Descriptive catalogue of the pathological specimens contained in the museum of the Army Medical Department, Netley / by Sir William Aitken.

Contributors

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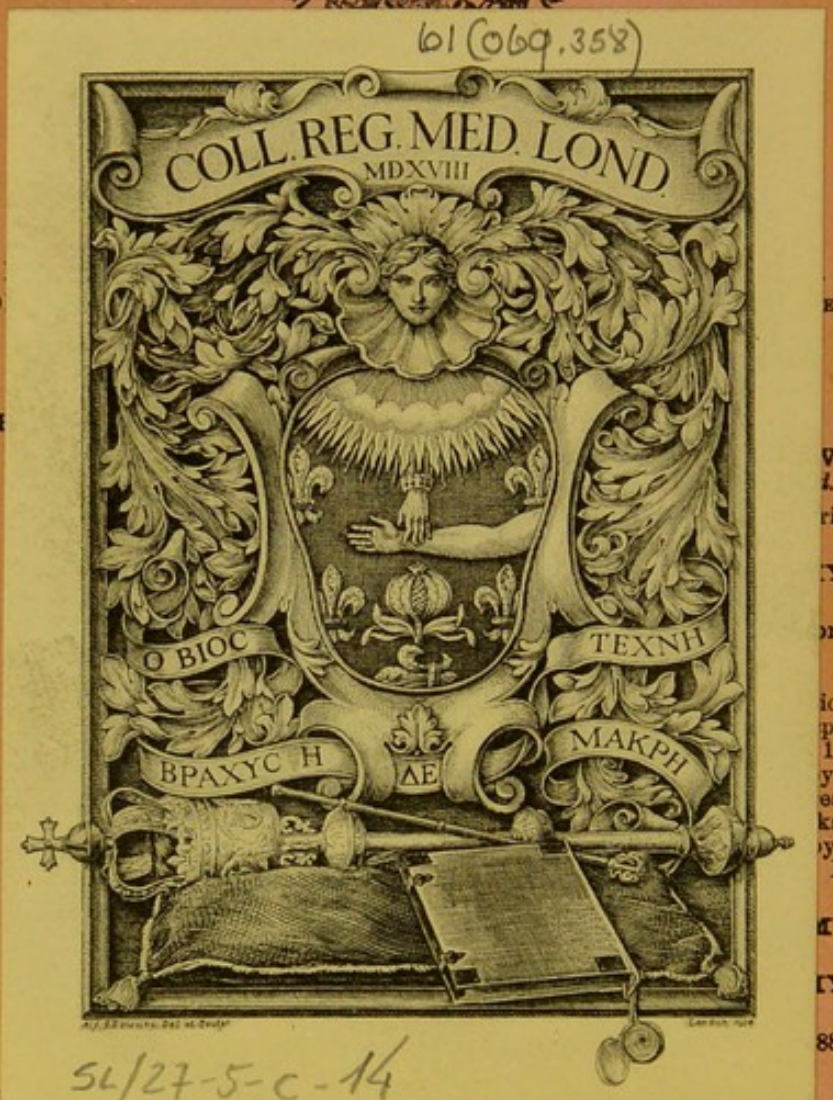

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DESCRIPTIVE CATALOGUE

OF THE

PATHOLOGICAL SPECIMENS

CONTAINED IN

THE MUSEUM

OF THE

Gt. Britain c

ARMY MEDICAL DEPARTMENT, NETLEY.

THIRD EDITION.

VOLUME I.

By

SIR WILLIAM AITKEN, Knt., M.D., LL.D., F.R.S.,
Professor of Pathology in the Army Medical School.

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1892.

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PREFACE TO THIRD EDITION.
[1892.]

The publication of a new edition of the Pathological Catalogue of the Museum of the Army Medical Department (at present at the Royal Victoria Hospital, Netley, near Southampton), has become necessary chiefly because of the many changes and additions to the Museum since the completion of the last edition of its Catalogue in 1845; also on account of the losses of Preparations sustained by the removal of the Army Medical School and the Museum from Fort Pitt, Chatham, to Netley, in 1863; and also from further losses by destruction of Preparations during the fire which burned out four rooms occupied by surgeons on probation at Netley, in the vicinity of the Museum, necessitating the rapid removal of the Preparations from the shelves to a place of safety.

