compression, and it has resulted in a considerable degree of hypertrophy of the mucosa, and particularly of the muscular walls.

COLON : Catarrh : Follicular Ulceration. 35·4 : 52·2. 35·4 : 55·3.

A portion of colon, 28 cm. in length, showing innumerable small pitted areas of ulceration, which give to the whole mucous membrane a finely stippled or pitted appearance. The mucous membrane generally is thickened, and there is a good deal of irregular hypertrophy of it.

COLON : Acute Dysentery. 35·4 : 56·7.
35·4 : 55·1·3·4.

Two portions of greatly thickened colon, each about 40 cm. in length, are mounted so as to display their mucous surfaces. The mucous membrane is greatly altered by extensive acute dysenteric ulceration. It has undergone very wide-spread necrosis, and black coloured sloughs of fine shreddy character are hanging from the bowel in all positions. The ulcers themselves are extensive, with ill-defined margins; in places they have coalesced, and in general very little of the healthy mucous membrane has survived. The remarkable thickening of the mucosa associated with the process is very well seen on viewing the cut edge of the specimen. A notable degree of hypertrophy of the muscular wall is also apparent. The bowel in the fresh state was very bulky and exceedingly heavy, not only by reason of the great proliferative changes of which it was the seat, but also from œdema.

COLON : Dysentery: Hæmorrhage. 35·4 : 56·7.
35·4 : 53·3.

A portion of colon, 23 cm. in length, showing a very wide-spread dysenteric ulceration. The ulcers are everywhere small, irregular in outline, but of considerable depth, so that, as the specimen is viewed by transmitted light, a considerable number of translucent areas are visible where the bowel wall consists only of a portion of muscular coat and peritoneum. Running down the centre of the specimen is an irregular slatish-grey line—the result of old hæmorrhage.

The disposition of the ulcers in closely set clusters gives to the whole mucous membrane a reticulated worm-eaten appearance.

P.M.J. III. 22.

COLON: Chronic Dysentery. **35·4 : 56·7.**
35·4 : 55·1·3.

A strip (4½ cm. in breadth) of colon, 29 cm. in length, showing very diffuse ulceration of somewhat anomalous character. A considerable part of the mucous membrane is in a hyperplastic papillomatous condition. The remainder is the seat of very numerous small irregular areas of ulceration, which appear to have originated in the solitary follicles of the large intestine and at present have a distinctly crateriform appearance. The entire lesion has a chronic character and appearance, although the walls of the intestine have not suffered a great deal of thickening.

The subject, a boy æt. 9 years, was admitted with ascites and a certain amount of anasarca. The liver and spleen were both palpable during life. Fluid had been withdrawn from the abdomen several times before death, its re-accumulation occurring latterly more rapidly. On *post mortem* examination, the liver was found to be the seat of a diffuse cirrhosis, and the condition of the spleen could be explained as a secondary phenomenon. The entire colon was found ulcerated, the ulcers being small, very numerous and running generally in a transverse direction. From several of these hæmorrhage had occurred shortly before death. The lower part of the rectum showed a larger patch of ulceration of greater depth and more acute character than those ap-

parent in the upper part of the colon. It was noted that the lesions in the colon appeared to be older below and to become more recent in character as the ileo-colic valve was reached.

NOTE.—The more or less constant occurrence of any definite lesion of the colon in anything like a sufficient proportion of cases to constitute a characteristic feature of hepatic cirrhosis and splenomegaly, as seen in Egypt, has not hitherto been established by my observations. I suggest, therefore, that this preparation illustrates an advanced stage of chronic dysentery which had been terminated by the progress of the abdominal condition from which it is entirely separate.

COLON: Acute Dysentery: Bilharziasis. 35·4 : 56·7. 35·4 : 55·3·4.

A portion of the descending colon, 20 cm. in length, presenting throughout a generally thickened mucous membrane, multiple discrete, rounded or oval ulcers, in the majority of which adherent sloughs are apparent. Where the sloughs have been discharged, the ulcers are seen to have undermined edges, and a clean floor formed from the muscular tissue of the bowel. The sloughs are easily discerned by their dark staining, doubtless derived from the bile present in the fæces passing over them. The wall of the intestine generally is thickened, all the coats apparently sharing equally in producing this result.

P.M.J. II. 348.

COLON: Acute Dysentery. **35·4 : 56·7.**
35·4 : 55·3·4.

Two portions of colon, each 35 cm. in length, are suspended with their peritoneal surfaces in contact. The extraordinary thickening of the bowel as viewed from the cut edges is at once apparent, the mucous membrane having an average thickness of 8–10 mm., and in places attaining a thickness of 15 mm. The remarkable degree of muscular hypertrophy is also a feature to be noted, whilst the subperitoneal fat is also infiltrated. The mucous membrane itself is very strikingly altered. Occupying chiefly the summits of the natural folds of the colon are numerous ulcers with finely granular and elevated margins. This condition of granularity or mammilation, although very prominent in the immediate neighbourhood of the ulcers, is present in some degree throughout every part of the mucous membrane. It will be easily realized that the very small areas of ulceration, which are certainly present between the larger lesions above described, are lost in this greatly thickened mucosa. The affection became intensified as the lower part of the colon was reached. In the fresh state the contents of the ulcers were composed of necrotic masses, their floors being formed by œdematous muscular tissue. The contents of the intestine generally were thin, yellow, and very offensive, and the bowel itself, after their removal, was extremely heavy from œdema.

The subject, a male æt. 35, of Russian nationality, was admitted with abdominal pain, tenesmus, profuse and offensive diarrhœa accompanied by the passage of blood and mucus. He had had certain dysenteric symptoms for

upwards of six months, but for ten days prior to admission to hospital, these had become greatly exacerbated in severity.

COLON: Acute Dysentery. **35·4 : 56·7.**

A portion of colon, 20 cm. in length, the seat of very numerous, somewhat superficial, oval ulcers, with their longer axes at right angles to the long axis of the bowel. Their margins show very little infiltration, but the floor of each ulcer is occupied by a white, shreddy, opaque slough. The affection is acute, and in places the wall of the bowel has become very thin.

RECTUM: Dysentery. **35·5 : 56·7.**
35·5 : 32·2.

A piece of colon, mounted with its mucous surfaces outwards over a sheet of glass, shows, as the lower extremity of the bowel is reached, a uniform congestion, gradually becoming more intense in degree. Some ulceration is associated with the process, but this is not a predominant feature. In the fresh state, the rectum, which is most intensely congested, had an almost uniform dark-purple colour.

COLON: Cancer: Obstruction. **35.4 : 66·4.**
35·4 : 25, 27·1.

A small portion of descending colon has been laid widely open. Rather below the middle of the preparation is visible

an annular tumour growth of cancerous character, unassociated with any great degree of ulceration. The infiltration of the growth through the various coats of the bowel is well seen on viewing the cut edge of the specimen on the left-hand side. In this section the extreme hypertrophy of the muscular coat is distinctly apparent, the resemblance of this tissue to fish muscle being rather striking. Where the cancer invades the deeper coats of the bowel, there is a complete interruption of continuity of the muscular fibres and great density of the sub-peritoneal coat. Above the cancer, the bowel is hollowed out in the form of a shallow pouch measuring 4 × 5½ cm. As the obstruction caused by the tumour growth has become, latterly at all events, practically complete, it was in this pouch that the coarser food particles, unable to find their way through the tortuous channel of the tumour walls, had accumulated.

COLON: Cancer: Bilharzial Papillomata. **35·4 : 66·4.**
35·4 : 71·14.

An irregular, partially ulcerated mass, its component parts separated by deep fissures, presents itself on the mucous membrane of the colon. It measures 5 × 5½ cm., and had led to almost complete obstruction of the bowel at this point. The muscular wall has undergone considerable hypertrophy, and the sub-peritoneal tissues are also infiltrated. Several small papillomata are seen both above and below the main mass.

COLON: Multiple Adeno-Papillomata (Bilharzial): Dysenteriform Ulceration. 35·4 : 71·14. 35·4 : 64·6·7. 35·4 : 55·3·4.

Between 50 and 60 cm. of the large intestine, from the ileo-colic valve onwards, have been preserved, the mucous surface being displayed in the entire extent of the specimen. Very numerous ulcers occur in every part of the mucous membrane, the upper ones of the series commencing sharply at the ileo-colic ring. They become somewhat smaller, but certainly more numerous as the lower end of the bowel is reached. The same essential features, however, are presented in varying degree by all the ulcers, viz., oval or circular in form, in the majority of cases, a few more linear in outline having their long axes at right angles to the long axis of the gut. The margins of all, but particularly of those in the lower part of the bowel, are surrounded by definite zones of inflammation or hæmorrhage. This seems to be greater where, from their position, they may have been exposed to frictional influences. Viewing the specimen from that side in which the lower part of the bowel is displayed, one sees numerous cauliflower-like adeno-papillomata of the usual type seen in bilharziasis of the large intestine. It should be noted that the area covered by the pedunculated attachment of many of these adeno-papillomata is closely comparable in shape and size with the majority of the ulcers. The explanation, therefore, which springs from this is that the site of each ulcer was in the first instance the base of attachment of an adeno-papillomatous tumour which, by torsion, friction, etc., became strangulated and necrotic or ulcerated, and finally dropped off, leaving an ulcerated area where its pedicle was severed. It is to an affection of this

kind and at this particular stage that the name of bilharzial dysentery is, from the clinical point of view, peculiarly applicable.

COLON : Bilharziasis: Large Adeno-Papilloma. **35·4 : 71·14.** **35·4 : 52·2.**

A strip of colon, 33 cm. in length. Near its lower extremity is a remarkable lobulated " cauliflower-like " polypoid mass measuring 5½ cm. in its longitudinal axis × 4 cm. transversely. Beneath this, at the extreme lower edge of the preparation, is a smaller mass, the size of a hazel nut, with similar characters. The whole of the mucous membrane elsewhere is thickened, granular and catarrhal. The intestine was the seat of a bilharzial infection, and it is surmised that the adeno-papillomatous masses described, although of unusual size for this affection, may have had their origin in association with the parasites.

Cat. No. 31.

COLON : Diffuse Bilharzial Colitis. **35·4 : 71·14.** **35·4 : 54·6.**

A strip of colon, the mucous membrane of which is of a uniform pinkish-red colour. This deepens considerably in tint as the lower end of the preparation is reached. The mucous membrane is everywhere thickened, but nowhere is the thickening extreme in degree. The mucous surface generally has a finely granular character, and the lesion is not associated with any ulceration.

COLON: Bilharzial Adeno-Papillomata: Diffuse Bilharzial Colitis. 35·4 : 71·14. 35·4 : 64·6 ·7.

The portion of colon which has been mounted shows over twenty separate adeno-papillomatous tumours, some of which have almost a pedunculated attachment to the wall of the bowel. Little or no ulceration has occurred in connection with any of them, although in the case of those in the lower part of the intestine, some hæmorrhage has given them a much darker colour than the remainder. These lesions illustrate in typical fashion the results of irritation of the bowel wall by the localized traversal of its coats by multitudes of bilharzial ova. In addition to these tumours, the mucous membrane, particularly at the lower end of the preparation, is thickened, irregular and granular. It is here the seat of a diffuse, bilharzial colitis, and ova could be easily demonstrated in large numbers in any part of it by maceration in dilute alkali.

COLON: Bilharziasis: Multiple Adeno-Papillomata. 35·4 : 71·14. 35·4 : 64·6·7.

A portion of the descending colon, 37 cm. in length, containing two remarkable collections of multiple adeno-papillomata, due to bilharziasis, has been mounted. The upper of these, which occupies the entire circumference of the bowel for a length of 14 cm., presents three "cauliflower-like" tumours, which stand out from the multitude of smaller tumours in their neighbourhood very distinctly. The characters exhibited by these three are shared in to a lesser

degree by all the other tumours. The tumours in question have deeply fissured surfaces, and are composed of a closely set series of small rounded lobules; two of them are sessile, but the lower has a distinctly pedunculated attachment. The whole collection of tumours is characteristically free from either ulceration or hæmorrhage. Small portions of mucous membrane in the midst of this dense collection of tumours are almost free of any such formation, and have been left out apparently in an accidental manner from the infection. The striking manner in which the change is limited in its distribution with intervening portions of apparently healthy mucous membrane, is a feature not usually exhibited in this form of bilharziasis of the bowel. Numerous ova, both terminal- and lateral-spined were found on maceration of several of the small tumours.

COLON: Bilharziasis: Multiple Ulcers. **35·4 : 71·14.**
35·4 : 52·1.

A portion of colon, showing considerable numbers of irregular prominent transverse ridges with granular surfaces. These nowhere take the form of distinct tumour-like projections, although they were distinctly proved to be bilharzial in character. The affection illustrates one form of bilharzial colitis presenting clinically many of the symptoms of dysentery. Both terminal- and lateral-spined ova were found on maceration of a portion of the colon in 5 % caustic soda solution.

COLON: Bilharziasis: Diffuse Colitis: Solitary Adeno-Papilloma. 35·4 : 71·14. 35·4 : 64·6 ·7. 35·4 : 52·2.

A small portion of colon (13 cm. in length), showing near its lower extremity on the left a sessile lobulated tumour, the seat of some internal hæmorrhage, and still covered by some of the mucus which concealed it in the fresh state. The mucous membrane elsewhere has the soft, thickened, velvety character of that seen in diffuse bilharzial colitis (the so-called bilharzial dysentery).

COLON: Bilharziasis. Adeno-Papillomata. 35·4 : 71·14. 35·4 : 64·6 ·7.

A portion of colon, showing a collection of eight or nine characteristic bilharzial adeno-papillomata, arranged in ring-like fashion round the circumference of the bowel. These, by their weight, have pulled the bowel more inwards, so that it forms at the base of their attachment two or three concentric folds. The majority of the tumours are distinctly pedunculated and hang freely downwards in the lumen of the bowel. The lesion suggests an unusual localized infection of the sub-peritoneal vessels with the parasites.

RECTUM: Bilharziasis. 35·5 : 64·6. 35·5 : 71·14.

The lower 14 cm. of rectum have been preserved to show a very rich bilharzial adeno-papillomatosis. The tumours, many of which are pedunculated, are very thickly clustered,

so that in the unopened bowel they gave rise to a very considerable degree of obstruction. The walls of the bowel generally are much indurated and thickened, and the muscular coat in particular has undergone very extreme hypertrophy. The former of these changes (induration and thickening) is also seen to have occurred in the meso-rectum.

RECTUM : Bilharzial Adeno-Papilomata. **35·5 : 71·14.**
35·5 : 64·6 ·7.

A small portion of the rectum (8 cm. in length), showing several bilharzial adeno-papillomata, the largest forming a compound irregular mass at the lower end of the specimen. The mucous membrane, as usual in these cases, is much thickened and the seat of diffuse bilharzial colitis. The comparatively simple form of the surfaces of these tumours and their complete freedom from ulceration, particularly in this situation, are features to be noted.

SIGMOID FLEXURE : Bilharziasis : Adeno-Papillomata. **35·5 : 71·14.**
35·5 : 64·6.

The lower part of the sigmoid flexure has been preserved. Its mucous surface presents more than 20 small tumours. These are clearly seen to be outgrowths of the mucous membrane, such as are commonly associated with bilharzial infection of the intestine. A small proportion of the tumours has undergone ulceration, and here and there a fibrinous exudation is seen over their surfaces.

RECTUM: Obstruction by Multiple Adeno-Papillomata (Bilharzial). 35·5 : 71·14. 35·5 : 64·6·7.

One-half of the rectum and peri-rectal fat is displayed in the preparation. The lumen of the rectum is practically obliterated by multitudes of adeno-papillomata which are attached round every part of the circumference of the bowel in crowded fashion. It is one of the most extreme examples of papillomatosis due to diffuse bilharzial infection of the intestinal walls which ever occur in this disease. The excessive deposition of fat round the rectum by means of which it was firmly anchored *in situ* is a marked feature here, and frequently accompanies the infection. The accompanying hypertrophy of the muscular walls is extreme.

RECTUM: Bilharzial Adeno-Papilomata. 35·5 : 71·14. 35·5 : 64·6·7.

A portion of sigmoid rectum with greatly thickened muscular walls has been preserved to show numerous adeno-papillomatous formations, the result of bilharzial infection. These are generally rounded in contour, firm in consistence, and of a slate-grey colour. The mucous membrane between them is everywhere thickened and infiltrated, and it is covered by a considerable quantity of ragged, shreddy exudation. The peritoneal surface is free from any inflammatory change, but has shared in the general thickening of the other coats.

RECTUM: Bilharziasis. **35·5 : 71·14.**
35·5 : 64·6·7.

A portion of rectum (11 cm. in length), with a greatly thickened, highly granular and papillomatous mucous surface, although none of the adeno-papillomata present here stand out with the same distinctness as those seen in other specimens of the series. The infection of the bowel wall with bilharzial ova was found in this case to be exceedingly rich. Maceration of the intestine in 5 % caustic soda solution yielded enormous numbers of both terminal- and lateral-spined ova.

ANUS: Large Squamous-Cell Epithelioma. **35·6 : 66·1.**

The specimen consists of the anus removed with a widely surrounding zone of skin and sub cutaneous fat. A prominent whitish mass of epithelium is seen to replace the skin round seven eighths of its circumference at the anal orifice, and to extend in a somewhat eccentric fashion upwards and to the left in the specimen. The growth is, of course, ulcerated, the margins having the characteristic features of those of the epitheliomatous ulcer.

Cat. No. 107.

LIVER: Extreme Chronic Venous Congestion with Universal Capillary Telangeiectasis. 36 : 32·2. 16 : 27·2.

An enormously enlarged liver has been divided into a series of sagittal sections running in a transverse direction through both lobes of the organ. Three of these have been separately mounted and preserved, the differences in appearance between the first, which is now being described, and the two others which follow it, being due to a method of treatment detailed below. The specimen is of uniformly deep brown-red colour. On careful scrutiny, it is seen to be divided up into enormous numbers of thin-walled, honeycomb-like chambers, the origin of which is to be explained by an enormous, universal, almost angeiomatous dilatation of the capillaries. The blood, for the most part, has fallen out of the chambers as soon as the section was made, but here and there areas occur in the cut section in which the reticulated tissue is masked, all the spaces being filled by brownish, coagulated blood. The degree of dilatation and over-filling of the capillaries with blood is so extreme that any resemblance to the so-called "nutmeg-liver" has been lost. There are, however, certain parts situated near the periphery of the section in which some resemblance to the "nutmeg" appearance still survives.

The liver in this case was three times its normal volume, with something more than three times its normal weight, and at least seven eighths of its substance had been transformed into the cavernous capillary tissue everywhere seen.

Second preparation : same case. **36 : 22·2.**
16 : 27·2.

In this preparation, which is a slice of the same liver as that just described (see above, Cat. No. 107), the blood has been, as far as possible, removed by passing a stream of saline solution through the vessels. There is left, therefore, only the greatly atrophied and surviving hepatic parenchyma embedded in a sponge-like mass of cavernous blood capillaries. This accounts for the white appearance of the greater part of the specimen.

Third preparation : same case. **36 : 22·2.**
16 : 27·2.

The three specimens immediately above illustrate an angeiomatous condition of the hepatic capillaries due to venous obstruction, which is seldom met with in cases of passive congestion of the liver, produced by any of the ordinary causes. Indeed the literature on the subject contains, so far as can be found, no account of similar changes of equal magnitude, with the possible exception of a case mentioned by Birch-Hirschfeld in his text-book of Pathology.

LIVER : Chronic Venous Congestion. **36 : 32·2.**

A slice of liver showing, in spite of some loss of colour, the result of exposure to light, a general dark-red and white mottling, the result of chronic venous congestion with associated fatty change. The specimen illustrates in minor degree the "fatty nutmeg-liver."

CAT. No. 101.

LIVER: Chronic Venous Congestion: Fatty Infiltration. **36 : 32·2. 36 : 42·3.**

A slice of liver of generally very dark brownish-red colour, interrupted by extensive irregular yellowish areas. In its darkest parts the liver has almost a homogeneous blood colour, very few traces of its natural lobulation persisting. The specimen illustrates the extreme degree of chronic venous congestion with advanced and irregular fatty change.

LIVER: Chronic Venous Congestion: Localized Fatty Infiltration. **36 : 32·2. 36 : 42·3.**

The peripheral parts of the specimen contrast by reason of their dark blood-red colour with the central extremely pale homogeneous portion. In this case, a coarse and universal fatty change has overtaken a liver which had been the seat of marked cyanotic induration. Close scrutiny of the specimen shows that the interlobular trabeculæ of fine connective tissue are everywhere increased, i.e., a degree of fine connective tissue hyperplasia (cirrhosis) has accompanied the congestive process.

LIVER: Chronic Venous Congestion: Angeiomatous Condition. **36 : 32·2.**

The liver of a young subject, in which the two halves are mounted side by side. It is everywhere of extremely dark

blood colour, and there is a certain overgrowth of fine white tissue throughout it. The wall of a large vessel, presumably a considerable branch of the hepatic vein, seen in the half of the preparation to the right, is obviously thickened, and in one or two districts in its neighbourhood, the connective tissue round several of the vessels is distinctly increased in density and amount.

CAT. NO. 102.

LIVER: Cyanotic Induration and Atrophy: Extreme Fatty Change. 36 : 32·2. 36 : 42·3.

An extremely dark portion of liver, in the midst of which is a large pale yellow wedge-shaped area of markedly fatty character. The darkest visible portions of the specimen are sprinkled with white lines and dots, the latter representing the degenerated portal regions of the hepatic lobules in the congested area. In the darkest portions of the organ, there can be very little, if any, surviving hepatic parenchyma in a condition of functional activity.

LIVER: Diffuse Capillary Angeiomata. 36 : 32·2. 16 : 27·2.

Part of the right lobe of the liver is shown, containing numerous dark-red irregular areas which contrast in a marked fashion with the pallor of the remaining hepatic tissue. The darker areas referred to are largely composed of dilated capillaries, the condition being one of diffuse capillary angeiomatosis.

LIVER: Chronic Venous Congestion: Fatty Change. 36 : 32·2. 36 : 53. 36 : 42·2·3.

A liver, the seat of chronic venous congestion with a certain amount of cyanotic induration. The necrosed connective tissue, as visible in the darker peripheral parts of the preparation, has an exceedingly fine white meshwork of lines, while the central part of the preparation is of a dull yellow colour, the result probably of extensive fatty degeneration. The surface of the organ is slightly irregular, but this is unconnected with any corresponding degree of cirrhosis of the interior.

LIVER: Advanced Fatty Change. 36 : 42·2·3.

A slice from a liver, the seat of general atrophy with some peri-hepatitis. It is also largely transformed into fat. The colour is bleached to a pale yellow tint, and the substance is close set and homogeneous. It is probable that the fatty change represents both true degeneration and infiltration in varying degree.