An entirely new edition of the Catalogue has, therefore, been rendered necessary, in which all the additional Preparations in Morbid Anatomy, accumulated since 1845, would be incorporated, in their proper places, in the several series; and in which such changes would be effected in the general arrangement of the Museum, as the advances in the science of pathology might suggest; and, in which the specific requirements of a teaching museum for the Army Medical School would also be kept in view, so as fully to illustrate the diseases of Armies, and especially such diseases as have been contracted in tropical and sub-tropical stations, and generally wherever soldiers are stationed.

Another object of the Editor, which has entailed much time and consideration, has been to simplify the method of numbering the several Preparations. Hitherto each Preparation has been marked by two numbers painted on the jar—one a number painted in red on the top covering of the jar, the other number was painted white on the upper edge and on the surface of the black varnish which cemented the cover of the Preparation, and thus it was liable to be obliterated whenever the varnish had to be renewed. This complicated method of numbering has now been got rid of entirely; and all the Preparations, old and new, described in this edition of the Catalogue are marked with one continuous series of black numbers on white labels, which have been painted close to the lower edge of each preparation jar.*

* A list of the old and new numbers has been preserved in a separate MS. book, and is also recorded in blue pencil against the original record in the MS. Catalogue.

The additions to the Museum since 1860, when the Army Medica School was opened at Fort Pitt by the late Mr. Sidney Herbert, are painted in red numbers on each.

The general plan of the Catalogue is similar to that of the Catalogue of the Royal College of Surgeons Museum, in Lincoln's Inn Fields, London; and the arrangement of the specimens is that originally proposed by Mr. Paget (now Sir James Paget, Bart.), and adopted by the College in 1844.

On this plan the Preparations have been arranged in several series, and in numerical order according to the anatomical organ or tissue which is the seat of the morbid change.

This is the arrangement and plan now adopted in the Museums of Pathology recently catalogued; and it is really the only practical arrangement for working a Museum of Pathology. It is a plan which does not clash with conflicting theories in Physiology or Pathology; and it has also the great advantage of admitting any number of specimens to be hereafter added to the collection in yearly or periodical additions in their proper places in the respective series, without disturbing the arrangement of the Preparations already in it.

The description of the individual Preparations in each series is preceded by a classified index of the kind of lesion shown in the specimens contained in the series.

The dried Preparations, where practicable, have been mounted in separate box enclosures, with glass sides, and described in their appropriate place in the series to which they belong.

As far as it has been found possible, the date when the Preparation came into the Museum appears in the history given of the case, which is printed in smaller type, thereby furnishing data which may be of interest in connection with the history of disease.

Every Preparation in the Museum has been repeatedly and systematically examined and compared with its record in the working M.S. Catalogue of the Museum, first in 1860 by the Editor and Dr. Philip Frank (then of the Army Medical Department, and now a physician practising at Cannes in the Reviera), subsequently in 1864 by the Editor and Dr. Peter Davidson, of the Army Medical Department (since retired), then assistant to the Professor of Pathology; and several times since in sections, in connection with the systematic teaching of Pathology in the Army Medical School, by the Editor, especially assisted by Surgeons Welch, Boilleau, T. R. Lewis, H. S. McGill, and David Bruce, the assistants to the Professor of Pathology. On each of these occasions a considerable number of

Preparations have been cast out, after having first been submitted to a Board of Medical Officers. A list of the numbers of the Preparations so eliminated has been preserved, and the fact also noted against the Preparation in MS. Catalogue.

In the description of each Preparation, the principle adopted has been to state anatomically the parts displayed by each to the naked eye; so that the Preparation might be identified anatomically by such a description.

Whenever possible, the clinical histories of the Preparations, or other detailed notices of them, have been given in smaller type, and, with references to the source of the information. Much time and labour has been spent in thus verifying the numerous references to case-books, and post-mortem records which exist regarding the Preparations, and also to references in contemporary publications.

From such a Catalogue the Preparations in the Museum may be studied as an orderly collection of illustrations in the special Pathology of diseases amongst soldiers.

PREFACE TO SECOND EDITION.

[1845.]

The earliest attempt by Medical Officers of the Army, to form a collection in Morbid Anatomy, was made in 1810, under the superintendence of the present Director-General (Sir James McGrigor), then Inspector of Hospitals at Portsmouth. That effort, however, was only of short duration, and produced not more than fifty Preparations—a result no doubt to be ascribed, in a great measure, to the removal to the Peninsula of its originator and chief promoter. After 1811 nothing appears to have been done till 1816, when a second effort was made by desire of the original projector, then Director-General; and the York Hospital, Chelsea, was selected as the place where the Preparations were to be deposited. Here a few specimens were acquired; but it was not till after the removal of the infant collection to Chatham, where the only General Hospital continued to exist after the conclusion of the war, that the forming of the collection so anxiously desired by the Chief of the Department was seriously undertaken. The requests and recommendations issued at that time from Headquarters to the Medical Officers of the Army generally, were honourably responded to almost immediately, and the same spirit which was evinced, now seventeen years ago, has continuously prevailed ever since; and the result has been the acquirement of an extensive, a varied, and a valuable collection of Morbid Preparations.

The present volume is intended to communicate to the Officers of the Department, in as few words as possible, the natures and number of the Preparations in the collection, which has been effected principally by their zeal, and thus to enable them to understand what yet requires to be supplied by their further exertions. The names of the contributors of Preparations, it will be observed, are regularly given in the body of the work; hence it is only necessary here to remark, that the Department is greatly indebted to the exertions of the several able Officers who have successively superintended the Hospital Establishment at Chatham, viz., the late Dr. Forbes,—Drs. Skey, Clarke, Davy, and Smith, and to the successive Curators,* for the able

* The late Mr. J. D. Millar, Mr. Ford, Dr. Bushe, Mr. Gulliver, Mr. Fagg, Dr. Caw, Dr. M'Crae, Mr. Calder, Mr. Atthill, Mr. Stewart, Mr. Staunton, and Dr. Williamson.

manner in which the Preparations have been prepared, but more especially to Mr. Gulliver, now Surgeon of the 1st Life Guards, and Dr. Williamson, Staff-Assistant Surgeon, the Officer who has had the charge of the collection for the last four years, and who has edited this Second Edition.

Five Fasciculi of Lithographic Plates were published by Richard Taylor, Red Lion Court, London, 1824 to 1850.

In the second Fasciculus, dated 1834, the collection in Morbid Anatomy is said to have had its commencement in 1816. In some respects, it has a different character from the other collections in this country, many of the Preparations and specimens of diseased structure having been sent from tropical climates, and from every foreign country where British troops have been stationed.

In 1824, and while the late lamented Mr. Schetky was on duty at Chatham, advantage was taken of his pencil, and a Fasciculus of Drawings was published, of some of the Preparations in the Museum of Morbid Anatomy there. This first Fasciculus was published shortly after the publication of the first edition of the Catalogue of 1833. (No copy of this first Fasciculus can be found in the Library.)

The second Fasciculus was published in 1834, and references are made, in the Plates, to short descriptions of the Preparations enumerated in the Catalogue of 1833. In arranging this Fasciculus (second) from the objects in the collection, the Museum Committee (consisting of Dr. Clarke, Dr. Scott, Mr. Burton, and Dr. M'Crae, the Curator) have attended less to Nosological arrangement than what they considered utility, selecting those Preparations for delineation, which best represented diseased structure, and diseases which most come under the eye of the Military Medical Officer.

The Committee encountered some discouraging circumstances in preparing this Fasciculus for publication; and, looking to the splendid Works, in Pathological Anatomy, which have come from Dr. Baillie, Dr. Bright, Dr. Carsewell, Dr. Hooper, Dr. Hope, and other eminent individuals in this, as well as in other countries, they hesitated in proceeding; however, the desire to be useful, and the ambition of adding the little mite of their brethren to the stock of Pathological Science, have prevailed. There are abundant materials for continuing the work.

Accordingly, a third Fasciculus was published in 1838. The Museum Committee was then composed of Dr. Davy, Mr. Nicholson, and Dr. Smith, who restricted the representation to a few subjects, and to the rarer examples of disease. Many instances are given of lesions which were not suspected during life, and were yet doubtless of long standing. These, and other analagous facts, are strongly indicative of the difficulties and imperfections of the diagnostic part of Medicine; and how careful and vigilant the Medical Officer should be in examining men brought before him with obscure ailments, lest he overlook serious organic disease, and unjustly condemn men of "*malingering.*"

In the fourth Fasciculus, the representations are from Preparation of Diseases of the Heart and Blood Vessels. It was published in 1841.