LIVER: Extreme Fatty Infiltration. 36 : 42·3.

A slice of liver is shown of almost homogeneous section and bleached cream yellow appearance. The orifices of any vessels seen in the cut section are relatively small, and the tissue itself has a very compact appearance in which all traces of hepatic lobulation are lost. The organ is the seat of fatty infiltration in an extreme degree.

LIVER: Waxy Disease: Fatty Infiltration. 36 : 42·5·3.

A slice from the middle of the right lobe of a liver which, in spite of the fact that it is affected with amyloid (waxy or lardaceous) disease, has not suffered any considerable enlargement. The small compact appearance and translucent character of the cut section conferred by the presence of this disease, are to be noted. In the upper part of the preparation the homogeneity of the cut section is broken up by a meshwork of fine yellow lines, showing that in this part of the organ at least, fatty infiltration has accompanied the amyloid process.

LIVER: Waxy Disease: Fatty Infiltration. 36 : 42·5·3.

A large slice made transversely across both lobes of an extremely enlarged liver, the section measuring 29 cm. The usual characters of waxy or amyloid disease, accompanied by a certain amount of fatty infiltration, are exhibited.

LIVER: Waxy Disease: Fatty Infiltration. 36 : 42·5·3.

The specimen, which is remarkably pale in colour, illustrates in pretty typical fashion the main features of amyloid disease with its associated fatty change. The section is an antero-posterior one across the middle of the lobe, and includes the hepatic aspect of the wall of the gall bladder,

which is seen anchored in its fissure. The gall bladder itself is slightly increased in thickness, and its interior is of dark olive green colour—the result of formaline action on the bile.

LIVER: Waxy Disease: Fatty Change. 36 : 42·5·3.

A portion of the section of an enlarged liver, showing in varying degree throughout the characteristic features of waxy disease with fatty degeneration of the remaining portions of the liver substance. The section has therefore a somewhat homogeneous, translucent appearance, interrupted by a fine reticulum of yellow dots or lines, where the tissue is fatty. The deposition of lardaceous substance was, as judged by tests made in the fresh state, of unequal distribution throughout this organ, and to the naked eye there are considerable areas (chiefly in the lower part of the preparation) which are more homogeneous, translucent and "waxy" looking than the remainder of the specimen.

LIVER: Waxy Disease: Extreme Enlargement. 36 : 42·5.

A section through the right lobe of an enormously enlarged liver, the seat of advanced waxy or amyloid change. The section is 34 cm. in length. The specimen illustrates in the most typical fashion the changes discernible by the naked eye in organs so affected. The surface is smooth, the edges are rounded, the tissue is compact and translucent, at least so far as its upper layers are concerned (it is possible that

this effect has been increased by preservation in glycerine). The cut orifices of the vessels visible in the section are relatively extremely small.

PATH. REP. III. 144.

LIVER: Waxy Disease: Syphilis. **36 : 42·5.**
36 : 53·1.

A slice of a greatly enlarged liver in which the characteristics of waxy degeneration are mingled with those of a very fine interlobular cirrhosis. A certain amount of perihepatitis is visible over the peritoneal surface of the liver, and there is in some districts a slight amount of thickening of the connective tissue round the portal vessels. The liver, which weighed in its fresh state 5,700 grammes, was exceedingly pale, doughy in consistence, with all its margins rounded. The subject was a male with signs of generalized syphilis with gumma.

CAT. NO. 115.

LIVER: Extensive Necrosis: Toxic. **36 : 44·4.**

A portion of the middle zone of the liver, including the gall bladder which is seen surmounting the preparation. The liver is strikingly altered, being composed of innumerable nodules of opaque ochre-coloured tissue, separated by definite trabeculæ and light grey fibrous tissue. These yellow lobular masses present every variation in size from nodules of $3\frac{1}{2}$ cm. in diameter to the smallest of pin head size. The

nature of this wide-spread necrosis of the liver is uncertain, but it doubtless belongs to the class of necrosis from profound toxic effects illustrated in acute yellow atrophy of the liver.

LIVER: Multilobular Cirrhosis: 36 : 53.
Fatty Change. 36 : 42·3.

An antero-posterior section from the right lobe of a comparatively small liver; the section measures 12 × 7 cm. The tissue is of uniformly pale colour, and the cut orifices of all vessels seen in either faces of the section are relatively very small. A nodular irregular surface is seen under the capsule all round the free surface of the section, and the interior is broken up by the cirrhotic process into multitudes of small islets. The specimen is one of several which will be described later, and which are of comparatively frequent occurrence in Egypt, associated with splenomegaly and ascites in young subjects.

LIVER: Multilobular Cirrhosis. 36 : 53.

A portion of the right lobe of the liver, preserved to illustrate particularly the nature of the surface in multilobular cirrhosis of the type frequently seen in Egypt in comparatively young subjects. The surface nodules exhibit every possible variation in size, and are densely clustered, so that they are compelled to assume pentagonal, hexagonal, etc., forms

from mutual pressure. The larger bosses have a uniform hemispherical projection with smooth surface. Sometimes, however, the surface of these latter shows a certain tendency to umbilication, the result of degenerative processes proceeding in the interior of their substance.

LIVER: Multilobular Cirrhosis. 36 : 53.

An antero-posterior slice from the right lobe of a comparatively small liver, the cut section presenting a most remarkable resemblance to "shell marble." The surviving liver tissue is seen in the form of innumerable rounded homogeneous pale-yellow islets, set in a matrix of a darker grey colour. The surface, although irregular, is not so much so as the condition of the interior of the organ would lead one to anticipate. Recent thrombi are seen occupying the cut orifices of the larger vessels in the section.

LIVER: Multilobular Cirrhosis. 36 : 53.

LIVER: Multilobular Cirrhosis: Degeneration. 36 : 53.

A condition of extremely advanced multilobular cirrhosis with degeneration and absorption of the surviving hepatic tissue in many of the isolated lobules. Round the periphery of the section and on one of the cut surfaces, extending some way into the interior of the organ, the separated islands of

liver tissue are of white colour, and degenerated, almost necrotic appearance. It is in the interior of such areas that the tissue has been absorbed, conferring an open, reticulated, or almost excavated appearance on the areas in question. The condition here again illustrates that form of cirrhosis of frequent occurrence in Egypt. (For an account of the full pathological condition, see paper by Day and Ferguson, Liverpool Annals of Tropical Medicine, Vol. III, No. 3, November, 1909.)

LIVER: Advanced Multilobular Cirrhosis: Slight Enlargement. 36 : 53.

Two-thirds of the entire liver have been preserved to illustrate the general features of a coarse, multilobular cirrhosis. The surface everywhere is exceedingly irregular, numbers of pale, rounded prominences, separated by darker red fissures being visible all over. The surface irregularity is most marked on the inferior aspect. The capsule is irregularly thickened, the suspensory ligaments in particular being increased in density. The cut section of the organ, as viewed from above, presents a very markedly marbled appearance, the islets of isolated hepatic tissue standing out as rounded, fine coloured areas in the midst of a darker greyish or distinctly brown matrix. The gall bladder, which is somewhat elongated and of greyish colour, has not shared in the general capsular thickening to any extent. Although the type of cirrhosis illustrated might well represent that which is the result of alcoholism in any European country,

there is no doubt that in this and other specimens of a similar nature, described elsewhere, other causes altogether are responsible for the change.

LIVER: Advanced Multilobular Cirrhosis. 36 : 53.

A portion of the liver of a young subject, the seat of advanced multilobular cirrhosis. The organ is throughout of greyish colour, and extremely condensed appearance, the lobules of hepatic tissue separated by the connective tissue development being closely set and rounded in form. The extremely irregular character of the external surface is well seen on one aspect of the preparation to which a portion of diaphragm is still adherent.

The subject, an Egyptian male æt. 25, was admitted suffering from peritoneal effusion (ascites) with jaundice. The liver was reduced in size, and in its cut section in the fresh state the islets of hepatic tissue showed every variation in tint from bright yellow to dark chocolate brown.

Cat. No. 122.

LIVER: Multilobular Cirrhosis: Syphilitic Gumma. 36 : 53. 36 : 56·3. 36 : 44·2.

A thin slice taken from the mid region of the liver, and including a portion of both right and left lobes, is the seat of a very well-marked multilobular cirrhosis with the usual

characters of the disease as seen in Egypt. It derives an additional interest, however, from the fact that the subject was infected with syphilis, one large gumma of spherical form and caseous necrotic centre being seen impinging on the surface of the lower part of the preparation. A white mass at the extreme upper part of the preparation, bearing at first a superficial resemblance to the gumma seen in the lower part, is seen really to be a localized anæmic area with extreme degeneration of the hepatic tissue. It may be noted with reference to the association of the two conditions described (syphilis and cirrhosis), that the type of cirrhosis presented here differs in almost all its characters from that which characterizes syphilis in its tertiary stage.

LIVER: Multilobular Cirrhosis. 36 : 53.

A portion of liver, the seat of multilobular cirrhosis, preserved by the " dry " method. The breaking up of the hepatic tissue by a fine grey reticulum of greyish connective tissue is very apparent. The cirrhosis is of the type commonly seen in Egypt.

LIVER: Multilobular Cirrhosis. 36 : 53.

Part of the liver of a child, showing a well-marked multilobular cirrhosis, the characters of which are much less coarse than in the other specimens of the series.

LIVER: Multilobular Cirrhosis. 36 : 53.

The entire organ has been preserved. It has been bisected by an equatorial section running through both lobes, so that the characters of the change, as seen on the surface and in the substance of the organ, can be studied. The irregular granularity of the surface is fine rather than coarse in character and although in cut section the cirrhosis is seen to be of multilobular type, the individual islets of enclosed hepatic tissue are all of the small size. The open orifices of the vessels seen in the cut section are relatively small, and there is no unusual peri-vascular development of connective tissue.

P.M.J. IV. 402.

LIVER: Multilobular Cirrhosis. 36 : 53.

A slice of the liver, about 2 cm. in thickness, and including the entire antero-posterior diameter of the right lobe, has been preserved. The section is everywhere of greenish tint, in this instance due to formaline action in preservation. The capsule is slightly but uniformly thickened, and the surface is nodular and irregular. The cut section exhibits the usual features of the type of multilobular cirrhosis frequently encountered in Egypt.

The subject, a Sudanese male æt. 28, was admitted complaining of œdema of the legs and ascites of three months duration. He gradually sank, after the abdomen had been twice emptied of fluid. There was no reduction in size and weight of the liver.

LIVER OF INFANT: Abscess from Umbilical Cord Infection. 36 : 54·5.

The liver of a newly-born infant, divided transversely by a section passing through both lobes, cut across the hilum. In this neighbourhood is seen a small abscess cavity with a good deal of necrosis of the liver substance, and a very ragged shreddy interior.

The abscess was due to pyogenic infection of the umbilical cord, the process extending by means of the umbilical vein to the liver.

LIVER: Multilobular Abscess: Portal Pyæmia. 36 : 54·5.

The liver of a young subject, exceptionally dark in colour, with numerous small pale suppurative foci, scattered throughout its cut section. These are, so far as can be judged, confined either to the portal areas or to the hepatic tissue of the immediate neighbourhood of these tracts, the infection having reached the liver by way of the bile ducts.

LIVER: Syphilitic Gumma. 36 : 56·3.
36 : 44·2.

A section of liver with a large irregular caseous gummatous mass at one extremity. It is broken up into several rounded compact homogeneous areas of caseous necrosis, separated by strong bands of white fibrous tissue. It illustrates syphilitic gumma in very typical fashion.

LIVER: Gumma. 36 : 56·3.
36 : 44·2.

A roughly triangular section of liver, containing at the apex, which is hung downwards in the preparation, a compact irregular caseous-looking mass (a syphilitic gumma). Commencing areas of yellow softening are seen in the midst of the caseous portion. The portion of the hepatic capsule in relation to this mass has undergone considerable thickening, and the surface itself is nodular and puckered. The remainder of the organ is free from any hepatic change.

Cat. No. 125.

LIVER: Syphilitic Cirrhosis: Great Deformity. 36 : 56·3.
36 : 53.

The organ, which has been preserved entire, is remarkably deformed. Generally speaking, its form is much more spherical than usual, and its surface is exceedingly irregular, being broken up by large numbers of rounded dome-shaped elevations separated by deep fissures. On one aspect the elongated gall bladder is seen almost crushed between two of the larger prominences referred to, fitting itself into the fissure between them, after the fashion of a snake coiling round a stone. The organ is the seat of that coarse diffuse cirrhosis so often accompanied by gummata in tertiary syphilis.

LIVER: Syphilitic Gumma. (Two Specimens). **36 : 56·3.**
36 : 44·2.

A portion of liver from the lower anterior part of the right lobe, containing a very large irregular gummatous mass near the free surface. The lobulated areas of caseous necrosis are embedded in a mass of dense white tissue of tendon-like appearance, and the liver tissue generally is the seat of a cirrhotic process radiating from this centre.

LIVER: Syphilis: Localized Peri-Hepatitis. **36 : 56·3.**
36 : 53·1.

Two portions of the right lobe of the liver, mounted in close juxtaposition, to show areas of localized cartilaginoid peri-hepatitis. It is possible in the cut section of the larger of these areas to see that the tissue concerned has suffered a degenerative process akin to caseation. The lesion occurred here as part of the changes of tertiary syphilis.

LIVER: Tropical Abscess. **36 : 56·7.**
36 : 54·5.

A portion of the right lobe of the liver, containing in its cut section part of the wall of a single large abscess—the so-called "tropical" or "dysenteric" abscess of the liver. The whole specimen has become very bleached in colour, but the irregular reticulated wall of the abscess cavity is

plainly discernible. From the character of its wall and the absence of any surrounding connective tissue development, it is probable that the abscess has been of rather acute formation.

LIVER: Tropical Abscess. **36 : 56·7.**
36 : 54·5.

A part of the median antero-posterior section of the liver, including the gall bladder, and containing, to the right of the latter, near its anterior margin, an abscess-cavity measuring 7 × 9·5 cm. In spite of the bleached colour, the granular, shreddy and necrotic character of the wall of the abscess is apparent, and although it is separated from the surface of the liver at one part by no more than half-a-centimetre, its wall is of such dense fibroid character that it had probably precluded rupture.

LIVER: Tropical Abscess. **36 : 56·7.**
36 : 54·5.

The preparation is composed of a quadrangular section through the cavity of a large abscess with that portion of liver in immediate relationship with it, the abscess-cavity appearing therefore like a large open oval window in the preparation. From the fact that a considerably thickened diaphragm is intimately adherent over the summit of the abscess wall, it can easily be inferred that the lesion was situated in the dome of the right side of the liver. Considerable masses of yellowish white necrotic material are

adherent at one or two points to the lining of the abscess, particularly in the upper part of its cavity under the diaphragmatic roof. Some half-dozen small areas of insular necrosis are visible as opaque white patches in the liver tissue in the immediate neighbourhood of the abscess. The lesion would appear here to have been of acute formation.

LIVER: Tropical Abscess. **36 : 56·7.**
36 : 54·5.

The wall of a large abscess of acute character, with an exceedingly irregular necrotic interior, is visible on one side of the cut section in the preparation. The cavity measures 10 × 9 cm. in its greatest diameter; its outline is most irregular, its wall being formed apparently by hepatic tissue without any connective tissue development. Scattered areas of necrosed hepatic tissue are seen in the immediate vicinity of the abscess. The lesion in this case has occurred in the upper and posterior part of the right lobe of the liver, thickened diaphragm with a portion of adherent lung tissue being seen on the summit.

LIVER: Metastatic Sarcoma: Intra-Venous Growth. **36 : 65·1·7.**
15·5·6 : 65·1·7.

The preparation shows, towards the lower part of the section of liver preserved, a large oval mass of softened

yellow-coloured tumour tissue. Many of the lobules of which the tumour mass is composed, are the seat both of hæmorrhage and degenerative change. An interesting feature of the specimen is the presence of numerous small papilliform masses of tumour growing inside the wall of a large vein opened longitudinally in the section. It is particularly to illustrate this method of extension of metastatic sarcoma that the specimen has been preserved.

The subject, a male æt. 50, was admitted with a large sarcomatous tumour of the right naso-orbital region which had produced exophthalmos and nasal obstruction. He had also suffered from very severe headache for 40 days before admission. On *post mortem* examination, a large projecting mass of tumour tissue was found between the eyes, having a deep attachment in the region of the turbinated nasal bone. It had displaced both orbits outwards and downwards, the breadth of the nose at its root being greatly increased by the tumour. It passed right through the frontal bone, completely filling the cavity of the right orbit. The right optic nerve, from the point of its emergence at the foramen lacerum, was enveloped by tumour for its whole length forwards to the eye. The mass was found to be a large round-celled alveolar sarcoma with considerable areas of hæmorrhage and myxomatous change in it. Besides the liver, metastatic tumours were found in both lungs and in the kidneys.

LIVER: Metastatic Cancerous Growth. **36 : 66.**

A thin section of the right lobe of the liver, containing innumerable nodules of metastatic cancer. Four of these, of rounded form and well-defined margin, are clustered together near the lower part of the preparation, but elsewhere on both sides of the section, the tumours are for the most part very small, with ill-defined margins merging into the surrounding hepatic tissue, and therefore more difficult to observe. The dissemination of cancer is in this case, apart altogether from the visible large nodules, exceedingly widespread. The liver tissue generally has a greenish colour which aids in throwing the cancerous infiltration into prominence.

LIVER: Secondary Cancer: Solitary Gall Stone. **36 : 66.3. 36·1 : 43.**

A triangular section of liver including the partially opened gall bladder lying in its fissure. One large and many smaller cancerous masses are seen to have replaced the greater part of the hepatic tissue in the preparation. In the larger cancerous mass extensive fatty degeneration has occurred, as indicated by the opaque markings visible throughout it. One of the smaller tumours has undergone central softening with absorption. An additional feature of interest is the presence of a solitary spherical gall stone in the fundus of the gall bladder in association with the malignant disease.

P.M.J. I. 343.

LIVER: Large Cancerous Tumour: Primary Growth in Pancreas. 36 : 66·3.

The right lobe of the liver is occupied by a white lobulated cancerous growth, nodules of which are visible not only in the left lobe but in the suspensory ligament as well. A semi-circular portion of duodenum is seen skirting the lower edge of the preparation as mounted. The cancer in this case had its primary seat in the head of the pancreas, whence it extended by continuity to the position illustrated in the liver, completely occluding the hepatic duct in the process. Besides the liver, secondary cancerous deposits were present also in the spleen, peritoneum, mesenteric glands, wall of the urinary bladder and sigmoid flexure. It was the tumour in the last of these situations which demanded attention during life, and had been clinically regarded as the primary growth.

LIVER: Metastatic Carcinoma. 36 : 66·3.

In the right lobe of the organ, part of which has been preserved, occurs a metastatic malignant tumour of considerable size, 10·5 × 8·5 cm. It is composed of a white compact tissue which, in its structure, imitates to a certain extent the lobulation of the hepatic parenchyma. The tumour can be seen through the capsule, which is not thickened. The primary source of the tumour is not recorded.

LIVER: Large Metastatic Carcinoma. **36 : 66·3.**

The slice is taken from the middle of the right lobe of the liver. It is the seat of an enormous metastatic deposit of cancer, measuring 11 cm. in diameter. Other separate nodules of cancer are seen in the neighbourhood. One of these, which is sub-capsular in situation, illustrates well the phenomenon of umbilication from central degeneration.

P.M.J. II. 50.

LIVER: Primary Carcinoma: Necrosis. **36 : 66·3.** **36 : 42·2.**

A section from the right lobe of the liver, the greater part of the section being replaced by an opaque, obviously degenerated and wide-spread tumour development. This, at first sight, is remarkably like a gumma in its general features, but it is seen to be unassociated with any surrounding development of connective tissue, and towards the periphery several of the individual nodules have a more active living appearance. The tumour growth seems to have originated in and radiated from the hilum of the liver.

The subject, an Egyptian fellah æt. 50, was admitted with a tumour in the right hypochondrium associated with considerable pain and some dysphagia. On *post mortem* examination the liver was found greatly increased in size from the presence of a large tumour mass in the right lobe, of yellow colour, and showing extensive necrosis. Elsewhere the tumour was the seat of hæmorrhage, so that there was great variation in the colours presented in the

fresh state in the cut section. Many small nodules of similar character, but without any degenerative change, were disseminated throughout the organ. The gall bladder contained 8 pale yellow facetted gall stones of silky radiating crystalline structure internally (cholesterine). The presence of a large firm mass of cancerous lymph glands which closely invested the head of the pancreas conveyed, at first sight, the impression that one had to deal with a primary scirrhous cancer of this organ. These masses, however, could be dissected off the pancreas, which was flattened from their size and pressure, and softened in consistence. They were then seen to be much enlarged portal lymph glands, completely replaced by an extensive cancerous infiltration of necrotic appearance and yellow colour centrally, whilst a zone of hæmorrhage marked the periphery. Their general characters are thus seen to closely imitate the features of the main tumour in the liver, which after thorough search must be regarded as the primary one.

P.M.J. III. 53.

LIVER: Diffuse Multilobular Cirrhosis: Carcinomatous. **36 : 66·3. 36 : 53.**

Two sections of the liver have been preserved, one mounted upon the other. The entire organ was the seat of the cirrhosis illustrated in the sections. This may be summarized as presenting to the naked eye the classical features of a multilobular hepatic cirrhosis with a good deal of degenerative change in many of the hepatic islets. Closer scrutiny of the specimen, however, will show the presence of several

rounded nodules of whiter tissue than the remainder of the organ, particularly well seen towards the diaphragmatic surface of the upper section in the preparation.

The specimen derives a particular interest from the fact that the true nature of the hepatic change was only revealed on microscopical examination. It was shown as a result of such examination in various parts to be a diffuse cancer of the liver of scirrhous character, the cells of the new growth being compressed and imprisoned in the dense tissue of the new-formed stroma, the development of which had apparently taken place *pari passu* with that of the cellular growth. It is surmised from the character of the cells that the cancer in this case had taken its origin in connection with the lining of the epithelium of the smaller bile ducts.

The subject, a native advocate of 45 years of age, was admitted to hospital on September 22, 1906, suffering from jaundice and ascites. He also had had for two months prior to admission some difficulty in micturition. In the urine, which was very dark from the presence of bile, leucin crystals were found. There was a definite history of indulgence in alcohol for two years prior to death. At the autopsy, the state of general nutrition was very good: there was no œdema of the lower extremities, and the jaundice was universal and intense in degree. The three features above specified constitute a marked contrast to the state of matters accompanying hepatic cirrhosis with spleno-megaly, as met with in the young subjects of Egypt. The liver was very much enlarged, weighing 3,350 grammes. In the fresh state it showed in the middle of the right lobe a rounded nodule with umbilication of the surface corresponding to an area of increased thickness of the hepatic capsule, and containing internally softened, necrotic, deeply bile-stained

tissue, assumed at the time to be liver tissue. This was really a degenerated cancerous nodule.

The characters of the remaining principal viscera of the abdomen were such as might be interpreted as secondary to the state of the liver.

Cat. No. 132.

LIVER: Metastatic Cancer Nodules: Primary Source, Cystic Cancer of Pancreas. 36 : 66·4.

A slice of liver of general greenish colour, containing very numerous metastatic cancerous nodules. These are generally of white colour and frequently are rather hæmorrhagic in appearance centrally: their margins are ill-defined, passing gradually into surrounding liver substance. The dark green colour of this preparation, as well as the olive tint of the fluid in which it is mounted, are due to the action of formaline on the bile, and the gradual diffusion of its colouring matter. The primary source of cancer in this case was traced to certain papillomatous masses of cancerous nature, found in the interior of a cyst of the pancreas. (See specimen Cat. No. 133. Museum, No. 37 : 67·1.)
37 : 66·3.

LIVER: Secondary Carcinomata. 36 : 66·4.

The organ, a slice of which has been preserved, shows about a dozen softened malignant growths scattered through

the substance. The central portions of these tumours are considerably degenerated, many of them having suffered subsequent softening and absorption.

LIVER: Metastatic Cancer. 36 : 66·4.

A thin slice of liver, containing half-a-dozen large and very numerous small metastatic nodules of cancerous character. Many of these, especially the larger nodules, show central degeneration and softening. The variety of colour from slate grey to light chocolate shown by the liver, is due to the varying action of formaline on the different parts.

LIVER: Echinococcus Cyst. 36 : 67·4. 36 : 71·3.

A small oval cyst of hydatid character, with an external translucent wall of white connective tissue, and an internal peripheral transparent chitinous lining. In that half of the cyst which is closely applied to the liver substance, it is seen to have a grey opaque yellow colour, and the chitinous lining is studded with minute white granules (the scolices) of the tænia echinococcus. The absence of any reactive inflammation in the surrounding liver substance is a feature to be noted.

LIVER: Echinococcus Cyst. 36 : 67·4. 36 : 71·3.

A cyst of generally green colour, with an outer connective tissue wall and an inner chitinous lining, is present on one

side of the liver. It is crowded with the minute scolex-heads of the parasites.

P.M.J. III. 36.

LIVER: Advanced Bilharzial Cirrhosis. (two specimens). **36 : 71·14. 36 : 53.**

A section passing transversely across the liver with the included portion of gall bladder. Its colour is generally grey, and therefore the areas of peri-portal connective tissue hyperplasia constituting the bilharziasis illustrated, are not so prominently seen as in the other specimens of the series. The change is a very advanced one, finer ramifying lines of connective tissue passing from the margins of the main tracts into the hepatic tissue around. The gall bladder is considerably thickened, its mucous membrane in the fresh state being highly catarrhal (probably the result of harbouring numerous bilharzial ova). The surface of the organ here is irregular—a somewhat exceptional feature. As viewed from the cut edge, the surface is indicated by a series of low hillocks separated by shallow fissures, the latter not being continued into very deeply penetrating lines of connective tissue as in other varieties of cirrhosis. It will be noted here also that numerous small tributaries of the hepatic vein are not sharing in the cirrhotic process.

The subject, an Egyptian fellah æt. 29, was admitted with distension of the abdomen by fluid, pleural effusion and considerable splenic enlargement. He gave a recent history of "dysentery." The liver at autopsy weighed 902 grammes, its surface, as above described, being noted at the time as consisting of numbers of rounded eminences with more or

less shallow fissures between. About 30 bilharzial worms of both sexes were found in the blood of the portal vein. Apart from the usual appearances of infection of the urinary bladder, the sigmoid flexure presented considerable numbers of small bilharzial adeno-papillomata.

LIVER: Bilharzial Cirrhosis. 36 : 71·14. 36 : 53.

A transverse section through both lobes of the liver. The general surface of the hepatic tissue in the cut section is of dark greyish-brown colour. Scattered through this and from the point of view of colour contrasting sharply with it, are large numbers of irregular white areas which, for the most part, are seen to be related to a vessel or vesssels passing through their centre. Professor Symmers has likened these to clay pipe stems cut in varying planes, passing through the hepatic tissue. The simile, generally speaking, holds good, but in the case of the more extensive areas, their form is most irregular, the white connective tissue following the irregular course of any branch of the portal system round which it has developed. The capsule of the liver is not involved as an essential part of this process. The size of the organ is not materially interfered with, nor on palpation is its consistence homogeneously increased. It is possible, however, for the finger tips to detect in the fresh liver unopened a number of indefinite rounded areas of increased firmness in the substance of the organ, which are always separated from the hand by a cushion of soft liver tissue. The affection illustrated is the peri-portal cirrhosis of the liver, which, in a small minority of cases of bilharziasis, is

directly caused by the eggs of the immature and non-fertilized female bilharzia worms.

LIVER: Bilharzial Cirrhosis. 36 : 71·14. 36 : 53.

A triangular piece of liver showing in very typical fashion the effects of bilharzial cirrhosis. The contrast presented by the white peri-portal areas of connective tissue infiltration, and the dark, comparatively unaffected liver substance, is even more striking than in the preparation above described. Towards the lower part of the preparation, the orifices of two or three veins, one of them of very considerable size, are to be noted as being exempt from the surrounding white connective tissue. These are branches of the hepatic system which cannot participate in the affection inasmuch as the ova which are the cause of the cirrhosis, reach the liver by means of the portal vein and its branches.

LIVER: Multilobular Cirrhosis. 36 : 71·14. 36 : 53.

A section passing through both lobes of the liver, rather nearer the anterior margin than the middle line, showing the changes produced by bilharzial cirrhosis in pretty typical fashion. As in the remaining specimens of the series, the connective tissue hyperplasia is strictly confined to the portal areas, considerable tracts of the liver substance being, so far as the colour and density go, free from fibrotic change.

LIVER: Early Bilharzial Cirrhosis. 36 : 71·14. 36 : 53.

The preparation shows the effects of bilharzial cirrhosis in an earlier form or lesser degree than the two preceding preparations. The process, however, as in the others, is confined to the districts immediately surrounding the smaller branches of the portal vein. These are picked out in the form of small white points or irregular branching white lines visible on both cut surfaces of the section.

LIVER: Leucocythæmia. 36 : 81·4.

A section from the right lobe of a considerably enlarged liver, from a case of spleno-medullary leucocythæmia. The intimate changes which have occurred in the hepatic parenchyma are, of course, not visible to the naked eye, but the general homogeneous character and bright ruddy appearance of the section are features to be noted.

LIVER: Gall Bladder: Impacted Gallstones. 36·1 : 43.

The gall bladder with a small portion of adjacent hepatic substance on either side of the bladder fissure has been preserved. Two windows have been cut in the free (inferior) wall of the gall bladder in order to display two large spherical impacted calculi of dark colour. The lower of these, that is, the one situated nearest the orifice of the cystic duct, occupies apparently an independant pouch of the gall bladder, a thickened contraction of the bladder having taken place just above the calculi, resulting in an imperfect

septum-formation. The calculi are slightly nodular on the surface, and doubtless have the usual composition of cholesterine with salts of the biliary acids pigmented deeply with biliverdine.

Cat. No. 135.

LIVER: Gall Bladder: Calculi. **36·1 : 43.**
36·1 : 53.

A small and considerably thickened gall bladder with its adjacent hepatic substance, has been opened by a section parallel to, but to one side of its longest axis, to show three encysted gall stones. Two of these occupy the deeper part of a pouch formed at the fundus of the gall bladder, the lower being accommodated tightly in an apparently independent pocket of the bladder. The calculi themselves are practically uniform in size (about that of a cherry), spherical in form, pale in colour, and with a finely nodular surface. They are probably composed almost entirely of cholesterine.

LIVER: Gall Bladder: Calculi: Dilatation. **36·1 : 43.**
36·1 : 27·2.

A dilated pear-shaped gall bladder with related portions of liver. The gall bladder has not been opened, but on viewing it by transmitted light, a group of small gall stones can be seen near the apex of the pyriform bladder. It is more than probable that intermittent occlusion of the orifices of the cystic duct by one or more of these has led to the gradual dilatation of the bladder.

PANCREAS: Cyst: Malignancy. 37 : 67·1.
37 : 66·3.

A large cyst, the size of an orange, is seen applied closely to one aspect of the pancreas, the body of which has been cut transversely in a plane continuous with that in which the cyst has been opened. The cyst is of cancerous origin, and is undoubtedly non-parasitic in nature. Multiple protrusions into the cyst from its lower (pancreatic) aspect were shown to be cancerous in character.

LYMPHATIC SYSTEM AND DUCTLESS GLANDS.

LYMPHATIC SYSTEM AND DUCTLESS GLANDS.

LYMPHATIC GLANDS: Hodgkins' Disease. 43·1 : 81·5.

A large compact mass of glands of varying size and of firm homogeneous texture. It will be noted that the glands have remained to a large extent individually distinct, and that there has been very little infiltration of the perilymphoid tissue, the specimen being mounted practically in the state in which it was received from the surgical operation.

CERVICAL LYMPHATIC GLANDS: Hodgkins' Disease. 43·1 : 81·5.

The mass of glands was removed from the neck in a case of Hodgkins' Disease. The pulp of the glands is seen to be firm and homogeneous in texture, and practically no signs of degeneration are visible even in the largest. Their outlines also in cut section remain very distinct, the whole mass being bound together by the investment of dense areolar tissue which also passes between them.

INGUINAL LYMPH GLANDS: Metastatic Melanotic Sarcoma. 43·3 : 65·5.

The preparation, which is of intense smoky black appearance, is a greatly enlarged lymph gland from the groin of a woman æt. 40, who suffered from a melanotic sarcoma of the dorsum of the foot. The primary tumour of the foot was of very insignificant size as compared with the numerous and large metastatic deposits to which it had given rise in the associated lymphatic system and in other parts of the body. The tumour here, microscopically examined, is composed of pyramidal, spindle-shaped or more irregularly formed cells, the internal structure of which is quite obscured by the abundant masses of melanotic pigment which they contain. The tumour is built up of large cellular alveolar systems separated by the scantiest amount of stroma or supporting tissue, leaving little or no trace of the original lymphoid tissue.

LYMPHO-SARCOMA of Bronchial Glands. 43·4 : 65·9.

The larynx, trachea and first portions of the bronchi of a young subject (æt. about 13). Depending from the anterior aspect of the tracheal bifurcation is seen a very large lobulated white mass of tumour tissue, from the midst of which, in its upper part, emerges the aortic arch with its three main arteries. The smooth white surface of the pericardium is visible on the posterior aspect of the specimen. One or two bronchial glands seen in section are enlarged, and replaced by an opaque white tumour tissue. The mass is a lympho-

sarcoma, originating primarily in connection with the bronchial glands.

MESENTERIC GLANDS: Caseous Tuberculosis. 43·5 : 56·1. 43·5 : 44·2.

The summits of the glands, which were very considerably enlarged, have been removed by a section on both sides parallel to the plane of the mesentery. The substance of the glands was of firm pultaceous consistence throughout, calcification having only occurred in small areas. The chronicity of the lesion is indicated not only by the complete caseous destruction of the gland substance which has occurred, but by the density of the fibrous capsule enclosing each of the affected glands.

LYMPH GLANDS: Caseous Tuberculosis. 43·6 : 56·1. 43·6 : 44·2.

A portion of the retro-peritoneal tissue of a young child, greatly increased in density and amount, has been removed in order to display large groups of completely caseous tubercular lymph glands. These, in the fresh state, were completely concealed by a dense amount of peri-glandular tissue, so that, as viewed in the body, they appeared like so many oval egg-like projections bulging from the posterior peritoneum forwards. The tissue has been sectioned, so that the caseous interior of all the glands is now quite visible. A portion of the abdominal aorta partially opened is seen enveloped in the mass on its posterior aspect.

SPLEEN: Congenital Hypoplasia. 45 : 17·1.

A very diminutive spleen (4·5 cm. longitudinally, 3·5 cm. transversely), from an elderly adult, the result of congenital hypoplasia, which exhibits also an anomalous development of the attachment of the hilum. The connective tissue in this region almost surrounds the organ in an annular fashion, and has given rise to a certain degree of constriction.

Cat. No. 457.

SPLEEN: Chronic Peri-splenitis: Deformity. 45 : 24. 45·1 : 53·1.

The entire spleen has been preserved to show the effects of chronic fibroid peri-splenitis. The organ is strikingly deformed in shape and reduced in size, the normal colour of its pulp being completely obscured by a dense capsular thickening which, over the convexity of the organ, has a wrinkled or pitted appearance. The degree of the change is one to which the name "chronic cartilaginoid peri-splenitis" might very fitly be applied.

P.M.J. III. 140.

SPLEEN: Chronic Venous Congestion: Secondary Changes. 45 : 32·2. 45·3 : 53·2.

The entire spleen, moderately enlarged (17½ cm. in length), has been preserved. The capsule is thin and tense, the surface smooth, its natural edges rounded, and the pulp, which is of dark colour, is homogeneous, compact and firm. All trace of Malpighian bodies has now disappeared in the general congestion of the pulp.

The organ, which possessed at the autopsy unusual features, came from a male subject æt. 23. His symptoms on admission, which might be summarized as pleurodynia, cough, hæmoptysis, diarrhœa, dysuria, resulting in great weakness and emaciation, received their interpretation at the autopsy by the discovery of an old localized septic empyema with collapse and septic infiltration of the right lung. The suppurative process had extended through the diaphragmatic aspect of the pleura, invading the right lobe of the liver, and forming in it a conical purulent pocket bounded by very adherent and thickened diaphragm. The spleen, which was much enlarged, weighing 600 grammes, was of a strikingly dense consistence, being harder to the feel than a firm liver. The pulp was dense, homogeneous, and purple in colour with a kind of dry waxy look, like "half-frozen" splenic pulp. Numerous darker areas which were found on microscopical examination to be enlarged Malpighian bodies, were scattered throughout it. Further microscopical examination showed the entire changes to be the result of extreme and long continued chronic venous congestion, with diffuse fibrosis of the pulp, very little of the true lymphoid tissue of the spleen surviving. All the vessels of the organ, particularly its veins, showed thickening of their walls, with extensive areas of hyaline degeneration.

SPLEEN: Necrotic Infarctions. **45 : 35·1.**
45 : 44·1.

A median section through the long axis of a moderately enlarged spleen, measuring 13 cm. in length. On both sides of the cut section are visible two compact solid-looking

yellow areas of coagulation necrosis, the result of embolism. They have the characters of white infarctions of the spleen of considerable standing, i.e., they are depressed below the surface of the organ. There is an isolated chronic local perisplenitis, and a complete absence of any surrounding zone of hæmorrhage or congestion.

SPLEEN: Necrotic Infarction. **45 : 35·1.**
45 : 44·1.

A portion of the lower and anterior part of the spleen showing at the extreme base of the preparation a pyramidal area of white or yellow coagulation necrosis. The usual characters of the necrotic or anæmic infarction are illustrated, and need not be detailed. A certain amount of perisplenitis in the form of fine dendritic masses, which wave to and fro under the surface of the fluid on movement, are seen to be more abundant over the capsule covering the lesion. The presence of a well-marked congestive zone round the necrotic area is to be noted, particularly over the capsular surface.

SPLEEN: Necrotic Infarction. **45 : 35·1.**
45 : 44·1.

A moderately enlarged and congested spleen has been laid open by a median longitudinal incision, the two halves being laid back in the preparation. Towards the lower part of the specimen, a generally wedge-shaped area of yellow colour, the result of old embolism of a branch of the splenic artery, is prominently visible. Its characters are typical and need not be further detailed.

SPLEEN: White (anæmic, necrotic) Infarctions. 45 : 36·1.

Four thin sections of spleen have been hung together. In each the necrotic infarction is well illustrated, and the caseiform character of the necrosis is very apparent in all. In the case of the two lower infarctions in the preparation, the associated marginal fibrosis in the connective tissue is apparent, being seen as a bluish-white zone round the infarcted area. The walls of one or two vessels (small arteries) which traverse this area are seen to be very considerably thickened. The zone of marginal congestion and hæmorrhage, which is associated with the necrotic infarct in an early stage, is better illustrated in the two examples of the lesion higher in the preparation.

SPLEEN: Calcareous Nodule. 45 : 43.

Half the organ has been preserved. Embedded in the pulp a short distance only from the surface is a prominent oval and completely calcified nodule. The manner of its formation is not clear, but it may be numbered with minute nodules of a similar kind occasionally occurring in the trabecular tissue of the spleen.

SPLEEN: Chronic General Tuberculosis. 45 : 51·6.

A spleen of normal dimensions, showing throughout its partially exposed pulp exceedingly numerous small rounded caseous tubercle nodules. These vary in size from the smal-

lest visible white points to nodules obviously the result of coalescence of several groups of tubercles having a diameter of 4 mm. Many of the nodules are visible also through the capsule of the spleen, which has suffered some chronic thickening. The specimen illustrates remarkably well a chronic diffuse tubercular infection of the spleen pulp, the result of successive infections of the blood from a distant focus (" chronic general tuberculosis " of Weigert).

SPLEEN: Chronic General Tuberculosis. **45 : 56·1.**

A spleen of normal size, one-half of which has been preserved to illustrate the effects of chronic general tuberculosis. An irregular degree of peri-splenitis is present over the organ and over the lower part of the preparation posteriorly the exudation has rather an acute character. Caseous nodules of all sizes up to about half a centimetre in diameter, are studded throughout the pulp.

SPLEEN: Chronic General Tuberculosis. **45 : 56·1.**

An exceedingly dark and congested spleen pulp containing studded throughout it large numbers of small caseous nodules. The hæmatogeneous tubercular infection in this case has been almost miliary in character. It must be understood, however, that the dimensions of the average nodule present in this specimen are greater than those in a true case of acute miliary tubercular infection.

SPLEEN: Chronic Malaria. 45 : 57·1.

The half of a slightly enlarged spleen, 15 cm. in length, from a case with a very distinct history of malaria. The capsule generally is thickened and universally wrinkled. It exhibited this character in the fresh state, from which one may infer that for some reason the splenic sinuses had been depleted shortly before death. There is a general increase of the trabecular tissue throughout the organ, but no evidence of pigmentation such as one frequently finds in cases of old malaria.

P.M.J. III, 83.

SPLEEN: Septic Peritonitis. 45 : 62.
45·4 : 61.

A considerably enlarged spleen, weighing 580 grammes in the fresh state, and now measuring 18 cm. in its long axis, has been preserved to show the effects of chronic toxæmia—the result of mixed toxic absorption from a very large ulcerated surface in connection with an extensive sarcoma. The spleen generally was of very firm consistence, and very little juice could be expressed from it in the fresh state. The Malpighian bodies are seen to be considerably enlarged and diffuse in character, particularly near the periphery of the organ. A certain amount of chronic peri-splenitis has occurred also.

The subject, a male æt. 30, was admitted in a dying condition, with an extensively ulcerated and gangrenous lower limb. The ulceration was found to be centred round a very large exceedingly soft round-celled sarcoma, which filled up

the groin and infiltrated the muscles of the left thigh. As a secondary result of the septic process associated with the tumour, a septic infection of the peritoneum had occurred, and it is doubtless from this cause that the spleen exhibits the characteristics shown in the specimen.

SPLEEN: Metastatic Carcinoma. 45 : 66·3.

The preparation illustrates the extremely rare occurrence of metastatic cancerous nodules in the spleen pulp, the primary source of which was in this instance the pancreas: the spleen itself is seen to have been very considerably enlarged, the length of the section preserved being 22 cm. The pulp presents a very striking variation of colour in different parts: in the lower part of the preparation occurs a large rounded area of greenish-black, almost necrotic appearance. The vivid red colour of the splenic pulp throughout the greater part of the section is sharply interrupted by numerous solid white cancerous nodules of all sizes. One sees that the cancerous dissemination has been much more extensive than is indicated by the solid white cancerous tumours referred to; on closer scrutiny a most irregular greyish-pink infiltration, undoubtedly also cancerous, is seen to extend through all parts of the pulp from the hilum to the convex surface. A certain increase in the trabecular connective tissue of the splenic pulp has also occurred *pari passu* with the cancerous infiltration, and is seen in places to be forming a definite stroma for the latter. Extending for some distance (7·5 cm.), on either side of the hilum is a much larger cancerous mass which has replaced the peri-vascular fat of this region, and has in certain districts suffered necrotic change.

SPLEEN: Old Hydatid Cyst: Calcification. 45 : 71·3. 45 : 42·9.

Partly set within and partly emerging from the surface of the spleen, is a compact white or yellow solid mass of generally spherical form. It measures 16 cm., and is enclosed in a thin capsule composed externally of peritoneal investment, and internally of two or three scattered areas of a small quantity of condensed splenic tissue as well. Whilst in parts it is undoubtedly caseous in appearance, in others it is certainly calcareous. Very numerous milky white points of complete calcification are visible round the periphery of the nodule. Centrally moreover there occur two pale bluish-white translucent areas, closely resembling cartilaginous islets in the midst of a tumour. It is not easy to affirm the exact nature of this remarkable mass, but in view of the fact that it is thinly and irregularly enveloped in splenic pulp, it must be concluded at any rate that the formation has occurred in the substance of the spleen. It is not at all unlike a very old hydatid formation which has undergone extensive calcification.

SPLEEN: Spleno-Medullary Leucocythæmia. 45 : 81·4.

A spleen, the central longitudinal slice of which has been preserved, from a case of spleno-medullary leucocythæmia: it measures 27 cm. in length, and weighed 940 grammes. The pulp is very compact, of dark brownish-red colour, the orifices of all vessels seen in it being relatively reduced from the hyperplastic activity of its cellular elements. No trace

of Malpighian bodies can be discerned. The capsule is irregularly thickened, tags of connective tissue depending freely from it at various places.

SPLEEN: Spleno-Medullary Leucocythæmia. **45 : 81·4.**

The increase in size (25 cm. of longitudinal axis) and weight (1,860 grammes), although undoubtedly great, cannot be regarded as very unusual in an advanced case of spleno-medullary leucocythæmia. As so frequently happens in such cases, with great splenic enlargement there is a considerable increase in the number of splenic fissures or notches of the anterior body. In this instance, six of these are present, four of them being of considerable depth with rounded margins. An oval projecting yellowish-white nodule seen at the second notch of the series is probably one of those infarctions, the result of thrombosis of a venous trunk, which are frequently seen in the organ in this disease.