The fifth Fasciculus, published in 1850, embraces Diseases of the Urinary Organs.

PREFACE TO FIRST EDITION.

[1833.]

With the opportunities which are afforded in the Army for forming a collection in Morbid Anatomy, it has been a subject of regret with many that nothing had for so long time been done towards effecting this; more especially as the post-mortem appearances of diseases comparatively of rare occurrence in civil life might have been preserved in such a Museum as that of the Army. The earliest attempt at forming a collection was made at Portsmouth in the year 1810, under the superintendence of the present Director-General, Sir James McGrigor, then Inspector of Hospitals. Some pathological Preparations were made at Hilsea Hospital, by the late W. W. Fraser, Esq., and by Dr. James Forbes, who successively were the Principal Medical Officers at Hilsea. During the years 1810 and 1811 perhaps fifty Preparations were put up at that place. After this nothing appears to have been done till 1816, when a commencement was made at the York Hospital, Chelsea, to which the Preparations at Portsmouth were removed; but almost every one of these were found to be in a decayed state. Small additions continued to be made to the Collection at the York Hospital until the establishment was removed to Chatham, where more space and better means of making Preparations were obtained, and it is but seventeen years ago (1816) that the forming a Collection can be said to have been seriously entered on at the only General Hospital that remained after the conclusion of the war. As soon, however, as the intention was made known to the Medical Officers of the Army, they were not slow in contributing to it from all the foreign stations where British troops are quartered. But the difficulties were almost insurmountable at first; for, not only was it found almost impossible to attempt to make and preserve Anatomical Preparations in tropical climates, even after they had the aid of that scientific chemist, Dr. John Davy, but great difficulty was experienced in conveying them to Britain and the expense of the whole fell on the Medical Officers, who generously defrayed everything relating to the Establishment, Government having done nothing towards it for several years. The devoted zeal of the Medical Officers led to perseverance through numberless difficulties, and at length placed the Museum of the Medical Department of the Army on a firm foundation. At its first formation that able officer, Dr. James Forbes, was at the head of the Establishment of the General Hospital at Fort Pitt, and, but for his zeal, ability, and steady perseverance, the Museum must have fallen to the ground. Of the Officers then acting under Dr. Forbes was the

late lamented Mr. Schetky, Surgeon to the Forces, at the same time an able draughtsman and a minute anatomist. He projected giving delineations of the contents of the Museum, and a Fasciculus was printed in 1824 which first made known to their brethren in civil life what had been done by the Medical Officers of the Army. This Fasciculus was brought out under very great disadvantages; no other has followed, but the design is by no means abandoned, and it is hoped that in future Fasciculi the state of the Museum will appear in a more favourable view than that conveyed by the first. Dr. Skey and Dr. Clark successively followed Dr. Forbes as heads of the Establishment at Chatham; and much is due to the zeal and ability with which both these excellent officers have acted in bringing the Museum to its present state; as, likewise, to the gentlemen who came successively into charge of the Museum as curators of it.

A few years ago the collection of books to form a Library for the Medical Department of the Army was projected. Their Library, which now amounts to about 2,500 volumes, includes many of the most valuable professional works, and promises to become a most respectable Establishment, and is entirely supported by gifts of money and books, with bequests from the Medical Officers of the Army. It would be ungrateful if it were here passed unnoticed that some of the most eminent of their brethren in civil life continue to present their Works to the Library of the Medical Department of the Army.

Soon after, a commencement was made of a collection in Natural History, and this is now placed in a separate building at Fort Pitt and contains many valuable specimens in the three kingdoms of Nature. As soon as it can be done it is intended to publish a catalogue of it. The locality of Chatham for the Museum and Library has some advantages, as, being the General Hospital of the Invalid Depôt, it is fed with sick from among the most confirmed cases of organic disease occurring in the various climates over which the Empire extends; but it is fondly hoped that the time may come when the Medical Department of the Army shall have an Establishment of their own in the Metropolis, which will not only contain the Museums of Anatomy, of Natural History, and their Library, but afford means for Officers from all parts of the world again meeting who had served together in years far gone by and in distant climates, and associating with others who have more recently entered the Service and thus afford the opportunity, in recounting their services, to exchange opinions on professional questions.