SPLEEN: Spleno-Medullary Leucocythæmia: Complete Necrosis. **45 : 81·4. 45 : 44·6.**

A greatly enlarged spleen from a case of leucocythæmia which, by complete necrosis of its interior, has been converted into a large simple thin-walled cyst. The portion of diaphragm is seen to have become adherent to its upper surface (in the middle of which an elliptical opening has been made). Elsewhere exist numerous traces of old inflammatory attach-

ment of the omentum, numerous turgid veins of which, of small size, are seen coursing over its peritoneal surface. The surviving rind of the organ which in places has no greater thickness than 2 to 3 mm., is lined by necrotic shreds of splenic pulp.

CAT. NO. 467.

SPLEEN: Caseous Peri-splenitis, 45·1 : 56·1.
Tubercular. 45·1 : 44·2.

A small spleen (in section, about one-third of the organ having been removed) has been preserved to show dense caseous tubercular masses or nodules completely investing the organ on all its aspects. These are particularly abundant between the capsule of the spleen and the adherent diaphragm, whilst larger masses, apparently glandular in origin, are visible about the hilum. The specimen illustrates the results of very diffuse chronic peritoneal infection with tubercle.

SPLEEN: Concretions. 45·2 : 43.

The lower anterior margin of a spleen of normal size, containing embedded in its pulp in the upper third of the cut section an oval mass the size of a small Spanish nut. This is completely calcified and of ivory consistence. It is only remarkable on account of its size in this particular instance, the occurrence of small spherical concretions, having the dimensions of the ordinary varieties of gunshot being an occurrence of comparative frequency in the spleen, particularly of an elderly subject. One hesitates to express a dogmatic

opinion as to the precise source and mode of origin of the nodule shown in the preparation.

SPLEEN: Chronic General Tuberculosis: Caseous Nodules. 45·2 : 56·1. 45·2 : 44·2.

A diminutive spleen, laid open by the usual longitudinal incision, displays in its interior sundry caseous nodules of varying size, the largest being 12 mm. in diameter. A certain degree of central softening has occurred in each of the larger nodules; others can be perceived showing whitish-yellow points through the splenic capsule over the free surface.

SPLEEN: Metastatic Carcinoma. 45·2 : 66·3.

A portion only of the organ has been preserved. It contains several firm white tumours, of which three appear in one or other of the cut surfaces displayed. These, on microscopical examination, proved to be cancerous in nature. The cancer was of a glandular type. No record has been preserved of the seat of the primary tumour.

SPLEEN: Waxy Disease, Malpighian Bodies. 45·4 : 42·5.

A spleen of normal size, two slices of which have been preserved. The specimen illustrates the appearance of the organ in advanced waxy disease, which has been specially

confined to the Malpighian bodies (" sago spleen "). There is very little evidence that the lardaceous disease has affected any part of the splenic trabeculæ elsewhere.

CAT. NO. 462.

SPLEEN: Enlargement of Malpighian Bodies 45·4 : 61.

A moderately enlarged and (in the fresh state) an extremely congested spleen is shown in which the Malpighian bodies are exceedingly numerous and unusually prominent. This specimen illustrates the hyperplastic activity which overtakes the lymphoid tissue of the Malpighian systems in the course of a general blood infection. In this particular instance the infective agent was the spirillum of relapsing fever.

THYROID BODY: Chronic Goitre. 46 : 64·7.

The mass was almost spherical in form and rather less than half of it has been preserved. It is surrounded by a very resistant capsule which attains in places the thickness of 4 mm. The peripheral parts of the mass show an almost homogeneous appearance. Centrally, calcification has occurred in at least half-a-dozen situations.

PATH. REP. I. 106.

THYROID BODY: Unusually Large Colloid Adenoma. 46 : 64·7. 46 : 42·7.

The tumour is seen to be composed of a large number of lobules of varying size. These are separated by an extremely

scanty and delicate connective tissue. The tissue of the lobules, which are generally of salmon-pink colour, is slightly translucent from the quantity of colloid material present in them. The larger lobule seen in the upper and left part of the preparation is more solid-looking and opaque, as if the tissue here had been more richly cellular. A central hæmorrhage which has occurred here, has broken up the structure of this lobule. Various evidences of localized degeneration are presented in widely separated parts of the tumour. Externally, the tumour is covered by an investment of fibro-areolar tissue of no great resistance. Microscopical examination showed it to be essentially of adenomatous character with colloid degeneration of the lining cells. The adenomatous vesicles were of the most varied size, and were, in the parts examined, lined with a low cubical epithelium. There were no signs of malignancy.

The patient, a female æt. 35, had complained of the tumour for upwards of two years. It had latterly undergone steady increase in size.

THYROID COLLOID GOITRE : Calcification. **46 : 64·7.**
46 : 42·9.

The tumour is partially cystic, the cysts being separated by dense trabeculæ of fibrous tissue. Some appearances of gelatinous and colloid material are seen in one or two places of the outer wall of the cyst. Here and there on the left side are seen yellowish-white areas of calcification.

THYROID BODY: Colloid Adenoma (Goitre). 46 : 64·7. 46 : 42·7.

The preparation represents the thyroid gland. It is entirely transformed into a colloid adenomatous tumour of externally lobulated form, which corresponds internally with rounded adenomatous nodules. The characters of the tumour tissue are somewhat various; generally speaking, the tumour masses are composed of a congeries of closely clustered cysts filled with a yellowish-brown homogeneous colloid material. Degenerative changes with the formation of cavities are seen to have occurred in some of these. The tumour was not associated with any manifestations of malignant properties.

THYROID BODY: Round-celled Sarcoma. 46 : 65·1.

The specimen represents a thyroid gland, the greater part of which has been transformed into a soft fleshy-looking pinkish-grey tissue. In the section shown in the upper half of the preparation is an irregular cavity, the result of hæmorrhage with necrosis, and scattered over the peripheral parts, particularly of both sections, are numerous other smaller areas of obvious degeneration. Externally the tumour does not appear to have transgressed the normal capsular limits of the thyroid body. Its structure was that of the round-celled sarcoma.

ADRENAL TUMOUR: Hypernephroma. 47 : 64·7.

A large (18 × 13 cm.) mass of compact tumour tissue, showing both on its external surface and in its cut section very

distinct evidence of a lobular architecture. The tumour is surmounted by a crescent-shaped remnant of renal tissue which, at its greatest thickness, measures 2 cm. The great bulk of the mass is encapsuled, the capsule apparently being formed by a continuation round it of the pelvic connective tissue of the kidney. In one or two places, where the investing capsule dips between the lobules of the tumour, it is slightly thicker than elsewhere, and it is in these situations that the idea is conveyed of the presence of extremely attenuated kidney tissue in the capsule structure. As viewed in the cut section, the various lobules present the most striking diversity of colour; some are of homogeneous cream-yellow appearance, whilst others, evidently necrotic, display a bright gamboge tint; others again, and these are the most numerous, have been the seat either of comparatively recent or of old hæmorrhage, and have assumed a tint corresponding with the nature of the changes through which the blood pigment has passed since the hæmorrhage. No trace of ureter is discernible in the preparation, but the trunk of renal artery, its wall considerably thickened, is seen peeping out from between the two lobules of the tumour, its lumen being occupied by a recent dark red thrombus.

The tumour bears evidence both to the naked eye and on microscopical examination, of having had its origin in the supra-renal body, and in all probability in connection with the augmented layer of the supra-renal cortex.

ADRENAL TUMOUR: Hyper-nephroma. 47 : 64·7.

Corresponding half of previous specimen.

URINARY SYSTEM

AND

MALE GENERATIVE ORGANS.

URINARY SYSTEM

AND

MALE GENERATIVE ORGANS.

Cat. No. 235.

KIDNEY, normal, of Lion. **51 :**

The organ measures 9 cm. in length by 4·8 cm. in breadth, measured in the centre of the pelvis. It is of interest as displaying the large single and continuous pyramid present in this class of animal.

Cat. No. 230.

KIDNEYS, normal, of Jungle Cat: Fatty Degeneration of Cortex. **51 :**

The organ measures 4 cm. in length by 2·8 in breadth. A single pyramid offers a marked colour contrast with the opaque, yellow cortex.

KIDNEY: Congenital Supra-renal Rest. **51 : 12·3. 47 : 11.**

The kidney is generally congested. On removal of its capsule, an irregularly oval mass of yellowish-green colour was displayed which bore more than a superficial resemblance

to the cortical portion of the supra-renal body. Further examination confirmed the fact that this is a supra-renal "rest" of unusually large size.

KIDNEY: Persistence of Fœtal Lobulation. **51 : 12·3.**

The kidney, which is slightly elongated, presents an unusually lobulated or convoluted surface, and has been preserved to show the appearances resulting from persistence in an unusual degree of fœtal lobulation.

KIDNEY: Persistence of Fœtal Lobulation. **51 : 12·3.**

KIDNEY: Horse-shoe Malformation. **51 : 12·7.**

The preparation illustrates in characteristic fashion the "horse-shoe" kidney. The fusion has occurred as usual along the lower margins, and is composed of a thick bridge of renal tissue of rounded form anteriorly, and flattened posteriorly. The ureters, which are cut short, are seen traversing the anterior aspect of the renal bridge. A certain degree of anterior torsion of the pelves has occurred, this being more particularly noticeable on the left side. The pelvis in addition on this side is of rather elementary form, being represented simply by the confluents of two tubular channels, from the junction of which the ureter, of unusually small size, takes its origin.

Cat. No. 244.

KIDNEY: Horse-shoe Malformation. 51 : 12·7.

A very typical "horse-shoe" kidney is presented, in which the anterior position of the ureters, a considerable length of which is seen, is very clearly illustrated. On the right side, the ureter is lying in a rather deep cleft of the tissue, and on the left the surrounding kidney tissue has been removed with the scalpel in order to set free the ureter, which is partially embedded in it. The vessels in this case supplying the mass were derived from abnormal sources. Thus the orifice of entrance of a comparatively large artery is seen in the middle of the horse-shoe, on the posterior aspect of the specimen, whilst in the middle of its inferior margin, the orifices of several minute veins are seen. The specimen was accidentally discovered in the course of a medico-legal autopsy, in a man æt. 47 years.

KIDNEY: Complete Transverse Rupture. 51 : 21·7.

The specimen illustrates a comparatively rare occurrence —complete transverse rupture of the kidney with maceration and loss of more than one-third of the organ. So far as can be judged, the kidney has been somewhat enlarged, the portion of cortex visible in the upper part of the preparation, however, giving signs of having been healthy. Life would seem to have been preserved for some time after the accident, as the numerous clots formed in the lower part of the preparation (in the neighbourhood of the area of the rupture) are well

formed and firm, and the ruptured edge is definitely rounded in appearance.

KIDNEY: Chronic Parenchymatous Nephritis: Anchylostomiasis. **51 : 31.**
51 : 51·1.
51 : 42·2.

A rather atrophied kidney of generally compact close consistence, and pallid waxy colour. The pyramids are dark, thus contrasting with the paler cortex. Microscopically examined, the organ presented evidence of chronic parenchymatous nephritis associated with scattered areas of interstitial tissue proliferation. The tubules contained numerous hyaline and granular casts, whilst others contained numerous polymorpho-nuclear leucocytes.

The kidney came from a male fellah, æt. 30, who suffered from a rather abundant infection with the anchylostoma duodenale, and who was admitted to hospital with urgent symptoms indicative of both cardiac and renal disease.

KIDNEY in Anchylostomiasis. **51 : 31.**
51 : 42·2.

The kidney is of normal size and attracts attention chiefly on account of its general pallor and fatty condition of cortex. The cause of both changes (anæmia and fatty degeneration) was anchylostomiasis.

KIDNEY : Arterio-sclerotic Lesions. 51 : 41. 14·6 : 55·1.

Both kidneys have been mounted to show the effects on the organs of arterio-sclerosis. The kidneys generally are somewhat reduced in size—the result of senile atrophy. In the cut section the extent of this atrophy is indicated by the manner in which the fat surrounding the pelvis of the kidney is encroaching on the substance of the organ. The areas chiefly affected by the arterio-sclerotic process are seen as irregular, sharply-defined depressions on the external surface ; these are seen to correspond in the cut section with almost complete disappearance of the cortex of the parts involved. Where not so affected, the external surface of the kidneys is comparatively smooth and uniform in character.

KIDNEY : Senile Atrophy : Arterio-sclerosis. 51 : 41. 51 : 53.

A small kidney, not more than 8½ cm. in length, with marked deformity of its general surface, and advanced atrophy of its substance, has been mounted to show the general atrophic changes which ensue in this organ in a man of extreme age. The surface is thrown into a number of prominent rounded yellowish lobules of waxy-like appearance, separated from each other by dark reddish-brown areas of kidney tissue, depressed below the level of the former (i.e., the lobules). On comparison of these two parts of the surface with their relations to the cut section, it will be seen that the

pale rounded prominent lobules correspond with a greater depth of cortex, whilst the depressed red areas correspond with the narrowed atrophied portions. This change is in reality due to the great variations in amount of nutrition supplied to the various parts of the kidney according as any branch of the renal artery supplying a district chanced to be relatively healthy or the seat of advanced sclerotic disease. The amount of peri-pelvic fat is considerably increased, apparently the result of compensatory changes following upon the great atrophy of the kidney substance.

KIDNEY: Advanced Arterio-sclerotic Changes. **51 : 41·4.**
51 : 42·2.

The surface of the kidney is exceedingly fissured and irregular, no part even of the more prominent portions being really smooth. The more prominent portions are separated by fissures which, in places, have almost a cicatricial appearance. The cortex in cut section is irregularly reduced, but has not suffered in direct proportion to the degree exhibited by the changes upon the surface. The renal epithelium is seen, in many districts of the cortex, to have suffered fatty degeneration.

KIDNEY: Calculous Pyonephrosis. **51 : 43.**
51·1 : 55·3.

In addition to the large calculus which is seen occupying the greater part of the cavity of the pelvis, at least three

other collections of small spherical calculi of yellow colour are seen embedded in the midst of the kidney substance. These appear to occupy well-defined pouches which are probably in communication with the pelvis. Several areas of pyramidal shape can be detected by their dark colour near the cortex of the kidney. These are due to bacterial multiplication in the kidney tissue, the organisms concerned having travelled thence from the renal pelvis.

KIDNEY: Multiple Calculi. **51 : 43.**
51·1 : 27·2.

A vertical section through the left kidney has been mounted to display the extensive changes following upon the impaction of the calyces by multiple calculi. Five of these, of whitish colour with granular coralline surfaces (phosphatic), are seen either obstructing the orifice or filling up the entire cavity of a dilated calyx. An elongated calculus, having somewhat the form of a hammer, is seen completely obstructing the ureter, as it emerges from the pelvis, the cavity of the latter being also considerably encroached upon. Externally the organ is deformed, whilst the perinephric capsule has undergone great condensation.

KIDNEY: Interstitial Changes: Multiple Calculi. **51 : 43.**
51 : 41.

A small kidney, with considerable granular interstitial changes and relative increase in size of the pelvis, has been

preserved to show the presence in the renal tissue of multiple small calculi of black colour (probably uric acid). These lie in small cystic pouches at the extreme base of the calyces, and sometimes even in the cortex. The colour of the specimen has been almost entirely removed by continuous preservation in spirit.

P.M.J. III. 108.

KIDNEY: Calculus in Pelvis: Persistence of Fœtal Lobulation. **51 : 43. 51 : 12·3.**

The kidney, which is distinctly enlarged, has been opened to show the presence of a hammer-headed calculus, the stem of which completely obstructs the orifice of the ureter. Considering the size of the calculus, it is remarkable that the renal pelvis is neither dilated nor the seat of pyo-nephrosis. There is a noteworthy degree of persistence of fœtal lobulation, the entire kidney surface being thrown into a number of closely-set lobules, separated by deep fissures.

The patient, a girl of 18 years of age, was admitted to hospital on account of a fistula in the loin, which had discharged for a period of two years. This at autopsy was found to pass into a deep seated abscess on the surface of the left kidney. This kidney was firmly anchored *in situ* by dense fibrous tissue. It had undergone practically complete atrophy, its pelvis being much reduced in size, and occupied by a small black hard calculus, causing complete obstruction of the ureter. The right kidney, to which the above description applies, was pale and fatty in appearance, and had undergone a distinct degree of compensatory hypertrophy.

KIDNEY: Acute Nephritis. 51 : 51·1.

One half of the kidney has been preserved, the changes illustrated by the condition being chiefly confined to the cortex. This part of the kidney is very distinctly increased in volume, and throughout is of pale colour. Both on the external surface and in the cut section, the appearances presented suggest that a considerable amount of epithelial degeneration has occurred in the renal tubules. The surface of the organ, which has been stripped of its capsule, is smooth. The presence of several clefts, however, the deepest of which passes transversely across the organ from the hilum, indicates a certain degree of persistence of fœtal lobulation, and the occurrence of a few small depressed scar-like areas indicates a certain degree of arterial sclerosis.

Cat. No. 200.

KIDNEY: Acute Nephritis. 51 : 51·1.

The kidney, exhibited by a longitudinal section, the two halves being partially opened from the pelvis as a hinge, is of normal size. The capsule has been left adherent to the surface which, however, is seen, where the capsule is slightly stripped, to be quite smooth. The cortex contrasts with the pyramidal tissue of the organ by its yellow, opaque, pale or slightly mottled appearance. It is evident that a good deal of degenerative change has occurred in the epithelium of the cortical tubules.

P.M.J. III. 107.

KIDNEY: Parenchymatous Nephritis: Secondary Syphilis. **51 : 51·1. 51 : 56·3.**

The half of a kidney, very distinctly enlarged, has been preserved to illustrate the changes produced by nephritis, The kidney is increased by 3 cm. in its longitudinal dimension, and about 2½ cm. in its transverse measurement above the normal. The left kidney, the half of which constitutes the preparation, weighed, when stripped of its capsule, 350 grammes, whilst the right weighed 375 grammes. This enlargement is due almost entirely to a voluminous cortical portion. The organ is seen to be irregularly mottled externally, and the bases of the pyramids, which are dark red in colour, offer no sharp contrast to the adjacent cortex, but fade gradually into it. The cortex in many places has a homogeneous yellowish-white colour, particularly well seen in the cut section on either side of the hilum. Numerous congested vessels pursuing a linear direction vertical to the surface are seen on the external part of the cortex.

The patient, a woman æt. 25, was admitted with pain in the lumbar region, profuse albuminuria, slight irregular diarrhœa. She suffered from syphilis in the secondary stage, as manifested by the characteristic facial eruption, the presence of mucous patches in the mouth, and vaginal condylomata.

KIDNEY: Parenchymatous Nephritis: Waxy Disease. 51 : 51·1. 51 : 42·5.

The kidney is considerably enlarged, the enlargement being due mainly to increase in the cortical portion. The surface is slightly irregular, universally mottled, and covered by exceedingly small congested vessels. The pallor of the cortex is seen in the cut section to be greater immediately over the bases of the pyramids than near the external surface. The kidney illustrates both parenchymatous nephritis and waxy disease, occuring in a syphilitic subject.

KIDNEY: Acute Parenchymatous Nephritis. 51 : 51·1.

The kidney is of normal size, and presents on one half of its external surface three or four oblique fissures representing a certain degree of persistence of fœtal lobulation. The surface, which has been denuded of its capsule, is everywhere smooth, finely mottled, and shows many minute, deeply congested vessels. In cut section the cortex is greyish-red, rather voluminous, and offers a sharp contrast to the deeply congested pyramids.

KIDNEY: Acute Parenchymatous Nephritis. 51 : 51·1. 51·1 : 52·1.

The kidney, the colour of which is very well preserved, illustrates the changes which occur in acute parenchymatous

nephritis. The capsule has not been stripped from the preparation, but the surface is seen to be everywhere smooth, and in certain places minute distended vessels are visible in it. The cortex, both superficial and interpyramidal, is increased in volume and of mottled reddish grey colour. The pyramids, which are easily differentiated by their dark reddish colour, appear by reason of the increase in the cortical tissue, relatively small. The portion of pelvic mucous membrane, seen in the cut section of the preparation, has a very congested granular mucous lining.

P.M.J. III. 181.

KIDNEY: Pyæmia: Acute Parenchymatous Nephritis.

51 : 51·1.
51 : 42·2·4.
51 : 54·5.

The kidney, one half of which has been preserved, is very distinctly enlarged, measuring no less than 15½ cm. in length. The enlargement was due to swelling of both the cortical and pyramidal portions, but more particularly the increased volume of the former. Indeed the superficial cortex has a thickness in places of 1·5 to 2 cm., whilst the appearances presented by it are characteristically those of acute parenchymatous nephritis with very advanced tubular degeneration. The small vessels which traverse it—fairly distinct as they enter the organ from the external surface—are speedily obscured in the swollen and degenerated tissue. The appearances conferred by the extreme fatty degeneration of

the tubules are seen in more striking fashion still on viewing the exterior of the organ : on this aspect also a few depressed areas, due to mal-nutrition from arteriosclerosis, are also seen.

In addition, the kidney has been the seat of a pyæmic process, some half-dozen abscesses with dense purulent contents being present. In one or two of these, near the lower extremity of the specimen, the wedge-shaped form of lesion is well illustrated, as it involves the entire thickness of the cortex.

The subject, a male æt. 30 years, was admitted to hospital with a septic wound of the left leg, associated with an extensive septic cellulitis. This constituted the primary focus of the pyæmia from which he died. At the autopsy, both kidneys were found much enlarged, and recent thrombi occluded the trunks of both renal veins. The renal cortex was everywhere voluminous, a bright yellow band in the deeper zone of the cortex indicating graphically the extensive degeneration and necrosis of renal epithelium which had occurred. On microscopical examination of the kidneys, the glomeruli were considerably enlarged, Bowman's capsules as well as the walls of the capillary tufts being extensively affected with hyaline degeneration. The epithelium of the tubules was extensively granular, indefinite in outline, and with very deficient nuclear staining, whilst many contained both hyaline and granular tube-casts. A slight degree of diffuse interstitial change is also present.

KIDNEY: Sub-acute Parenchymatous Nephritis. 51 : 51·2. 51·1 : 52.

The surface is seen to be irregularly mottled, in some places deeply congested, and in others, where the surface is faintly granular, having a yellow colour. In the latter areas, fatty degenerative changes have occurred very extensively on the epithelium of the renal tubules. The cortex generally, as seen in cut section, is pale in colour and bulky in volume, and those parts of the mucous membrane of the pelvis which are visible in the preparation have a congested catarrhal character.

KIDNEY: Chronic Parenchymatous Nephritis. 51 : 51·2.

The specimen, which consists of the half of the right kidney in longitudinal section, closely resembles the preceding. The process here, however, has been of somewhat longer duration, a faint granularity being observable over the external surface, whilst the degenerative changes present in the cortex are of more advanced type.

CAT. No. 205.

KIDNEY: Chronic Parenchymatous Nephritis. 51 : 51·2.

The kidney is very distinctly increased in size. The capsule has been left adherent, and through it numerous dilated veins are visible. The surface, moreover, as seen

through the bluish translucent capsule, is slightly irregular, and deeply mottled. The cut section shows an undue preponderance of the cortex, both superficial and interpyramidal. The cortex generally, besides being voluminous, is of opaque appearance and dull yellow colour, being intersected throughout by vascular lines and patches which, after traversing the kidney substance inwards for a short distance, are lost in the homogeneous yellow zone which surrounds the pyramid. The opaque yellow appearance of the cortex is due in this case to an extremely advanced fatty condition of the renal epithelium—a condition which, although striking in the fresh specimen, is difficult to conserve by any museum method.

CAT. No. 225.

KIDNEY: Chronic Interstitial Nephritis. 51 : 53.

The kidney, which is very distinctly reduced, is the seat of advanced interstitial change. The left half of the organ has been stripped of its capsule, thus revealing a universally granular surface in which several small cysts occur. The reduction of the cortical tissue in the cut section is also extreme, the cortex being reduced in places to a thickness of only about 3 mm.

CAT. No. 242.

KIDNEY: Chronic Interstitial Nephritis. 51 : 53.

The kidney, which is rather reduced in size, has been preserved to illustrate the effects of chronic interstitial nephritis. The surface is characteristically granular, evi-

dences of degenerative change being at the same time present in many of the tubules. In cut section, the limits of the cortex are rather difficult to define, but in the upper part are seen to be distinctly diminished.

KIDNEY: Chronic Interstitial Nephritis: Hydro-Nephrosis. **51 : 53. 51·1 : 27·2.**

The kidney is reduced in size, whilst the pelvis and calyces are relatively considerably dilated. The characters of the kidney are those of a fairly advanced chronic interstitial nephritis, the dilated calyces accentuating the atrophy associated with this condition by their encroachment on the pyramids. About a dozen small sessile hemispherical cysts with brownish contents are seen projecting from the inner lining of the dilated pelvis. These are of the same character as those frequently seen in the lower portions of the ureter, and which have been elsewhere described in this volume as lesions frequently accompanying bilharziasis of the bladder.

Cat. No. 243.

KIDNEY: Chronic Interstitial Nephritis: Secondary Changes. **51 : 53. 51·1 : 27·2. 51 : 41.**

A kidney of diminutive size, 7 cm. in length, but in which the general outline of the organ has been well preserved, has been mounted to show the changes which the kidney undergoes as a result of advanced chronic interstitial nephritis occurring in an elderly subject. The general granularity of

the surface and its extreme narrowness in the cut section sufficiently illustrate the degree of atrophy which this part of the kidney suffers. The increased thickness of the renal artery as it emerges from the pelvis, as well as the prominent and somewhat thickened condition of all the small arteries seen in the cut section, illustrate the accompanying vascular lesions. The connective tissue round the pelvis is considerably increased, and the pelvis itself has undergone moderate dilatation. There was here a certain amount of obstruction at the ureteral orifices, which has accounted for the slight hydro-nephrosis.

KIDNEY: Mixed Nephritis: Interstitial Changes predominating. **51 : 53. 51 : 51·2.**

A kidney of normal size and reddish colour, with a very generally granular surface, from which the capsule has been entirely stripped in order to display it. The distinction between cortex and pyramids is in places difficult of observation, but close scrutiny will reveal the fact that the former has suffered a slight but general degree of atrophy. The apices of certain of the pyramids are rounded, as if the result of pressure-atrophy, but there is no dilatation of the pelvis as a whole. The preparation illustrates the changes undergone by the kidney in a late stage of parenchymatous nephritis in which the increase in the interstitial elements has now assumed the dominant phase.

KIDNEY : Chronic Interstitial Nephritis. 51 : 53.
51 : 67·1.

The half of a kidney, the seat of chronic interstitial nephritis. The colour of the preparation is unusually well preserved. The exterior of the kidney shows a persistence of fœtal lobulation in a faint degree with general granularity of the entire surface, in which are also visible occasional pellucid cysts of small size. The degree of atrophy of the cortex as seen in the cut section of the organ is not so great as one would be led to expect from a superficial view ; atrophy of the pyramids, however, has occurred, with a corresponding increase in the amount of connective tissue of the pelvis.

KIDNEY : Chronic Interstitial Nephritis : Atrophy. 51 : 53.
51 : 41.
51 : 42·3.

The specimen illustrates in typical fashion the changes produced by chronic interstitial nephritis (granular kidney of Bright's disease). The organ itself, although not much diminished in size (4 inches in length) is nevertheless very considerably atrophied. The degree to which atrophy has occurred is seen indicated on viewing the interior of the preparation. It is at once seen that the extreme loss of substance in the organ is masked by a compensatory increase in the amount of fat surrounding the pelvis and calyces. It must be realized that this fat is really external to the kidney, and has merely infiltrated its way inwards in the connective tissue surrounding the excretory parts of the kidney at the hilum. The thickness of the renal tissue thus left is nowhere

more than 2 cm., and in some places as little as 1 cm. in thickness. The external surface of the kidney is universally granular, and numerous small cysts in some cases still unruptured are seen opened.

CAT. NO. 221.

KIDNEY: Multiple Pyæmic Abscesses. **51 : 54·5.**

The half of a slightly enlarged kidney has been preserved, its partially stripped capsule hanging from one side like a tissue curtain. The organ is the seat of very numerous metastatic suppurative foci, which appear to have reached, as seen just beneath the cortex, a considerably larger size than in the cortex and the pyramids, as seen in the cut section. The suppurative foci which appear white are separated by deeply congested zones of kidney tissue. The abscesses appear to have congregated more thickly in the middle zone of the pyramids (as seen in the cut section) than elsewhere, and having regard to the path by which the infective agent has reached the kidney in this case (namely the blood stream), it could hardly be otherwise.

CAT. NO. 222.

KIDNEY: Pyæmic Abscesses: Acute Pyelitis. **51 : 54·5. 51·1 : 52·1.**

The kidney, half of which has been preserved, is exceedingly congested, and shows scattered throughout its substance numerous pyæmic abscesses. These are chiefly

clustered in the neighbourhood of the boundary zone, and are surrounded by deeply congested areas. The mucous membrane of the calyces and pelvis is deeply congested, and in the latter situation are visible scattered membranous patches of inflammatory exudation.

KIDNEY of Badger: Abscesses of Pyramids. **51 : 54·5.**

The kidney, which measures 5 cm. by 2·5 cm., shows extensive degeneration of the cortical epithelium, and ulcerative areas of the apices of several pyramids.

KIDNEY: Chronic Interstitial Nephritis: Arterio-Sclerosis. **51 : 53.**
51 : 41.
14·6 : 55·1.

Both kidneys have been mounted to show the combined results of chronic interstitial nephritis and arteriosclerosis. The universally finely granular surfaces, their mottled appearance, the occurrence of superficial and deep cysts, and the general atrophy which the organs have undergone, may be classed together as being due to the former affection. The gnarled or deeply depressed cicatricial looking areas which have deformed particularly the upper kidney in the preparation, are the results of parenchymatous atrophy with compensatory interstitial fibrosis which are produced by the latter, viz., chronic arteriosclerosis.

KIDNEY : Chronic Interstitial Nephritis. 51 : 53.
51 : 41·4.

The kidneys were those of an elderly subject. Considerable hypertrophic and sclerotic changes were associated in the cardio-vascular system with the renal condition. The surfaces of the kidneys are universally granular, and the volume of cortical tissue in particular is greatly reduced. Notice also the encroachment on the pelvic connective tissue in the direction of the renal pyramids. Degenerative changes, chiefly of a fatty character, may be deduced from the general yellowish appearance of the prominent nodules on the surfaces of the organs. The arterio-sclerotic changes in the renal arteries seen in the cut section in the preparation, are very evident.

KIDNEY: Chronic Interstitial Nephritis : Senile Atrophy. 51 : 53.
51 : 41·2.

The kidney is remarkably reduced in size, measuring no more than 6 cm. in length by 3·8 cm. in breadth. The characters are typically those produced by chronic interstitial change, the amount of atrophy being seen both on the surface and in cut section. Viewed internally, the organ shows the progressive atrophy of the pyramids accompanied by a proportionate encroachment of the external fat. The changes in this case are accentuated by the fact that the subject, a male of about 75 years of age, showed a very advanced senile atrophy of all the organs.

KIDNEY: Chronic Tuberculosis. **51 : 56·1.**
51·1 : 27·2.

An enlarged kidney, the greater part of which has been destroyed by a chronic tubercular process. The cut section is composed in either half of 6 or 8 globular dilated calyces lined with thick deposits of caseous or suppurative material. The comparatively thin rind of persistent renal tissue present on the surface is greatly altered, being studded with very large numbers of small caseous nodules.

KIDNEY of Camel: Perinephric Lipoma. **51 : 63·1.**

An enormous reniform mass, measuring 35 cm. in length by 16 cm. in breadth, in the midst of which is seen the practically normal kidney of the animal. Closely investing the latter, and in places visibly encroaching upon it, is a huge lobulated fatty mass, closely resembling cold mutton fat in colour and solidity of texture. The large perinephric lipoma illustrated in the specimen can only be regarded as a true fatty tumour, no other localized accumulations of fat occurring in the body of the animal, whichs was, indeed, rather emaciated.

KIDNEY of INFANT: Primary Sarcoma. **51 : 65·1.**

The two kidneys of an infant who died shortly after birth have been mounted together. At the lower end of the larger kidney in the preparation is a compact yellow tumour

mass, about the size of a chestnut, which had definitely originated in the kidney tissue, and has completely destroyed almost one-half of it. The occurrence of the tumour—a round-celled alveolar sarcoma—is of considerable interest in view of the extremely young age of the subject in which it was found.

KIDNEY: Primary Sarcoma. 51 : 65·1.

The tumour occupies the upper two-thirds of the kidney which has been divided by a longitudinal incision passing from the convexity towards the pelvis, the two halves being laid widely open. The tumour in form is approximately spherical, and generally of opaque yellow colour, except in the centre where hæmorrhage has occurred. It appears to have undergone very considerable necrotic and degenerative change. The pelvis of the kidney has suffered considerably from pressure, and is represented by a narrow slit; the two halves are set at an exceedingly obtuse angle, and are visible in the centre of the preparation immediately beneath the lower margin of the tumour. Viewed from the exterior, it is clearly seen that the tumour has originated in and replaced the kidney substance proper.

KIDNEY: Large Simple Cyst. 51 : 67·1.

A sagittal section has been made through the left kidney in order to display a simple cyst of unusually large size, partly set in and partly projecting from the lower part of the organ. The cyst measures 6·4 × 6·8 cm. It is unilocular in character, its walls being for the most part translucent,

and resembling wet tissue paper in appearance. An opaque yellow band traverses the convexity of the cyst in an oblique direction. It is seen that this would, in the absence of the cyst, have just completed the normal outline of the kidney, and it may therefore be assumed that the part of the cyst lying externally to this line has been that which was pushed out beyond the surface of the organ during the gradual growth of the cyst. Above and to the inner side of the large cyst is a second and much smaller one, which seems to owe its origin to the dilatation of a calyx. Large numbers of very much smaller cavities are seen aggregated in clusters throughout the pyramidal substance of the organ; these are to be explained by the activity of a gas-producing bacillus in the tissues shortly before and after death.

KIDNEY: Extreme Hydronephrosis with Complete Atrophy. **51 : 67·1. 51·1 : 67·1. 51 : 41.**

A crescent-shaped kidney, in which practically no solid tissue is discernible, the organ, as well as the dilated pelvis and ureter in connection with it, being almost completely translucent. The surface is covered by a number of rounded projecting vesicular forms representing to some extent the lobulation of the organ in the solid state. This extreme atrophy of the kidney with dilatation of the pelvis, etc., was produced by almost complete occlusion of the vesicular orifice of the ureter, the bladder being the seat of a general bilharzial infiltration.

CAT. NO. 207.

KIDNEY: Extreme Hydronephrosis: Ureter, fibrous stricture of. 51 : 67·1. 51·1 : 55·5.

The specimen illustrates the absolute degree of destruction of renal tissue which occurs as a result of obstruction to the outflow of urine. The cause of obstruction in this case was a fibrous stricture of the ureter, two inches from the bladder. This can be seen on viewing the kidney from behind, where the strictured portion of the ureter (2·5 cm. in length) is seen curling upwards on the right side of the preparation. The diameter of the ureter in its more dilated portion measures on the average 16 mm. The kidney itself has been converted into a communicating series of cysts, the walls of which are traversed by a network of anastomosing vessels. The thickness of their walls varies, but nowhere is there any evidence of the survival of even a portion of the renal cortex.

KIDNEY: Extreme Hydronephrosis. 51 : 67·1.

The specimen presents, in the most striking possible fashion, the last effects of a long-continued hydronephrosis. The kidney itself measures longitudinally 27 cm. × 14 cm. transversely. The ureter emerging from a dilated, funnel-shaped pelvis, resembles in calibre and thickness of wall a piece of small intestine. The kidney itself is transformed into a bulky collection of transparent lobules, in which no trace of surviving solid renal tissue can be seen.

KIDNEY: Multiple Cysts, Simple. 51 : 67·1. 51 : 53.

A very much deformed kidney, its outline being markedly altered by the presence of a congeries of cysts of all sizes. Despite their appearance in the preparation, they possess in common the following features:—monolocular structure, translucent walls, where free of kidney tissue, limpid white contents with a composition differing only from that of urine in the amount of the contained salts. The opaque paraffin wax like appearance of the larger cysts is due to cotton wool. The smaller cysts are seen to penetrate the kidney tissue to no great depth, and to be perfectly translucent in appearance, Great as is the deformity in this case, the entire change can be traced to the formation of multiple simple cysts of the kidney, i.e., they are essentially of retention-cyst character, having originated primarily from the blockage of a tubule, the size of which has been subsequently enormously augmented by the coalescence with it of many other dilated tubules. An insignificant degree of chronic interstitial nephritis has accompanied the process of cyst formation.

KIDNEY: Congenital Cystic Transformation. 51 : 67·3.

The kidney, the half of which is preserved, is of normal dimensions. Both on the surface and in the cut section it is seen to be riddled with multitudes of closely set cysts of varying size. The majority of these are empty; in one or two, however, homogeneous collections of colloid material are visible. The superficial cysts, as seen through the still

adherent capsule, vary considerably in colour and in nature of contents; the condition is one of congenital cystic degeneration (or transformation) of the kidney, the result of some functional aberration of the renal epithelium, as a result of which it secretes a viscid, mucoid or colloid material, by which the tubules are distended.

KIDNEY: Congenital Cystic Transformation. **51 : 67·3.**

The kidney is of slightly more than normal size. It is nevertheless occupied in every part by multitudes of cysts of varying size and character. Although the cysts are extremely variable in size, none possess a greater diameter than 1·5 cm., and the great majority vary in size from a pea to a rice grain. Their contents also are extremely variable. In some, the contained material resembles cold starch; in others, it is opaque and of orange or amber colour; others, again, are filled with a material like solid white wax; and in a few others, the presence of blood has determined the appearance of the contained material.

KIDNEY: Congenital Cystic Transformation. **51 : 67·3.**

The kidney is slightly increased in size, measuring 13 cm. longitudinally by 5 cm. transversely. It is the seat of very numerous cysts, usually of small size, which are scattered over the external surface of the organ, and in section are seen to be practically confined to the superficial and inter-

pyramidal portions of the cortex. The contents of the cysts are in almost all cases translucent and jelly-like in appearance. In a small minority, however, they have a homogeneous opaque yellow or brown character.

KIDNEY: Congenital Cystic Transformation. **51 : 67·3.**

The specimen (an old, spirit-preserved one), is extremely bleached in colour, so that it is impossible to distinguish the cortical from the pyramidal portions except by position. It is filled with numerous cysts of small size, which are more apparent on the cut section than on the surface. These, for the most part, are devoid of contents.

KIDNEY: Congenital Cystic Transformation. **51 : 67·3.**

The preparation illustrates an advanced congenital cystic transformation of the kidney. Very little solid renal tissue has survived, the cysts being present in every part of the organ. The majority are of about 1 cm. in diameter, a few slightly exceeding this limit. Their contents are, as is usual, varied, some resembling transparent gelatine, and others having the opacity of white wax.

P.M.J. III. 129.

KIDNEY in Anchylostomiasis. **51 : 71·8.**
51 : 31.
51 : 42·2.

One half of the kidney has been preserved to illustrate the effects produced as a result of the profound anæmia and toxæmia of the condition. The entire organ is extremely pale, there being little differentiation in appearance between the cortex and the pyramids. Evidences of a fatty degeneration of the renal cortex are quite distinct. The cortical layer is either of homogeneous yellow colour, or shows more definite areas of yellow mottling.

The subject, a male æt. 25 years, was profoundly anæmic from anchylostomiasis, many worms being present in the intestine.

KIDNEY: Calculus: Pyonephrosis. **51·1 : 27·2.**
51·1 : 43.

The kidney has been entirely destroyed by hydronephrosis occasioned by a calculus which blocked the ureter. A second calculous mass is seen peeping out from the opening of one of the calyces in the upper part of the preparation.

KIDNEY: Chronic Pyonephrosis: Suppurating Cavities. **51·1 : 27·2.**
51·1 : 55·3.

The kidney is very considerably enlarged, measuring 15·5 cm. in length. The renal structure proper is, to a large extent, replaced by a number of irregular cavities, several

of which are lined with a ragged or shreddy purulent material of yellowish-green colour. A good deal of fibrosis has occurred round the walls of the cavity. The cavities, which seem to have been formed in connection with a purulent infection of the pelvis and calyces, have doubtless originated by a gradual enlargement of the latter. On viewing the specimen from the external aspect, two ureters, each of which has the dimensions of the normal structure, are seen to issue from the upper and lower parts of a somewhat prolonged pelvis.

KIDNEY: Hydro- and Pyonephrosis. **51·1 : 27·2.**
51·1 : 54·4.
14·6 : 55·1.

A kidney which is of slightly more than normal size, and has preserved generally its external form, has been almost completely excavated by a hydronephrosis, so that only a rind of renal tissue exists round the numerous dilated calyces and pelvis. In places indeed, the renal tissue has been so thinned by pressure-atrophy as to become quite translucent. The manner in which a hydronephrosis gives rise to progressive atrophy of the pyramids from the apices upwards, is very well illustrated in the preparation; in one or two instances only the basal part of the pyramid survives, a thin shell of 2 mm. in depth being all that remains of the original structure. The presence of some traces of a purulent exudation in the recesses of some of the dilated calyces points to the process having become latterly transformed by infection into a pyonephrosis. The surface of the kidney from which the capsule has been stripped, is markedly irregular, several

depressed areas of cortex, in the form of scarred fissures or larger cicatricial looking areas, indicating the co-existence of localized arteriosclerotic atrophy.

KIDNEY: Extreme Atrophy following Hydronephrosis. 51·1 : 27·2.

Although the degree of hydronephrosis which has existed, estimated by the amount of dilatation of the pelvis and upper part of the ureter, is by no means great, the most complete destruction of the kidney has occurred. Indeed no renal tissue in the proper sense of the term can be observed anywhere, and the entire organ is represented by its distended capsule, which in many places is quite diaphanous.

URETER: Retention Cysts of, in Bilharziasis. 52 : 67·1.

About 18 cm. of a considerably dilated ureter have been preserved to show a remarkable collection of cysts of the mucosa, which project inwards in well-defined fashion from sessile bases. These cysts vary in size from a split pea to a small pin head. The varying characters of their contents account for the different appearances presented. A few are delicately transparent in character, but the great majority are yellowish-brown to dark brown in colour. They are entirely unassociated with any inflammatory evidences in the surrounding portions of the wall of the ureter.

Microscopically examined, they are seen to be simple re-

tention cysts of the epithelial layer of the mucous membrane. They are, as a rule, lined by a single layer of flattened cells of somewhat cubical form, and are filled with a homogeneous material responding in the majority of cases to the staining tests of hyaline substances. In some cases, however, the nature of the contents resembles colloid rather than hyaline material.

[The explanation of the mode of origin of this condition is obscure. It cannot be described as common, and in the degree illustrated in the preparation, is certainly very rare; on the other hand, it is not infrequently found existing in a comparatively slight degree in association with cases of bilharziasis of the bladder. My observations in a large number of cases lead to the belief that it is a concomitant manifestation of bilharziasis, and of no other disease. Hitherto, however, I have never been able to find bilharzial ova in the contents of a large number of these cysts.]

Cat. No. 13.

URETER: Bilharziasis. 52 : 71·14.

Portions of both ureters have been suspended, side by side, in order to display the general thickening of their walls which occurs in chronic bilharziasis. In addition, the mucous lining of the ureters is everted into a thickened, rugose membrane with a yellow, sand-coloured appearance, and finely granular surface. In each ureter, moreover, small prominent adeno-papillomata are seen.

URETER: Chronic Bilharziasis. 52 : 71·14.

A portion of ureter, 15 cm. in length, has been opened longitudinally to display the striking changes which occur in chronic bilharziasis. The wall has a thickness of about 4 mm., and is composed largely of dense white fibrous tissue, which has almost entirely replaced the muscular tissue proper of the urethral wall. The appearances presented by the interior are very striking. There is a wide-spread, dark-coloured, ragged, almost necrotic-looking infiltration of the greater part of the mucous membrane. This is deeply honeycombed, considerable portions of it having passed into the bladder and been voided with the urine. The infiltrated area thus described is seen to be filled with hundreds of minute calculous granules, which are generally of dark brown or black colour. These are entangled for the most part in the meshes of the necrotic mucosa already described; but in the lower part of the preparation, several are seen to occur studded over the less affected parts of the mucosa. Careful examination of a number of these calculi has not revealed the slightest evidence that their development was associated with bilharzia ova as a central nucleus. The specimen illustrates in a remarkable degree the fact that extensive and advanced bilharziasis occurring in a situation in which the invasion of pyogenic organisms is difficult, may manifest itself without any concomitant suppuration.

URETERS and BLADDER: Bilharziasis. 52 : 71·14. 53 : 71·14.

The specimen consists of the urinary bladder, the anterior wall of which has been removed in order to display its in-

terior, with about 16 cm. of each ureter. The bladder is moderately dilated, and its walls are very thin. Internally, it is the seat of a brownish, granular and obviously ulcerated bilharzial infiltration, occurring in irregularly distributed patches, the most advanced of which is situated to the left side of the fundus (that is, on the right side as viewed from the front). The bladder wall is so thin as to be in certain situations quite translucent when viewed by transmitted light. The ureters, which are irregular, thickened and hard, are covered with congested vessels : these are both tortuous and prominent, and in the fresh state some of them were found to harbour parasitic worms. The calibre of each ureter is extremely reduced, as is well seen when the specimen is viewed from the top of the jar.