In the course of a few years the Anatomical Collection became more considerable than could have been anticipated, and gave early

promise of increasing to an extent which would be at once a source of honourable pride to its projectors and of gratification to those by whom their views were carried into effect. Its magnitude still rapidly increases and its value is now such that a catalogue of its contents may with propriety be submitted to the Department, in the hope that it will prove to some a source of amusement and instruction, to others an example worthy of imitation.

The Catalogue is confined to the professional parts of the Museum and especially relates to its most extensive branch, Pathology; the classes of Natural and Comparative Anatomy being added to complete the whole of the subjects connected with these sciences. Manuscript Catalogues have existed from the time of its formation, from which that now published has been compiled. The alterations which have been made are for the most part verbal or condensations of the accompanying histories and notices of cases. The descriptions of the Preparations have not been, and indeed could not be, materially changed without altogether setting aside the original account of them, which, as it had been formed by able pathologists, it was not deemed expedient to do. Some points, however, have been omitted; as, for instance, the names of those who were engaged in the manipulation and display of the Preparations, although they are accurately preserved in the original; the treatment, which is not immediately connected with the subject, and would have given an undue bulk to the volume; and the references to the detailed cases and dissections, which are to be met with in the Medical, Surgical, and Necrological Registers of the General Hospital. Such references add greatly to the value of the morbid specimen, as the history of each case connected with it can thus be traced through all its details, but as they can only be made on the spot where the Manuscript Catalogues, with the history of every case, even from the earliest attack of disease in every foreign country, as well as at its termination at Chatham, in nearly 200 folio volumes of clinical cases can be consulted, the multiplication of them in the printed copies becomes superfluous. Although it is a matter of regret that an account of the cases connected with the earlier Preparations has not always been preserved, as well as some of those transmitted from foreign stations, yet the vast advantage which this Collection derives from this very essential point cannot but be apparent to, and appreciated by, every member of the profession. It is probable that some errors may have occurred in the insertion of the names and rank of Donors; they have, however, in no instance been omitted where they are recorded, and any Contributor, whose name does not appear, may feel assured that such omission is the result of deficient information rather than of want of courtesy or attention.

In the Pathological Collection the classification, which was introduced by Dr. Davy, has for its basis a physiological arrangement, one probably as little liable to objection as any other which could have been formed. The Preparations are necessarily numbered according to the dates of their admission into the Museum rather than by the immediate proximity of their subjects, the latter being evidently impracticable in an aggregate which is constantly increasing. The same division is pursued in the Natural Anatomy. The arrangement of the Comparative Anatomy is founded on the best authorities, among which the illustrious Cuvier stands pre-eminent. It is scarcely necessary to remark that the inversion of the order of the three Parts is the natural consequence of the superior value and importance of the morbid branch, the others being only addenda to this, the description of which is the primary object intended here.

The comparative richness and poverty of the various divisions will be apparent on inspection of the Catalogue. It may not, however, be impertinent to the subject to notice in this place some of its most valuable sections. These are the specimens of Diseases of the Larynx, Lungs, and, more particularly, the Heart and Arteries; the various morbid appearances of the parts connected with Digestion also abound; and the series of the Lesions of the Liver is such as is scarcely to be met with elsewhere. To these may be added an extensive collection of examples of Diseases and Injuries of the Bones and Joints, showing the effects of Wounds on them, many of which are rare and some unique; also a considerable number of paintings and drawings on professional subjects.

It is no less a duty than a satisfaction to record the names of those gentlemen under whose care and by whose industry the Museum has attained its actual importance. To the indefatigable exertions and fostering care of the Director-General, Sir James McGrigor, and Principal Inspector-General, it owes its existence, and, in a great measure, its increase and present flourishing condition. Under the auspices of the Director-General it was commenced, and it has been zealously kept up by the able Principal Medical Officers at Chatham, Drs. Forbes, Skey, and Clark.

The following gentlemen were chiefly employed in the immediate construction of the Preparations, and to them is solely due the state in which the Preparations are now presented: viz., Staff-Surgeons Schetky and Millar, Staff-Assistant-Surgeons Ford, Bushe, Gulliver, and Fagg; the last of whom has been succeeded by Dr. Farquhar M'Crae, the present able Curator.

Nearly the whole of the paintings, and many of the drawings, are from the masterly hand of the lamented Mr. Schetky, whose excellence as an artist was only equalled by his knowledge and acquirements in professional sciences, and as an anatomist.