BLADDER : General Dilatation : 53 : 27·2.
Prostatic Enlargement. 54 : 64·7.

A greatly dilated bladder with attenuated wall has been preserved to show the results of obstruction of the prostatic urethra by the middle lobe of the greatly enlarged prostate. The bladder itself measures 16 cm. vertically by 10 cm. transversely. The two lateral halves of a considerably enlarged prostate are seen in median section at the lower part of the bladder. In each half, which measured $5 \times 3{\cdot}5$ cm., is seen a number of white rounded compact and well defined adenomata. These are separated by whitish strands of fibrous or fibro-muscular composition. The mucous membrane of the bladder, which is the seat of an early bilharzial infiltration, still bears traces of the reticulation which characterized it during the hypertrophic stage.

URINARY BLADDER: Extraordinarily Large Calculi. 53 : 43.

The preparation—a very old one—has been preserved on account of the remarkably large size of two calculi which together completely fill the cavity of the bladder. The lower, generally pyriform in outline—at least so far as the projecting portion is concerned—is dark reddish-brown in colour; the upper is of irregular coralline shape, with granular surface, and is evidently coated externally with phosphates.

Cat. No. 703.

BLADDER: Extreme Hypertrophy and Dilatation. 53 : 62·1.

The bladder is very greatly hypertrophied, its wall in places measuring not less than 2 cm. in thickness. The hypertrophy is concentric and general, the mucous membrane is thickened, deeply congested, and thrown into a large number of rounded folds and prominences. The marked changes seen in the organ are the result of chronic stricture of the urethra.

Cat. No. 640.

BLADDER: Myoma. 53 : 64·1.

The urinary bladder has been opened to display in section a bulky lobulated myomatous tumour. This appears to have been intra-mural in character. It has encroached greatly upon the cavity of the bladder.

BLADDER: Bilharziasis: Cancer. **53 : 71·14.**
53 : 66·1.

A transverse zone of the urinary bladder, which includes the two ureters, has been preserved to show the great encroachment upon the vesical cavity by a large cancerous infiltration associated with bilharziasis. On one aspect, the tumour is so extensive as to give the appearance of a solid white mass which extends from immediately under the peritoneum inwards, completely filling the bladder. On the other aspect, a thick ragged mass of tumour leaves a small ulcerated central cavity. On the left-hand side here are seen curious yellow areas of bilharzial infiltration, to a certain extent reminding one of the arbor vitæ of the cerebellum.

Cat. No. 4.

BLADDER: Chronic Bilharziasis: Papillomata. **53 : 71·14.**
53 : 64·6.

The bladder has been opened and partially everted to show in the trigonal region a number of prominent adenopapillomata associated with a general bilharzial infiltration.

BLADDER: Bilharzial infiltration: Very early stage. **53 : 71·14.**

The preparation shows the posterior wall of the bladder of a young subject. It is the seat of a widespread but irregular bilharzial infiltration in an early stage. The right

half of the bladder in particular shows a very fine meshwork of minute congested vessels, the sharp definition of which is interfered with by the fact that the infiltration of the mucous membrane has taken place mainly in the zone superficial to that in which the vessels lie. The infiltration itself is visible as a minute nodular mammilation of the mucosa, which, discrete in places, has in large areas become confluent. Examination under a slight magnification of the thinner part of the infiltrated area shows, however, that the deposition of ova in large numbers is taking place.

NOTE.—Certain of the finer features described as characterizing the bilharzial lesions of the bladder in the following series of preparations, it must be understood, are only visible under a hand lens (6 diameters) magnification.

BLADDER: Early Bilharzial Infiltration. **53 : 71·14.**

A rectangular portion of the posterior wall of the bladder of a young girl, showing comparatively early bilharzial infiltration. This presents itself as a yellowish or brownish granular infiltration of the mucosa, which insensibly merges into the infected portions of bladder wall. In the upper patch, careful scrutiny shows that some superficial loss of substance has commenced, though there is nothing at present to constitute an ulcerated lesion.

On the thinnest portion of the infiltrated patch, examination with a hand lens is sufficient to reveal myriads of elliptical bilharzia ova in the mucous membrane.

BLADDER: Early Bilharzial Infiltration. 53 : 71·14.

A vertical section through the urinary bladder of a boy of 16 years of age, displaying the posterior part of its wall. An irregular bilharzial infiltration occupies the greater part of it, leaving only the central portion of the specimen apparently free. In reality, however, very little of the mucous membrane has escaped the infiltration with parasitic ova. The bladder wall is irregularly thickened, and the lower part of the preparation measures as much as 12 mm. in thickness, whilst at its thinnest part it measures about 4 mm. Where the bladder wall is thickest, at least one-half of the entire thickness, as indicated by the yellowish brown colour it possesses, is occupied by the ova of the parasite. In the neighbourhood of this thickening, the infiltration has assumed an elevated, plaque-like, almost papillomatous appearance, some superficial hæmorrhage having also occurred. The surface of these elevated patches has a finely granular appearance closely resembling that of some varieties of coral.

BLADDER: Bilharzial Infiltration: Early stage. 53 : 71·14.

The bladder of a young male subject, showing a comparatively early yellowish-brown granular infiltration with bilharzia ova in the upper part of its posterior wall.

BLADDER: General Bilharzial Infiltration. 53 : 71·14.

The bladder of a male subject, the anterior wall of which has been removed. It is seen to be the seat of a bilharzial infiltration, occupying the entire interior. The internal surface is rough and granular in character, numerous small areas of ulceration being present. The mucous membrane is very considerably thickened, and over a large part of the wall, the muscular coat is apparently involved. This is particularly evident on the right side, as the specimen is viewed from the front; indeed in this situation, on regarding the bladder from above, it is seen that the morbid process has extended through all the coats of the organ, even the sub-peritoneal tissue being converted into compact, yellow tissue, rich in ova. The ureters, which are cut short in the preparation, are also affected.

BLADDER: Chronic Bilharziasis. 53 : 71·14.

The bladder of a male subject, approximately one-third of the anterior wall having been removed in order to display, as far as possible, the posterior part of the cavity. It is seen that every part of the lining surface is the seat of a diffuse bilharzial infiltration, as indicated by a rough, coarsely granular, yellowish-brown zone, replacing the mucous membrane. The bladder is irregularly thickened. A considerable degree of fibrosis of the muscular coat having occurred, the sub-peritoneal coat of the bladder is also infiltrated, the contractility of the walls being, by reason of these two processes, seriously impaired. The lower portions

of the ureters are very considerably thickened and indurated, being themselves the seat of a similar infiltration. Indeed, in the case of the left ureter, complete obstruction had occurred from this cause, and in its cut extremity in the preparation, no central lumen can be detected.

BLADDER: Chronic Bilharziasis: Papillomata. 53 : 71·14.

The bladder, whose walls are very thin, is very distinctly dilated. Its mucous membrane generally is exceedingly pale, and this permits of the easier detection of scattered areas of infiltration with bilharzia ova, amongst which occur numerous small papillomata. These latter are for the most part sessile, but one in the upper part of the fundus is distinctly pedunculated. Numerous small prostatic concretions were present, and some of these are seen as minute black grains amid the infiltration at the lower part of the organ. Both ureters are very considerably thickened, being the seat of obvious bilharzial infiltration.

BLADDER: General Bilharziasis: Symmetrical Papillomata. 53 : 71·14. 53 : 64·6.

The bladder is that of a young male subject of about 22 years of age. Its interior, the posterior part of which is displayed, is the seat of a universal bilharzial infiltration, giving a thickened, yellowish-brown, sanded appearance to the entire mucosa. The mucous membrane is thrown into a series of prominent and irregular folds, perhaps occasioned

by the irregular degree of fibrosis and muscular hypertrophy of the walls which has occurred. The striking feature of the preparation, however, is the presence over the situations of the two urethral orifices of the bladder of a pair of globular tumours, composed almost entirely of hyperplastic mucous membrane, and covered by a thick deposit of bilharzia ova. These, in the fresh state, were partially concealed by a quantity of turgid mucus. Both ureters are very considerably infiltrated, their lumina being greatly reduced.

BLADDER: General Bilharziasis: 53 : 71·14.
Papillomata. 53 : 64·6.

The bladder has been widely opened by an incision passing along the anterior median line up to the fundus, and continued one-third of the distance down the posterior bladder wall. It displays an irregularly distributed bilharzial infiltration with evidences of a septic cystitis, and a good deal of superficial ulceration. In the brownish area of bilharzial infiltration, there are seen two small, smooth surfaced, sessile adeno-papillomata, whilst occupying the trigone of the bladder are larger pedunculated papillomatous masses. The orifices of the ureters seen on the posterior aspect of the preparation are considerably enlarged, measuring 1·5 cm. in diameter, and that on the right side is, in addition, the seat of bilharziasis.

P.M.J. III. 438.

BLADDER: Chronic Bilharziasis: 53 : 71·14.
Calculus: Squamous Cell Carcinoma. 53 : 66·1.
52 : 27·2.

Occupying the posterior wall of the bladder, somewhat to the right of the median line as the bladder lay in its anatomical position, is a discoid tumour mass with ragged necrotic surface and prominent " rolled-over " edge, measuring 5 × 4 cm. in diameter. This passes through the entire thickness of the bladder wall and forms a prominent conical mass projecting externally on the right side. In the latter situation, it is incorporated with the wall of the right ureter. the lumen of which was in the lower part of its course almost obliterated, and in its passage through the bladder wall completely so, by the encroachment of the tumour mass. The upper part of this ureter, including the pelvis of the kidney, was very greatly dilated, and to a somewhat less extent were also the similar structures on the left side. Indeed the right kidney consisted merely of a rind of persisting renal substance, the organ being represented by a large pyo-nephrotic sac containing a considerable quantity of pus. The left kidney was represented by a series of cysts in which practically no kidney substance was discernible. The large bladder tumour described above was, when sectioned in the fresh state, of almost pearly whiteness. Careful scrutiny of other parts of the bladder wall revealed the presence of similar but much smaller nodules in the neighbourhood of the larger mass.

The bladder is the seat of a general bilharzial infiltration, numerous ova being obtainable by maceration of small portions of it in 5 % sodium hydrate solution.

Microscopical examination not only of the large mass, but of several of the smaller nodules above referred to, showed the structure of all to be the same, namely that of squamous cell carcinoma with numerous "cell-nests." As might be expected, the tumour had in its superficial parts become the seat of extensive septic infiltration.

The patient, a male æt. 37, was admitted on account of pain in the bladder region with difficulty in micturition. He also complained of the passage of small gravelly masses. He had had, in varying degree, bladder pain and dysuria for upwards of 12 years. Admission to hospital, however, was sought on account of the presence of a vesical calculus of considerable size, which was removed by lithotrity.

Careful search made at the autopsy for the presence of metastatic cancerous nodules was, with the exception of the heart itself, unsuccessful. In the right cardiac ventricle a small firm polypoid mass was found projecting from between the trabeculæ of the ventricular wall. Judged from its external appearance, it was thought at the time to be an old organized thrombus. Later examination, however, showed that its interior was really composed of cancerous tissue reproducing the characters of the tumour as seen in the bladder, concealed by a superficial coat of fibrinous clot.

BLADDER: Bilharziasis: Papillomata. **53 : 71·14.**

An anterior flap from the bladder wall has been turned downwards in order to display a cauliflower-like mass of papillomata projecting inwards from the posterior wall.

These are ulcerated superficially, and have also in places a dark red colour from hæmorrhage. A diffuse bilharzial infiltration of the mucous membrane in addition is present.

BLADDER: Bilharziasis: Involvement of Vesiculæ Seminales. **53 : 71·14. 55 : 71·14.**

The trigone only of the bladder has been preserved with the structures at the base (prostate, vesiculæ seminales, etc). Occupying the trigone are seen two small papillomatous masses with ragged ulcerated surfaces, and surrounding these an irregular bilharzial infiltration of the mucous membrane. The vesiculæ seminales are both seen to be very considerably enlarged—probably the result of bilharzial infiltration also.

P.M.J. IV. 184.

BLADDER: Bilharziasis: Cancer. **53 : 71·14.**

URETER: Involvement by Cancer as well as by Bilharziasis: Great Dilatation. **53 : 66·1. 52 : 71·14. 52 : 66·1.**

The specimen consists of the urinary bladder and right ureter in continuity with it. The bladder, which is dilated and slightly thickened, is the seat of a generalized bilharzial infiltration from which no part of the mucous membrane is exempt. Occupying and completely filling the trigonal region is a prominent rounded and solid tumour mass, the surface of which is the seat of slight ulceration and hæmorrhage. The mass completely obstructed the orifice of the right ureter, and to a very large extent that of the left side.

A prolongation downwards and forwards of the tumour mass also occluded the urethral orifice. The mass, which is cancerous in nature, perforates the bladder wall posteriorly and envelops in its growth the lower portion of the right ureter. This has suffered such dilatation and hypertrophy as to resemble in size and general appearance a dilated sigmoid flexure. The diameter of the ureter (measured at its superior extremity) is $4\frac{1}{2}$ cm. Its mucous membrane is the seat of a diffuse bilharzial infiltration, and in its lower part are plainly visible a number of prominent white papillomatous nodules of cancer, thrown out in front of the advancing margin of the carcinoma. Several considerably enlarged lymph glands are seen adhering to the posterior wall of the right ureter. The left ureter, which has been opened and stitched in an everted position along the bladder wall, is also affected with bilharziasis in a slighter degree, but has, at least in the external part of it which is alone visible, escaped involvement in the cancerous process.

BLADDER: Bilharziasis: Sarcoma: Involvement of Penis by Sarcoma. 53 : 71·14. 53 : 65·1. 58 : 65·1.

The preparation is composed of the male urinary bladder with the reproductive organs in anatomical continuity with it. A median sagittal section has been made whereby the following state of matters is illustrated. The bladder, which is considerably enlarged, but whose wall has remained thin, is practically completely filled by a large whitish granular or crumbling tumour mass of sarcomatous nature. The only

visible vestige of the bladder cavity is represented by an irregular fissured crevice between the tumour and the anterior wall of the bladder. The muscular coat of the bladder has entirely disappeared, and at various points over the peritoneal covering the tumour mass is seen to project beneath the peritoneal surface. Extensive nodular infiltration of the structures at the root of the penis is visible in the lower part of the preparation. The corpora cavernosa have also been extensively infiltrated with the sarcoma, so that the condition of chronic priapism illustrated in the specimen was brought about. The testicles, one of which is seen in section, had escaped involvement by the tumour, nor is there any evidence that the rectum had suffered any invasion. Evidences of bilharzial infiltration of the bladder were found on examination of the parts in the fresh state.

Metastatic sarcomatous tumours were encountered in the lung in this case.

BLADDER: Bilharziasis: Sarcoma. 53 : 71·14.
53 : 65.

KIDNEYS: Pyæmia: Hydronephrosis. 51 : 54·5.
51·1 : 27·2.

The bladder and kidneys are mounted together, the former occupying the lowest position in the preparation. The bladder, the interior of which is partially displayed by an anterior median incision, is seen to be almost completely filled by large whitish crumbling masses of tumour tissue, the actual space of the bladder cavity being reduced to an irregular chink. A tongue-like process of the tumour is seen depending into the orifice of the urethra, which must

have caused considerable obstruction to the urinary flow. The wall of the bladder shows considerable thickening, and many dilated and engorged veins are seen coursing over its anterior surface. Both kidneys are the seat of pyæmic abscesses, a group of these being particularly well seen at the lower part of the kidney suspended at the top of the preparation. In addition the pelvis of each shows a moderate degree of hydro-nephrotic dilatation, a condition which is also illustrated to an irregular degree in both ureters. A tumour mass in the bladder, which may almost certainly be regarded as malignant in character, has in development been grafted on to an old bilharzial infection.

PROSTATE : Sarcoma. **54 : 65·2.**

The prostate is very considerably enlarged, being the seat of a tumour which extends upwards in a rounded papillomatous fashion into the lower part of the bladder cavity. The tumour was sarcomatous in nature. An irregular degree of bilharzial infiltration is visible over the vesical mucous membrane.

SPERMATIC CORD : Endemic Funiculitis. **55 : 56.**
55 : 55·1.
55 : 54·5.

The preparation shows in its lowest part the smooth testis surmounted by the epididymis, and above these structures a bulky fibrous mass enclosing small islets of fatty tissue, in the midst of which are imprisoned the spermatic cord and

its accompanying vessels. As seen in the fresh state, a number of minute focal bands of suppuration were discovered in the place of the tissue laid bare by the series of transverse incisions observed on the right of the preparation. From some of these a minute Gram-negative diplococcus was isolated. It had, however, no other features of resemblance to the gonococcus. The microscopical examination of the tissue by sections stained in various ways showed everywhere a cellular connective tissue proliferation, which in certain areas had advanced to the development of some definite strands of fibrous tissue. A considerable degree of thickening had occurred round all the arteries, and in particular round the spermatic cord itself, owing to the concentric deposition of cellular strands of young connective tissue corpuscles round them.

TESTIS and Associated Parts: Endemic Funiculitis. **55·1 : 56. 59 : 55·1.**

The testicle and portion of the epididymis are seen in cut section embedded in the loose œdematous connective tissue of the scrotum. The structures round the base of the spermatic cord are greatly infiltrated, and there are one or two small purulent collections just above the portion of epididymis seen in cut section. The cavity of the tunica vaginalis has been completely obliterated by inflammatory adhesion.

CAT. NO. 700.

ACUTE ORCHITIS and Epididymitis. 56 : 54·6.
56·1 : 54·5.

The testicle and epididymis, both enclosed in the tunica vaginalis, have been divided and opened in the median line. Both organs are intensely congested and inflamed, and in addition the globus major of the epididymis contains small abscesses. The condition was secondary to cystitis in a bladder which was nearly destroyed by bilharzial papillomata.

EPIDIDYMIS : Chronic Tuberculosis. 56 : 56·1.
56·1 : 56·1.

The testicle and epididymis have been mounted, the former being considerably enlarged. The globus major of the epididymis is completely replaced by a caseous mass which extends diffusely upwards throughout the body of the organ.

EPIDIDYMES : Chronic Tuberculosis : Invasion of Testis. 56 : 56·1.
56.1 : 56·1.

Both testes have been preserved. That on the left-hand side shows a diffuse caseous affection of the whole of the epididymis, whilst on the right a similar process is seen to have extended from the epididymis into the body of the testis.

TESTIS and EPIDIDYMIS: Syphilitic Gummata. 56 : 56·3. 56.1 : 56·3.

An oval mass representing the testicle and epididymis in median longitudinal section. Both are the seat of very great fibrosis, whilst centrally large areas of firm caseation are present. This feature is particularly well seen in the centre of the testis.

Cat. No. 613.

TESTIS and EPIDIDYMIS: Sarcoma. 56 : 65·2. 56·1 : 65·2.

The preparation consists of the testis and epididymis, both of which are the seat of a bulky diffuse tumour growth. The central portion of the tumour in the testis has undergone some necrosis. Its appearance generally is pinkish-grey in colour and homogeneous in texture, while its lobulated structure, especially in the part involving the epididymis, is very apparent. Microscopically examined, the tumour proved to be a spindle-celled sarcoma.

SAC of HYDROCELE: Chronic Periorchitis: Atrophy of Testis. 56·2 : 27·2. 56 : 41·3.

The testicle, the tunica vaginalis of which is considerably thickened, and of milky whiteness, is seen lying in the lower quadrant of the oval sac constituting the preparation. The sac itself is that of a hydrocele, presenting no unusual features, and the specimen has been preserved simply to

illustrate the atrophic effects which sometimes follow thickening of the tunica vaginalis testis, when the affection has lasted for some time.

HÆMATOCELE of Tunica Vaginalis. 56·2 : 33·1.

The parts have been laid open, being retained in this position by a glass rod passing longitudinally along the preparation. The testicle, which has suffered by compression, is seen in front, whilst the cavity of the tunica vaginalis is practically filled by a granular red mass of blood clot. The tunica vaginalis is seen to be considerably thickened.

FEMALE URETHRA: Caruncle: 57 : 63·2.
Bilharziasis. 57 : 71·14.

The urethral orifice is reduced to a narrow crescent by a prominent little mass projecting from the lower lip of the orifice. It occasioned considerable difficulty in micturition. The subject was the seat of vesicular and vaginal Bilharziasis.

Cat. No. 719.

PENIS: Tertiary Syphilis. 58 : 56·3.

The glans penis and prepuce are the seat of extensive tertiary syphilitic ulceration. No portion of the glans has escaped the process, whilst in the prepuce the skin has been destroyed for a distance of about 5 cm. from the margin of the glans. The skin margin is marked by a number of warty ulcerated prominences.

PENIS: Bilharziasis. 58 : 71·14.
58 : 55·1.

The glans penis and adjacent portion of the prepuce have been amputated on account of a generalized bilharzial infiltration which was causing great obstruction to the urinary outflow. The parts are strikingly altered, and the specimen had, before being opened, an almost elephantoid appearance. The skin is seen to be exceedingly coarse and wrinkled. The latter feature was not present in the fresh state, and has supervened in the specimen as the result of loss of œdema fluid, which permeated all the space of the cellular tissue. A deep cicatricial mark with a white base is seen on the right side as the opened specimen is viewed from the front, and also on this side a number of papillomatous excrescences are seen at the junction of glans and foreskin. A very deep fissure with rounded margin passes horizontally round the specimen about 2 cm. below the margin of the prepuce. The great thickness of the tissue exposed in the cut section is composed of a dense fibrous connective tissue in which are seen a number of small sinuses or irregular canals lined with a compact yellow material.

PENIS: Bilharzial infiltration. 58 : 71·14.
58 : 55·1.

The specimen was obtained *post mortem* from a subject who exhibited wide-spread bilharzial infection of the bladder, vesiculæ seminales and ureters. Considerable difficulty in micturition had existed for some time during the later period of his illness. The corpora cavernosa, one of which is seen in partial longitudinal section, were both densely

infiltrated with bilharzia eggs, and as a result had become firm and rigid from the associated fibroid change. The urethral canal, which has been laid open along the inferior aspect of the specimen, is seen to be very tortuous. Its walls during the process of dissection were found to be of almost cartilaginous hardness.

EPITHELIOMA of SCROTUM. 59 : 66·1.

Half of the scrotum has been preserved. It is the seat of a deeply ulcerated epitheliomatous growth with very characteristic raised and everted edges. Numerous small carcinomatous nodules are scattered freely over the skin in the neighbourhood of the main growth. The white masses of epithelial infiltration associated with the cancerous process are very clearly seen in the cut section, which has been carried through the cancer on one side. The primary growth in this case had its seat in the penis.

SCROTUM : Elephantiasis. 59 : 71·9. 59 : 55·1.

A dense mass of fasciculated fibrous tissue composes the entire specimen. Sections of remarkably few vessels are seen in it, yet it is entirely free from necrotic or degenerative areas. The skin covering it (that of the scrotum) is coarse, rugose, and in places mammilated or almost papilliferous in character.

SCROTUM: Elephantiasis. 59 : 71·9. 59 : 55·1.

A portion only of the elephantoid growth, which had its seat in the scrotum, has been preserved. It consists of a heavy mass of white œdematous connective tissue, the skin over which is apparently reduced in thickness and coarse in texture. A large oval cavity seen at one side of the preparation is doubtless due to myxomatous degeneration. Various other irregular cavities in the neighbourhood may be explained in the same manner.

FEMALE GENERATIVE ORGANS.

EPITHELIOMA of VULVA. **61 : 66·1.**

The growth is a very extensive one, and in its centre has a distinctly papillomatous appearance. It has a prominent rolled margin, the thin skin covering which exhibits numerous small perforations, giving it here almost a coralline appearance.

UTERUS : Multiple Myomata: Large Polypoid Tumour. **63 : 64·1.**

The specimen consists of almost the entire uterus which was extirpated on account of the pressure caused by the tumours. These are seen as well-defined fasciculated masses of paler colour than the muscle of the uterine wall itself. They have replaced almost entirely the whole thickness of the wall in places. Depending from a pedunculated attachment on the left side of the uterus, is a bulky lobulated polypoid myoma, the apex of which presented at the external os.

UTERINE MYOMA, Old : Calcification. **63 : 64·1.**
64·1 : 42·9.

Half of the tumour, which required to be sawn through, has been preserved. It has an opaque yellow colour, and was found to be completely calcified. Smaller myomata are seen in the immediate neighbourhood.

UTERUS: Multiple Myomata. 63 : 64·1.

The extirpated uterus has been opened to display a closely clustered collection of myomata of all sizes, the majority of which are set in its wall, whilst a few occupy a sub peritoneal position. The cavity of the uterus, which is irregular in calibre and distorted in its axis by tumour pressure, is seen in each half of the preparation.

UTERUS: Myoma. 63 : 64·1.

The uterus has been opened in the anterior median line to display an oval myoma set in the anterior wall of the organ. The tumour tissue, which is fasciculated, contrasts by its dark colour with the paler muscle tissue of the uterus. The uterine cavity, which is apparent as a narrow chink in the lower half of the preparation, is deflected backwards by the tumour. The ovaries and fimbriated extremities of the Fallopian tubes are seen displaced in an upward direction on the posterior aspect of the specimen.

UTERUS: Small Polypoid Adenoma. 63 : 64·7.

The uterus of a comparatively young subject, showing an elongated polypus, almond-like in shape, which hangs downwards in the uterine cavity. In the fresh state the polypus was of very soft gelatinous consistence, and milky colour. As a result of preservation, it has become much smaller and more opaque.

UTERUS: Sarcoma. 63 : 65·3.

The uterus is of globular form. Its anterior walls, which are held widely open by the glass rod inserted transversely in the specimen, are seen to be distinctly increased in thickness. Pushing forward the posterior wall is a diffuse tumour, the lobulated outline of which is better seen on the posterior aspect of the specimen. A considerable infiltration exists on the right side, and the ureter is seen passing through the mass.

PATH. REP. II. 122.

UTERUS: Carcinoma. 63·1 : 66·1.

A wedge-shaped section has been removed from the anterior wall of the uterus in order to display better both the cavity of the organ and the extensive ulcerated growth which occupies the cervical portion. The tumour, which is of course cancerous, is seen to have permeated almost the entire thickness of the muscular wall of the cervix. Its central portions have undergone ulceration and necrosis. The cavity of the uterus seen in section above the tumour, is dilated. This has probably occurred as the result of obstruction to the cervical canal by the malignant growth. In association with the growth a small irregular oval cavity is seen in the right half of the specimen, probably the result of degeneration.

The patient, a woman æt. 49, had latterly suffered from almost continuous hæmorrhage, as a result of which she had become extremely weak and anæmic. She also suffered from a foul septic discharge, the result of bacterial infection

of the cancerous growth. Microscopically examined, the tumour was found to be a squamous cell carcinoma of papillomatous type.

OS UTERI: Carcinoma: Sub serous Myoma. **63·1 : 66·3. 63 : 64·1.**

The uterus has been laid widely open to display an ulcerated carcinomatous growth which has its seat in the os uteri. The growth is seen in the form of irregular ulcerated nodular masses which hang downwards from the ostial opening. The growth can be seen as white tumour tissue which infiltrates the muscle for some distance upwards from its primary seat. A good deal of fibrosis of the uterine muscle has occurred. Sutured to the uterus on its left side is a firm oval myomatous tumour. This existed as a sub-serous tumour in the broad ligament.

Cat. No. 27.

CERVIX UTERI: Bilharzial Papilloma. **63·1 : 71·14. 63·1 : 64·6.**

Arising from the posterior lobe of the cervix is a pedunculated lobulated and cauliflower-like growth. It had a central core of loose fibrous tissue enclosing many Bilharzia ova. At the time of operation the impression existed that the condition might be malignant.

UTERUS: Intra-mural Myoma. 63·2 : 64·1.

The tumour, which is situated in the anterior wall, is almost spherical in form. It contains a considerable amount of fibrous tissue, and is markedly fasciculated in appearance. The cavity of the uterus is impinged upon by the tumour, and partially displaced.

UTERUS: Multiple Myomata. 63·2 : 64·1.

A large mass of uterine myomata, mainly of the intramural variety. The largest, which is practically globular, measures 16 × 18 cm. in diameter. The white fasciculated appearance of the tumours is well seen indicating their fibro-myomatous nature. In the largest tumour, various types of localized degeneration are visible, namely fibroid degeneration, mucoid degeneration, and hæmorrhage.

UTERUS: Multiple Myomata: Hydrosalpinx. 63·2 : 64·1. 64 : 27·1.

The uterus and adnexa have been preserved in continuity. The former has been laid open in an antero-posterior direction along its mesial aspect. Several intramural myomata are seen in the cut section. These are small, free from degenerative change, and comparatively recent in appearance. The Fallopian tubes are in their outer parts tortuous and distended, the swellings partially translucent, and the contents are a clear fluid. The double hydrosalpinx in this case was due to pressure caused by myomata near the uterine orifices of both tubes. The ovaries are rather enlarged, and in the case of that on the right side, partially cystic.

TUBERCULAR SALPINGITIS. 64 : 56·1.

The uterus, ovaries, and tubes are those of a young subject who died of general abdominal tuberculosis, chiefly located in the mesenteric glands and intestine. There had been prior to death general tubercular infection of the peritoneum. The distal portion of the Fallopian tubes are much contorted and swollen, and fluid caseous material could be expressed from the fimbriated openings in the fresh state.

OVARY : Colloid Cystoma. 65 : 67·5.

A transverse slice (8 cm. in thickness) of the tumour only has been preserved, the entire mass weighing considerably over 7 kg. The measurements of the cut section are 25 cm. transversely by 20 cm. vertically. It is composed of an immense number of cysts of varying size, the majority of which are filled with a homogeneous brownish gelatinous-looking material (colloid). One of these, of unusually large size and of horse-shoe form, is seen near the lower extremity of one of the cut surfaces. It is filled with a material resembling solidified starch. The cysts are separated by radiating bands of a white firm connective tissue in the interstices of which, however, numbers of very small cysts occur.

OVARIAN CYST with Intra-cystic Papillomatous Growths. 65 : 67·6.

The cyst, a portion only of which has been preserved, shows in extremely characteristic fashion multitudes of

closely-set papillomatous ingrowths, having their bases of growth in the cyst wall. They were in the fresh state exceedingly soft and fragile in character, and when first viewed, submerged as they were beneath the clear fluid which the cyst contained, resembled in striking fashion a soft coralline mass near the surface of a marine aquarium. Microscopically examined, the papillomata were composed of branching strands of delicate vascular connective tissue, covered in some places by a single layer, and in others by two or three layers, of cylindrical epithelium.

OVARY: Cystoma: Papillomatous Ingrowths. 65 : 67·6.

A comparatively small (14 × 15 cm.) cyst has been partially laid open in order to display a congeries of small cauliflower-looking papillomatous ingrowths projecting into the cyst cavity from the inner wall.

OVARY: Large Dermoid Cyst. 65 : 67·7.

The specimen represents only one-third of the posterior wall of the cyst, which, for a specimen of the kind, was enormous. It is lined generally by a white, opaque, and in places keratinized layer of epithelium, and from its upper part hangs a quantity of short black curly hair. This, as usual, was practically concealed by a quantity of gruel-like (atheromatous) material, some traces of which are still seen clinging to the roots of the hair. Projecting from the prominent lobulated mass seen in the lower part of the specimen, is

a number of more or less perfectly formed teeth. These emerge from ill-formed dental papillæ, and are set at very varied angles. The nature of the tissue beneath them has not been fully investigated.

OVARY: Dermoid Cyst. **65 : 67·7.**

The usual components of the cyst are illustrated in very typical fashion. In connection with the well-formed premolar and molar teeth, which are seen in the lower part of the cyst, occurs a well-formed plaque of bone. The hair, seen in the immediate neighbourhood of the teeth, springs from a well-defined stratified epithelial layer. The specimen has been suspended by the Fallopian tube, the fimbriated extremity of which is visible on the observer's right, with the open cyst before him.

OVARY: Dermoid Cyst. **65 : 67·7.**
UTERUS: Myomata. **63 : 64·1.**

The uterus, which is not enlarged, is the seat of one or two small myomata. There is a cystic condition of the ovaries on both sides. That on the right side of the preparation, as viewed from the front, is bilocular, and it is filled with an opaque yellow granular material, not unlike that frequently seen with the dermoid cyst.

OVARY: Portion of Dermoid Cyst. **65 : 67·7.**

A portion only of the cyst has been preserved. This has been everted in order to show (1) the pale granular epithelial

surface in the upper part; (2) two well formed teeth projecting from a nodular mass of dark-coloured tissue on the left side; (3) a quantity of fine short hair, which emerges from a greyish soft pultaceous material at the lower part of the specimen.

GRAVID UTERUS: Fleshy Mole. 67 : 42·6.
68·2 : 33·3.

The half of the gravid uterus has been preserved. Growing out from the upper aspect of its internal wall is a very large soft white tumour-like growth, the interstices of which exhibit a slate-coloured pigmentation, the result of diffuse interstitial hæmorrhage. A certain amount of mucoid degeneration has occurred in the white compact tumour tissue. The appearances presented on the left side of the preparation are such as to suggest strongly a malignant transformation (Chorion-epithelioma). Traces of the great omentum are adherent over the external aspect of the uterus.

UTERUS: Septic Infection of Placental Site. 67·1 : 55·3.

The cavity of the organ has been widely opened to display the extensive changes which have occurred as a result of septic infection following delivery. These changes are specially well seen in the placental site of the posterior wall. The uterine wall here is thinned, its interior extremely irregular, ragged and shreddy. Numerous hæmorrhages have also occurred in the substance of the uterus. The lower part

of the uterus and the dilated canal of the os are seen to be covered with an adherent pseudo-membrane of sloughing character.

UTERUS : Puerperal Infection : 67·1 : 55·3·4.
Sloughing of Mucous Membrane. 67·1 : 54·6.

The greatly enlarged uterus has been laid open to exhibit the extensive necrosis and sloughing which occurs as a result of microbic infection following delivery. The whole of the interior is covered by an irregular ulcerated discoloured layer, parts of which in the fresh state had undergone entire necrosis, and were removed before the specimen was placed in preservatives. A considerable amount of hæmorrhage has taken place in the uterine wall.

GRAVID UTERUS : Partial Involution : Puerperal Infection. 67·1 : 54·4. 67·1 : 54·6.

The patient survived the infective process for some days following delivery, so that involution changes are apparent in the diminished uterus (13·5 cm. vertically × 11 cm. transversely). The cavity of the uterus had been curetted, so that its interior appears on the whole comparatively smooth and clean. A necrotic layer of tissue, however, very like a reticulated fibrinous pseudo-membrane, is seen covering the whole of its posterior wall. The muscular wall of the uterus, as seen in cut section, is discoloured in its internal part from diffuse hæmorrhage, and in the numerous gaping orifices of uterine veins some traces of thrombosis are still visible.

GRAVID UTERUS: Perforation: Puerperal Infection. 67·1 : 54·4. 67·1 : 44·4. 67·1 : 22.

The septic and gangrenous process in the interior of the uterus is visible in an extremely aggravated form. Every part of the uterus is covered by a thick necrotic layer, and portions of the placenta or of the membranes are hanging from the lining of the uterine wall. The wall of the uterus, which measures from 2 to 3 cm. in thickness, is, towards the interior, the seat of a diffuse hæmorrhage. A large ragged aperture is visible on the left side of the organ, just above the interior os, and the wall of the uterus is rather thinned at this point. Two venous branches, each of considerable size, and distended by thrombosis, are seen separated in the form of a V, with the large orifices and the perforation between them. There was, of course, in this case, general acute peritonitis, and traces of the exudation are still apparent over the fundus of the uterus.

GRAVID UTERUS: Puerperal Sepsis: Multiple Thrombosis. 67·1 : 54·4. 67·1 : 44·4.

The gravid uterus (measuring 20 × 15 cm.,) is the seat of an advanced septic process which involves every part of its interior. The lining is converted into a discoloured shreddy layer, extending visibly some distance into the muscular wall. The process reaches its greatest intensity in the middle of the posterior wall, representing the site of the placental attachment. The uterine veins, which are seen to be dilated, are filled with soft greyish recent thrombi of doubtless infective character.

CHORION: Hydatidiform Mole. 68·2 : 42·6.

The specimen consists of a pale anemone-like mass attached with a small portion of the uterine surface from which it sprang. Long tubular columns of pale gelatinous form spring from the placental site, and hang freely in the cavity of the uterus. Many of these show the most varied irregularities and contractions, so that oval or rounded globose masses are formed. A few of these, which have become detached, are lying at the foot of the preparation.

MAMMA: Round-Celled Sarcoma. 69 : 65·1.

The breast is rather bulky by reason of a large extensively ulcerated tumour which occupies its interior. The skin of the breast is very deeply pigmented, the subject having been of negroid type. Various outlying nodules of tumour, some of them showing a commencing ulceration, are visible in the breast immediately beyond the large area of ulceration. The tumour, on microscopical examination, proved to be a round-celled sarcoma.

MAMMA: Scirrhous Carcinoma. 69 : 66·3.

A small pyramidal portion of the mamma has been mounted to show a diffuse scirrhous infiltration of its substance. The growth has produced ulceration at one point which apparently represents the greatly retracted nipple.

MAMMA: Scirrhous Cancer. 69 : 66·3.

Two hemispherical portions of mamma have been hung close together. They show a diffuse scirrhous infiltration which permeates the fatty tissue on each half of the breast. Radiating white lines proceed towards the surface as well as deeply into the mammary tissue: these represent linear lymphatic infections. The skin over the mamma is considerably thickened, and in the neighbourhood of the nipple is the seat of a cancerous infiltration. The nipple, which is rounded and prominent, has also been invaded by the cancerous process.

MAMMA: Scirrhous Carcinoma. 69 : 66·3.

The median zone of the mamma has been laid open vertically so as to display the nipple in vertical section. Radiating from this as a centre is seen an extensive flat almost lenticular mass of scirrhous cancer extending throughout the entire breast. The nipple itself, as well as the skin surrounding it, is the seat of extensive cancerous infiltration.

MAMMA: Ulcerating Carcinoma: 69 : 66·3.
Sepsis. 69 : 55·3.

The tumour—a soft cancer—has ulcerated through the skin in at least two places, producing large fungoid vascular projections. So far as can be seen in the preparation, the nipple is not involved, though the surrounding skin is both indurated and coarsened in texture, as so frequently happens in mammary carcinoma. In addition, the organ is

the seat of a chronic diffuse mastitis with septic foci. One of these is seen in the form of a small ragged cavity surrounded by a purulent infiltration in the lower part of the preparation.

MAMMA: Ulcerating Carcinoma. 69 : 66·3.

A median section through the breast has been made to show the deep penetration of the gland by a large cancerous mass. This has reached the surface, and on one side of the nipple forms a prominent button-like ulcerating projection with a deep central fissure. The specimen had been treated with 15 % nitric acid in order to emphasize the contrast between the cancerous mass and the fatty tissue of the breast. The latter has been deeply stained in the process.

MAMMA of Male Subject: Carcinoma. 69 : 66·3.

An elliptical portion of skin, to the right side of whose centre is situated the small flat nipple of the male breast. Occupying practically the centre of the section is a prominent and partially ulcerated growth, the margin of which almost encroaches upon the contiguous portion of the nipple.

MAMMA of Male Subject: Carcinoma. 69 : 66·3.

The specimen, more or less wedge-shaped, shows an extensive cancerous infiltration in the fatty and areolar tissue

beneath the male breast. The nipple is seen in section near the upper extremity of the preparation, and at its left-hand side the cancerous infiltration is seen to be continuous from the nipple downwards through the various tissues. It is white and lobulated in form, and the processes of the tumour are seen underlying the peritoneal muscle.

MAMMA: Scirrhous Cancer: Paget's Disease of the Nipple. 69 : 66·3. 81 : 66.

A median section through the breast has been mounted to show not only extensive cancer of the gland itself, but a wide-spread cancerous involvement of the skin surrounding the nipple. In the latter situation, beyond the deeply ulcerated and fissured cancerous surface, very numerous small white elevated bands or nodules are seen representing the mode of extension of the malignant process by the lymphatics of the skin.

NERVOUS SYSTEM.

DURA MATER: Diffuse Sub-dural Hæmorrhage. 71 : 33·3.

The greater part of the dura mater over the convexity, and including the falx cerebri, has been preserved. The membrane is seen to be very variable in thickness, being in places tissue-like and diaphanous, and in others with the glistening consistence of tendon. An extensive and diffuse sub-dural hæmorrhage is seen to have its seat in and round the falx cerebri, and to have extended to an almost equal extent on either side of the median line. In the lower part of the preparation, a partially detached pseudo-membrane, with blood adherent to its deeper aspect, is observed. Several membranous layers of this kind were found distinct and separable in the fresh state.

DURA MATER: Chronic Hæmorrhagic Pachymeningitis. 71 : 55·1. 72 : 33·3.

The left cerebral hemisphere has been preserved in its entirety. The dura mater covering it is very considerably thinned, the membrane having over a great part of its extent an opaque glistening appearance like tendon. Numerous small arborescent vessels are seen coursing over the sub-dural aspect of the membrane. Beneath the dura mater

is a large flattened cake of blood clot. This is in part revealed by the reflection backwards of the dura mater. The blood, which appears to have been recent in character, is enclosed between two thin membranous layers, the so-called "false membranes," the formation of which so frequently accompanies pachymeningitis.

DURA MATER: Small Endotheliōma. **71 : 66·5.**

The tumour occurred on the deep aspect of the dura mater, just above the torcular Hierophili. The tumour itself had apparently produced neither vascular nor functional derangements by its presence, being accidentally discovered at the *post mortem* examination. Its structure was endotheliomatous.

CEREBRUM: Diffuse Hæmorrhage: Laceration. **73 : 21·7.**
72 : 33·3.

The hæmorrhage was the result of contre-coup. The lateral and inferior aspects of the temporal convolutions of the left side are the seat of considerable laceration with some insignificant amount of hæmorrhage. The fatal hæmorrhage, however, as well as a deep laceration of the brain affecting both the frontal and temporo-sphenoidal lobes, occurred on the right side of the brain. The hæmorrhage is in the form of a flat irregular cake of clot which completely obscures the sulci over the greater part of the hemisphere.

CEREBRUM: Extensive Hæmorrhage of some standing. 73·1 : 33·1. 73·3 : 33·2.

The posterior half of the right cerebral hemisphere, with the cerebellum and pons, have been preserved. The white substance of the cerebrum is the seat of an extensive but old hæmorrhage. The blood clot is almost black in colour, and some surrounding pigmentation of the brain substance has occurred. The blood has torn a passage for itself both backwards and inwards. It is seen to have ruptured its way into the lateral ventricle, destroying a large part of the caudate nucleus in doing so. Two small linear hæmorrhages are seen in the section of the medulla.

CEREBRUM and CEREBELLUM: Diffuse Hæmorrhage. 73·1 : 33·3. 73·2 : 33·3.

A curious hæmorrhagic condition is illustrated, the explanation of which is not clear. In the case of the cerebrum, the hæmorrhage is of diffuse character, and is granular or stippled in appearance. The vessels of the pia-arachnoid in immediate relationship with the area of hæmorrhage stand out from their grooves like rounded cords. It may reasonably be deduced that the hæmorrhage here is associated with thrombosis.

In the case of the cerebellum, the hæmorrhage is mainly peripheral. The blood in this situation has produced a striking injection in red on the cortical substance of the cerebellum.

CEREBRUM: Multiple Areas of Ulceration. 73·1 : 55·3·4.

The entire brain is extremely congested, congested capillary vessels being seen over every part of the surface. Several areas of ulceration with necrosis are seen occupying the anterior portions of both frontal and temporo-sphenoidal lobes. The most advanced is that which occupies the frontal region, invading the superior frontal convolution and passing inwards to the superior longitudinal fissure. These lesions had their origin in a temporal abscess, in all probability connected with chronic ear disease.

BRAIN: Large Solitary Tubercle nodule. 73·1 : 56·1. 73·1 : 44·2.

The anterior half of the left cerebral hemisphere has been preserved. A large oval compact tumour is seen in the cut surface uppermost in the preparation. This is composed throughout of homogeneous caseous material, and measures 5×3 cm. It apparently lies in a bed of cerebral substance, the white matter of which has suffered considerable displacement during its gradual increase in growth. The cerebral cortex is seen to be thinned out almost to vanishing point over the most prominent part of the tumour.

CEREBELLUM: Acute Lepto-Meningitis. 73·2 : 54·4.

The exudation is most abundant between the lateral lobes of the cerebellum and the medulla oblongata. It is almost

entirely absent from the upper surface of the cerebellum, but inferiorly it is seen to be abundant over the posterior part of the left lobe. The specimen came from a case of sporadic cerebro-spinal meningitis.

CEREBELLAR ABSCESS. 73·2 : 54·5. 73·2 : 33·3.

The specimen, which is composed of the left half of the cerebellum, shows in the middle of the cut section a well-defined abscess. The intervening cerebellar substance between this and the surface is the seat of a diffuse hæmorrhage with some softening of the tissue. Very little trace of the existence of the deep-seated lesion is afforded by the condition of the surface. The affection was connected with an infective thrombus of the left sigmoid sinus.