The names of the numerous gentlemen who have contributed to the various branches of the Collection are not recorded individually in this notice, because they appear in the detailed descriptions, and their names are, also, affixed to the Preparations themselves, on the shelves of the Museum.

The thanks of the Department are eminently due to those gentlemen who have contributed by pecuniary donations to the printing of the Catalogue; without their assistance it would have been impracticable. The Catalogue of the earlier Preparations was arranged by Mr. Schetky; it was afterwards continued, and subsequently brought to its present state, chiefly by the labours of the gentlemen who came successively in charge of the Museum. To Dr. Clark and Staff-Surgeon Burton is due the merit of the arrangement for printing it.* They claim, however, no further credit than that of diligently transcribing and revising its pages, making such alterations in the diction as seemed necessary to explain, elucidate, or improve its contents; and, in a word, performing the part of editor on this occasion, and the labour has not been of a trifling nature. Had this collection been commenced at an earlier period, had it begun at the commencement of the last war it would have been, with the advantages then possessed, unrivalled in the particular department of science which it embraces.

In the Museum of Pathology there are not unfrequently duplicates of interesting specimens, these it is desired to give in exchange with preparations in other Collections, and such interchange will be mutually profitable, and this public communication is made with the view of soliciting additions to the Museum.

The Preparations most wanted in the Collection of the Medical Officers of the Army are:—

In Healthy Anatomy.

1. Crania of the various races of mankind.
2. Preparations of the impregnated Uterus at various periods of Gestation.

* This is not the sole merit of those two able Officers in regard to the Museum; both have for a long time been efficient Members of the Committees for conducting both the Museum and Library, and Dr. Clark has been the Chairman of both Committees.

3. The Bodies of Fœtuses at different ages.
4. Preparations of the Lymphatics, Arteries, and Veins.
5. Coloured casts of wax to show the surgical relations of the great blood-vessels and nerves, or of any other important object.

In Pathological Anatomy.

1. Diseases of the Urinary or Generative Organs, male and female.
2. Injuries of the bones, and of the joints.
3. Herniæ of both sexes.
4. Monstrosities.
5. Diseases of the eyes and ears.
6. Tumours and all kinds of adventitious formations.
7. Drawings and wax casts, particularly of the different pathological conditions of the brain, eye, and other parts, of which colour is one of the principal characteristics.

In the Natural History Branch of the Museum.

1. Marsupial animals from Australia, preserved in spirits.
2. Snakes and lizards from the Colonies, preserved in spirits.
3. Fish, dried, or preserved in spirits.
4. Shells and Crustacea.
5. Crania of different animals.
6. Small skeletons, natural or articulated.

It is particularly desirable that all those who mean kindly to become contributors to the Museum will have the goodness to attend to the following circumstances :—

When a pathological specimen is obtained it ought to be considered whether the colour is the most essential character to be preserved. If so, the object should immediately be put into a jar of pure alcohol, and, being hung in a suitable position, the evaporation of the spirit is to be prevented by tying two layers of bladder over the rim of the glass. Afterwards, the whole is to be enveloped in brown paper so as to exclude the light. But in cases in which it is chiefly desirable to preserve the forms and relations of objects, the specimen should be macerated in water, till free of blood, and then put up in a glass jar containing equal parts of water and strong alcohol. It will materially add to the value of any pathological preparation if it is accompanied by a document, containing a minute detail of all the symptoms to which the diseased condition gave origin before the death of the patient.

A much lamented deceased Member has bequeathed his books to the Library of his brother Officers, but hitherto no bequest has been

made to the Museum; there is no doubt, however, that benevolent individuals will leave money for the maintenance of the Museum and towards the great object of obtaining a building for the Museum and Library in the Metropolis, where the Medical Officers of the Army could meet for social intercourse, and, in commemoration of the benefactors of their Institutions.

London, *May*, 1833.

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PATHOLOGICAL CATALOGUE.

SPECIAL PATHOLOGY.

SERIES I.

DISEASES AND INJURIES OF THE PERICARDIUM, THE HEART AND ITS VALVES.

INFLAMMATION, EFFUSION OF LYMPH, THICKENING AND ADHESIONS.