OPTIC THALAMUS: Hæmorrhage. 73·7 : 33·1.

A vertical median section has been carried through the entire brain, the left half of which constitutes the preparation. An area of hæmorrhage with some laceration is to be observed in the mesial aspect of the optic thalamus. It is situated immediately above the choroid plexus. The hæmorrhage had been superficial, and by rupture of the superficial portion of the optic thalamus the blood had gained free access to the ventricular system. The site of hæmorrhage is therefore now represented by an irregular pentagonal aperture with lacerated blood-stained margins.

MULTIPLE NEURO-FIBROMATA. 75 : 63·2.

The specimen represents portions of several nerve trunks dissected out from the upper and lower extremities of the affected subject. They are seen to be most irregular in contour, the largest amongst them showing particularly several oval white swellings in the course of their length. Even where such obvious tumours are not visible, the consistence of the nerve trunk elsewhere varied from the density normal to a nerve to that of tendon.

TEGUMENTARY, ETC., SYSTEM.

CUTANEOUS PAPILLOMA. 81 : 64·6.

The tumour starts from a rounded pedicle expanding gradually and having either a slightly fissured or a markedly cauliflower-like surface.

SCAR : Epithelial Growth originating in. 81 : 66·1.

A prominent epithelial growth, with a papillomatous surface and well-defined elevated margin. The growth originated in scar-tissue, and was termed epitheliomatous. It is possible, however, that it may belong to the class of smaller growths caused by the parasite of Oriental sore (Leishmania Tropica).

SKIN OF BUTTOCK : Squamous Cell Epithelioma. 81 : 66·1.

The growth occurred in an elderly subject, and was excised surgically. The raised and overhanging nature of the margin is well illustrated in the lower part of the specimen. The floor of the ulcer varies greatly in depth, in places having a deep honeycombed appearance.

SCALP: Squamous Cell Epithelioma. 81 : 66·1.

The overhanging nature of the margin is very well illustrated. The growth is prominent, and projects fully 2 cm. beyond the general surface of the tissue. The epithelium of which it is composed gives it, in the main, an opaque white colour. Its surface is much fissured, and there was very considerable superficial sepsis.

SUB CUTANEOUS FIBROMA: Central Ulceration. 82 : 63·2.

The tumour had undergone superficial ulceration involving only the thickness of the skin. Doubtless the skin over the centre had been previously thinned by pressure atrophy. There was little associated sepsis. As viewed in cut section, the tumour tissue is dense and highly fasciculated. Microscopically examined, it was composed entirely of dense fascicles of scantily nucleated connective tissue fibres.

NECK: Small Dermoid Cyst. 82 : 67·7.

A small clear cyst about the size of a chestnut. One side of its wall is opaque and dark in colour, and from this portion projects internally a papillomatous-looking mass of white colour.

SUB CUTANEOUS LIPOMA. 82·2 : 63·1.

A central section from the tumour which, when it was removed, had a globular form and semi-fluctuant consistence, has been preserved. It is composed throughout of very opaque yellow homogeneous fat, and shows in cut section comparatively little trace of lobulation. Externally, however, as is seen from the portion of surface preserved, the tumour was thrown into a large number of prominent rounded lobules.

SUB CUTANEOUS LIPOMA. 82·2 : 63·1.

A flattened lobulated mass, with on one aspect a long narrow elliptical portion of skin. The tumour was composed throughout of a pure fatty tissue arranged in small compact lobules.

MUSCLES of THIGH: Sarcomatous Infiltration. 83 : 65·1.

The specimen is taken from the anterior surface of the thigh. Some of the muscles composing it are completely replaced by a homogeneous white tumour tissue. Careful scrutiny of this tissue will show that the tumour has developed along the natural lines of the muscular fibres, the general oblique direction of which can be detected in the midst of the tumour. The dark epidermis has peeled off from certain parts of the specimen, thus explaining the apparently non-pigmented areas which occur. In several places the tumour tissue has made its appearance through minute apertures in the skin.

OSSEOUS SYSTEM.

OSSEOUS SYSTEM.

SARCOMATA of both Lower and Upper Jaws. 92·1 : 65·10. 92·2 : 65·4.

The specimen is remarkable in that tumours were present in both the upper and lower jaws. In the upper jaw (which is mounted in the middle of the jar), a dark bulky mass is seen projecting both outwards and inwards. It seems to have invaded and to some extent filled, the antrum of Highmore. In the lower jaw, the tumour is a compact oval mass which has probably had its origin in connection with the periosteum. Its greatest projection occurs inwards towards the buccal cavity. It has not during its growth eroded the inferior maxilla to any extent. The tumour in the upper jaw is a myxo-sarcoma, whereas that in the lower jaw is a myeloid sarcoma. The subject was a male of 18 years of age.

PATH. REP. I. 158.

INFERIOR MAXILLA : Large Spindle-Celled Sarcoma. 92·2 : 65·2. 92·2 : 42·9.

The tumour, which measures 10 × 6 cm., appears to have originated in the osseous substance of the ramus. This has been completely destroyed by its growth. The greatest extension of the tumour has occurred in a downward direction although the buccal mucous membrane has also been

pushed upwards by its growth. The stroma of the tumour contains some osseous trabeculæ, and elsewhere is exceedingly hard from abundant deposition of calcium salts. At the lower extremity it was quite soft, and palpation conveyed the idea of localized softening or cystic degeneration. In two situations in this region, it had suffered ulceration. Microscopical examination showed that it possessed the structure of a highly cellular spindle-celled sarcoma.

INFERIOR MAXILLA: Myeloid Sarcoma. 92·2 : 65·4.

The right half of the ramus of the lower jaw, with the exception of the anterior portion, has been preserved. A prominent ulcerated mass, partly of very dark colour, occupies the line of the dental alveoli, traverses the bone, and appears beneath the ramus in the form of an oval adherent mass. Structurally it had all the characters of a myeloid sarcoma. It was in this case the gland-like enlargement below the jaw which first attracted the patient's attention.

INFERIOR MAXILLA: Giant-Celled Sarcoma. 92·2 : 65·4.

A portion of the ramus of the lower jaw in connection with which the tumour has developed. It is seen to have originated chiefly on the superior and internal aspects of the ramus. It presents itself as a lobulated mass of dark blood colour.

(NOTE.—A tumour of this class is said to owe the darkness of its tint to the proportion of giant cells present.)

INFERIOR MAXILLA: Myeloid Sarcoma. 92·2 : 65·4.

The anterior portion of the lower jaw is seen to contain a prominent tumour on the right side of the middle line. This has widely separated the bicuspid teeth, and projects inwards in the region of the root of the tongue. Structurally, the tumour was a pure giant-celled sarcoma.

INFERIOR MAXILLA: Myeloid Sarcoma. 92·2 : 65·4.

The right ramus of the inferior maxilla removed by disarticulation. On either side of the dentition line extends an enormous tumour of compact consistence and dark colour. Its central parts are excavated by ulceration. Structurally it proved to be a giant-celled sarcoma ("malignans epulis").

VERTEBRAL COLUMN: Spina Bifida. 93 : 12·4.

The bodies of the vertebræ (lower lumbar and coccygeal) have been divided longitudinally in order to display the anatomical relationships of the parts involved. The whole of the cauda equina is observed to pass outwards through the opening in the vertebral arches. The nerve filaments are apparently caught up in the thickened spinal meninges, and distributed with them over the inner aspect of a prominent oval tumour covered by the skin of the back. The subject (a child) in this case had attained the age of 13 years.

SPINA BIFIDA. 93 : 12·4.

The specimen represents the lumbar region of the vertebral column of a new-born child. A white elliptical opening is present on the posterior aspect. Over the inner wall of this opening, the spinal membranes are spread, and in its depth appears the cauda equina.

VERTEBRÆ: Erosion from Aneurysm. 93 : 41·3.

The specimen shows in very typical fashion the effects of aneurysmal pressure on the bodies of the lower dorsal vertebræ. The anterior parts of the bodies of at least two vertebræ are missing. The intra-vertebral discs separating these stand out prominently, and have not shared in the atrophic and ulcerative process. It is seen that the connective and muscular tissues immediately in front of the bodies of the vertebræ concerned are infiltrated and thickened.

VERTEBRAL COLUMN: Pre-Vertebral Abscess: Caries. 93 : 54·4. 93 : 55·3.

The vertebral column is eroded by a suppurative process along almost its entire anterior aspect. The effects of suppuration and caries are clearly demonstrated in the cancellous bodies of the involved vertebræ, the inter-vertebral discs having, to a large extent, resisted destruction. The process appears to be more intense in the upper part of the vertebral column, as indicated by a larger amount of exuda-

tion in this region. The acute bending of the vertebral column is entirely artificial. There appears to be a considerable amount of exudation round the spinal cord, the cut section of which, however, at the upper end, appears healthy.

No clinical or other record of the specimen has been preserved, but the view seems reasonable that the whole mischief may have been caused by the downward extension of a post-pharyngeal abscess.

VERTEBRAL COLUMN: Tuberculosis: Adherent Tubercular Lymph Glands. 93 : 56·1. 43·5 : 44·2.

The specimen came from a boy of about 14 years of age. The tubercular processes seem to have involved the bodies of the lower dorsal vertebræ. Some greatly enlarged caseous glands, seen in the immediate vicinity of the disease, are closely adherent to the surrounding structures. The largest, on the right of the preparation, is clearly observed to have been sub-pleural in position.

P.M.J. III. 118.

CARIES of CERVICAL VERTEBRÆ: Tubercular Spinal Meningitis: Retro-Pharyngeal Abscess. 93 : 56·1. 93 : 54·2. 74 : 56·1.

The preparation consists of the whole of the cervical vertebræ from the atlas downwards. The arches of the vertebræ and the spinal cord have both been removed, and

the latter has been placed in the same jar. The vertebræ are the seat of very extensive tubercular caries. The purulent secretion associated with the carious process has made its way both into the tissues anterior to the vertebral column and also posteriorly into the spinal canal. The retro-pharyngeal tissue was extensively infiltrated with pus and much increased in density. There was, in fact, an extensive retro-pharyngeal abscess containing fluid offensive pus, even the tissues behind the naso-pharynx being saturated with pus. The exudation in the spinal canal takes the form of prominent irregular caseous masses impinging considerably upon the lumen of the canal at this part. A large ragged caseous mass of exudation is seen to be adherent to the anterior surface of the spinal dura, and the cord was at this point firmly adherent.

The subject, a boy 14 years of age, was admitted with pains and stiffness in the neck, but also had physical signs of tuberculosis in the left lung. His condition altogether was exceedingly miserable, the result partly of disease, partly of neglect. He suffered from bed sores of considerable size, incontinence of urine and fæces, and had extensive ringworm of the scalp. At the autopsy, he was found to have an advanced tuberculosis of the mediastinal and bronchial lymph glands. The liver also contained large numbers of miliary tubercles.

STERNUM and COSTAL CARTILAGES IN RICKETS. 94 : 86·1. 95 : 86·1.

The sternum and attached costal cartilages are bulged prominently forwards. The greatest anterior projection

occurs from the attachment of the fifth costal cartilage downwards. The ensiform cartilage is unusually long, and is directed distinctly backwards. It is not clear whether fracture had previously occurred to explain the abrupt forward projection of the sternum. Certainly the sternal articulations of the fifth rib on either side are thrown unduly forwards. It may be added that the child was the subject of rickets.

RIBS and COSTAL CARTILAGES in Rickets. 95 : 86·1.

The ribs and attached costal cartilages from the right side show particularly on the inner surface a nodular series of chain-like enlargements. The upper four of these are seen in section. The cartilage in them has a very irregular arrangement and the tissue is highly congested. They represent of course the enlarged terminal centres of ossification of the ribs in rickets.

CARIES of HUMERUS: Large Sequestrum. 96·4 : 55·3. 96·4 : 44·7.

The specimen consists of the head and upper part of the shaft of the humerus of a young subject. Complete necrosis had occurred, the parts mounted constituting an unusually large sequestrum.

CARIES of ULNA: Large Sequestrum. 96·6 : 55·3.
96·6 : 44·7.

The specimen represents the upper half of the ulna. It measures 11 cm. in length and had undergone complete necrosis, the portion mounted constituting a sequestrum of the entire shaft.

Cat. No. 639.

CHONDROMA of FINGER. 96·8 : 63·3.

The forefinger of a child about 4 years of age. The basal phalanx is enormously distended by the presence of a globular cartilaginous tumour of homogeneous consistency. The tumour measures approximately 6×4 cm. It was composed throughout of hyaline cartilage, and showed no degenerative changes.

LARGE CYSTIC SARCOMA: Lower end of Femur. 97·3 : 65·2.

The lower end of the femur is the seat of a very large tumour, which in a great part of its extent has suffered cystic change. It is probable that the tumour originated in connection with the periosteum of the femur, and that the various cysts have arisen as the result of extensive mucoid degeneration and necrosis. Microscopically examined, the tumour was found to be composed of spindle cells, which largely predominated. Areas of hyaline and mucoid degeneration were also extensively met with.

FEMUR : Endosteal Sarcoma : 97·3 : 65·4.
Spontaneous Fracture. 97·3 : 21·3.

The upper third of the femur has been preserved. A transverse fracture is seen a little below the great trochanter. This is associated with the growth of a sarcomatous mass which appears to have had its origin in the medullary tissue of the bone. Externally the tumour is seen to distend the muscles, which have been partly dissected away from its external surface. The whole of the cancellous tissue of the interior of the femur is acutely congested and largely composed of tumour tissue.

KNEE JOINT : Chronic Tuberculosis. 97·4 : 56·1.

The knee joint has been flexed at right angles, and the patella turned downwards in order to display fully the extensive changes in the articular surfaces. All traces of the articular cartilages and of the synovial membrane of the joint have disappeared. The articular surfaces on femur and tibia are rough from universal caries. A considerable quantity of opaque yellow material (caseous) fills all the interstices of the cancellous tissue, and in places projects freely on the surface. A small portion at the lower extremity of the patella is seen to be involved in the process.

TIBIA : Tubercular Caries : Ca- 97·6 : 56·1.
seation. 97·6 : 44·2.

The head of the bone is seen to be extensively affected. It has been split longitudinally, and the sawn surface is seen

to present two parts of different appearance. One of these is of almost cream cheese whiteness and pyramidal in form. The other is of more opaque dark yellow colour. Beneath both of these a portion of the congested medullary tissue of the tibia is visible. The white portion mentioned above represents the tubercular process in its more advanced condition in the bone. Considerable rarefaction of the cancellous tissue may be observed here, as well as a dense caseous deposit which occupies the spaces between the osseous laminæ. The specimen in the fresh state showed a very definite, almost translucent, greyish zone, bounding this area, in which typical tubercle nodules were easily demonstrable. The articular surface of the bone is completely eroded, and the function of the joint was much interfered with.

REGIONAL AREAS.

EPITHELIOMA of the SCALP. **01·1 : 66·1.**

The growth is almost circular in form, and consists of several prominent masses separated by deep septic fissures, the edges prominent and in places overhanging.

RODENT ULCER of CHEEK, involving Orbit. **02·2 : 66·2.**

A deeply fissured ulcer is seen in the middle of the elliptical portion of the skin covering the eyeball. This had originated in the temporal region close to the outer canthus, and by contiguity had involved the interior aspect of the globe itself, which is seen on turning the preparation. Traces of the malignant growth can be seen round the marginal portions of the eyeball.

ORBIT: Alveolar Sarcoma. **02·3 : 65·7.**

A large pyramidal white mass of tumour tissue is seen behind the eye. It filled the whole of the orbital cavity and produced grave pressure symptoms. It had distended the globe enormously, as may be judged from the widely separated eyelids between which conjunctiva is seen as a thick irregular pinkish layer.

HYDATID CYST (Retro-Ocular) in Orbital Cavity. 02·3 : 71·3. 02·3 : 67·4.

The cyst, the duration of which (judging by the thickness of its outer fibrous envelope) must have been very considerable, is seen immediately behind the globe of the eye. It occupied the entire orbital cavity, the eye being protruded by its pressure, exerted from behind. The chitinous membrane can be seen curled up in each half of the cyst, and examination in the fresh state revealed numerous scolices of Tænia Echinococcus.

FIBROMA OF FORE-ARM. 06·4 : 63·2.

The tumour is almost pedunculated in character, its base of attachment springing from the ulnar border just above the wrist joint. In form the tumour is lobulated, being composed of 3 lobes of unequal size. In structure the tumour was found to be a densely fasciculated fibroma. Several other small tumours of a similar character are seen either in or projecting from the skin of the arm in the neighbourhood of the larger mass.

HAND: Round-Celled Sarcoma. 07·2 : 65·1.

The hand was amputated on account of the malignant tumour (a round-celled sarcoma) which is seen to have perforated through the skin in two places on the dorsum.

CAT. NO. 606.

MIXED CELLED SARCOMA of finger : hæmorrhage. 07·4 : 65·3.

The finger of a young subject, removed at the metacarpo-phalangeal joint. The palmar aspect of the finger over the first phalanx presents a prominent oval tumour which bulges the skin considerably. In two or three places, the tumour tissue peeps through openings formed by pressure atrophy and ulceration of the overlying skin.

MYELOID SARCOMA of FINGER. 07·4 : 65·4.

At the base of the finger, and projecting rather on the dorsal aspect, is a prominent lobulated and extensively ulcerated mass. This extends deeply into the tissues of the part, and the epithelium in its neighbourhood is thickened. The skin, however, stops abruptly at the margin of the tumour. Microscopical examination showed it to possess the structure of a giant-celled sarcoma.

SARCOMA OF LEG. 08·4 : 65.

The medullary cavity of the tibia and the whole of the muscles of the calf of the leg are occupied by large masses of sarcoma. The structure of the bone has been greatly encroached upon by the tumour, and in its upper third a considerable degree of rarefaction and atrophy of its shaft has occurred. Lower down, although the medullary cavity is still filled with tumour tissue, the shaft of the bone shows a remarkable increase in density and thickness.

STREPTOTHRIX MADURÆ (Var. Niger) : Muscles of Leg. 08·4 : 72·17.

The preparation is a very old one, as seen from the bleached character of the muscles. An extensive infiltration with the mycelium of Streptothrix Maduræ (black variety) is seen in the middle of the preparation. This passes through one or two intra-muscular planes, but has not involved the bone.

SENILE GANGRENE OF FOOT. 09 : 44·5.

The appearances of dry gangrene are very typically represented. The tissues of the foot are completely discoloured and shrunken. The gangrenous process fades gradually into healthy skin, about the level of the malleoli. The subject was an old man in whom diffuse arterial sclerosis was a marked feature.

FOOT OF VULTURE : Fibroma. 09 : 63·2.

The foot is that of a griffin vulture. Its mesial portion is occupied by a bulky lobulated tumour which mainly projects on the plantar aspect. The tumour is of dense fibroid consistency throughout, and only in one or two places in its interior shows evidences of a change like mucoid degeneration.

MADURA FOOT: Unusual Prominence of External Lesions. 09 : 72·17.

The inner half of the left foot has been preserved. A remarkable collection of prominent rounded yellow areas of septic granulation tissue are present over the dorsum and entire inner surface. The summits of many of these masses are perforated by minute openings, through which the parasite has made its escape. The process is seen to have affected the tissues of the foot deeply, and to have involved several of the intertarsal articulations.

MADURA FOOT: Black Variety. 09 : 72·17.

On the outer surface of the foot are seen a number of irregular yellowish sinuses. These sometimes emerge on the surface at the apex of a small rounded eminence. In the cut section, large compact masses of the parasite (Streptothrix maduræ : variety Niger) are seen embedded in the midst of a dense whitish tissue—the result of inflammatory reaction. The central portions of some of these black masses have undergone softening. This aspect of the preparation is instructive as showing the widespread destruction of bones, ligaments, etc., which the parasite sometimes causes.

MADURA FOOT: Black Variety. 09 : 72·17.

The inner half of the left foot has been preserved. The whole outline of the foot in the region of the ankle joint is quite altered by swelling. In the region of the internal malleolus, several prominent rounded nodules are seen.

The surfaces of these are pierced by several small irregular openings which, in the fresh state, discharged pus and small black grains of the parasite. In the cut section is a large ragged abscess cavity, the contents of which show a general blackish granular material—this being due to the enormous amount of the mycelium of the parasite present.

MADURA FOOT: Black Variety. 09 : 72·17.

The greater part of the left foot has been preserved, a longitudinal section being made between the third and fourth digits. Numerous localized prominent elevations occur in the skin over the dorsum of the foot generally. These are obviously sinuses, and under many of them can be seen black granules of the parasite (Streptothrix maduræ). Considerable disintegration of the tissues of the foot has occurred, as seen in the cut section. Minute masses of the parasite are dusted throughout the affected tissues, like grains of soot or gunpowder.

FOOT: Nodular Leprosy (?). 09 : 72·17.

The foot is deformed, being both shortened and considerably thickened. The skin covering it is strikingly altered, being composed of densely clustered masses of rounded prominent overgrowth. Extensive ulceration of the skin has occurred. The floors of the various ulcerated areas are clean, and demonstrate the fact that the change in the skin is, after all, a superficial one. Its exact nature is uncertain.

It is quite possibly an extremely advanced form of nodular leprosy, though it must be admitted that in certain features, the lesion bears a close resemblance to " Oriental Sore."

FOOT : Infective Granuloma (Oriental Sore). 09 : 73.

A prominent pale mass, measuring 10 × 15 cm. in diameter, occupies the posterior and external aspect of the right foot in the neighbourhood of the external malleolus. The tissue of which this mass is composed is of homogeneous appearance and yellow colour, and is divided by a number of irregular fissures of no great depth. It seems to overhang the skin at the margins after the manner of a fungating tumour of sub cutaneous origin. The mass itself is in all probability an infective granuloma (" Oriental Sore") of unusually large size.

SYNDACTYLY with Hypertrophy of Toes. 09·4 : 12·7.

The results of syndactyly with hypertrophy of the fused digits are well illustrated. The second and third digits of the left foot are fused. Although it cannot be stated with certainty without dissection, it is probable that the bony apparatus of each digit has been perfectly developed, there having been a defect, however, in the later part of the process, as a result of which two of the digital buds have remained united. The sole of the foot has become transformed

into a corneous pad of great resistance. The plantar aspects of the three remaining digits had evidently not been much utilized for walking purposes.

DOUBLE SYNDACTYLY of TOES. 09·4 : 12·7.

Syndactyly, more or less perfect in degree, has occurred in this case (that of the right foot) between two pairs of digits. The great toe and the digit next it are completely fused, as viewed on the plantar aspect, whilst on the dorsum there is only a shallow fissure in the skin, indicating a possible line of suppression. In the case of the third and fourth digits, only partial syndactyly has occurred, and from the general form of the foot it may be surmised that the normal number of metatarsal bones is present.