1. Heart and roots of the large vessels with enlarged lymphatic glands. The heart is covered with a thin layer of firm false membrane deposited in patches over the opaque pericardium. The patches are especially conspicuous over the right auricle and on each side of the root of the pulmonary artery; the opacity is most expressed over the coronary vessels. A cluster of enlarged bronchial glands containing caseous, calcareous and pigmental materials is situated behind the aorta and pulmonary artery.

From Fort Pitt Museum. Presented by Mr. Bradford, Asst.-Surg., 56th Regt.

2. Heart with portion of the pericardium reflected. A delicate granular and filmy deposit of lymph is spread over the serous membrane, generally uniform over the visceral layer, but arranged in patches over the parietal portion.

John Thornton, aged 48, Newfoundland Veteran Company, a weakly worn out subject was attacked with pneumonic symptoms of

a low type, and sank in fourteen days. The pericardium contained half a pint of sero-purulent fluid, the right lung was in a state of grey hepatization, the substance of the left was normal, but the pleura was coated with a copious layer of lymph.

From Fort Pitt Museum.

3. Heart, pericardium reflected, and arch of the aorta. Flocculent lymph is deposited over the entire serous surface, and especially in increased amount towards the base of heart and origin of large vessels.

Arthur Ennis, aged 37, African Corps, was admitted with intermittent fever, contracted at the Cape of Good Hope. While in hospital pneumonia supervened, and death ensued from pericarditis.

From Fort Pitt Museum.

4. Heart, pericardium opened anteriorly, and roots of the large vessels exposed. The pericardium throughout is coated with lymph, and adhesions between the visceral and parietal layer are present at the apex. About two inches to the left of the apex is an opening which communicated through the diaphragm (part of which, in a sloughy state, is adherent) with an abscess in the liver occupying the entire right lobe. Atheromatous patches are seen in the aorta behind. Lobulated fat has accumulated along the auriculo-ventricular groove.

David Gardner, aged 27, 72nd Highlanders, had been twice in hospital during the last year of his life with dyspepsia. He was admitted a third time with the same derangement, followed by uneasy sensations in the right side, which increased to absolute pain and evidence of liver inflammation; this was rapidly complicated with symptoms of general peritonitis accompanied with acute pain over the sternum and oppressed respiration; the disease progressed, he became typhoid and rapidly sank. At the post-mortem examination bloody exudation was found in either pleural sac. The anterior mediastinum was occupied by commingled lymph and fœtid pus, and the thickened and vascular pericardium was distended with purulent fluid. The intestines were agglutinated, highly inflamed in some parts and approaching gangrenous, dirty pus occupied the interstices of the convolutions. Almost the whole of the right lobe of the liver was one abscess, the sac about two lines in thickness with an inner secreting membrane. The liver-capsule was coated with lymph and firmly adherent to the diaphragm, through which was an opening communicating with the pericardium; a larger opening on the concave surface of the viscus had allowed the contents of the abscess to pass into the peritoneal sac.

Donor—Mr. Ford, Asst.-Surg., 72nd Highlanders.

5. Heart, and portion of the parietal pericardium reflected, to which is adherent externally a layer of the right lung. The visceral pericardium is covered with irregular patches of thin lymph, except over the right auricle, where the deposit is greatly augmented in quantity and warty in aspect. The parietal pericardium has a thin irregular surface-coating, and superadded, over the portion corresponding to the right auricle, the deposit is thickened with numerous depressions in its substance. The right lung is adherent to the pericardium externally, the portion of the parenchyma, corresponding to the

extent of pericardiac lesion, is hepatized, that inferior to it is crepitant and healthy.

From Fort Pitt Museum.

6. Heart, with the pericardium opened in front and behind, anteriorly the membrane is partially folded back. The pericardial surfaces are coated with soft granular lymph, varying in thickness, and traversed by ramifying furrows.

Private John Adams, aged 26, 69th Regiment, was invalided from India with chronic dysentery and hepatic abscess and admitted into hospital, Fort Pitt, March, 1818. Fourteen days subsequently he was seized with dyspnœa, cough, and difficult expectoration, fever, &c. With the enlargement of the abdomen and indistinct sense of fluctuation over liver the thoracic symptoms increased, and continued till death, 18 days after the commencement of dyspnœa and 32 days after admission. Sectio cadaveris:—the surfaces of the right pleura were thickly coated with lymph and enclosed four pints of serous fluid; at points the visceral and parietal pericardium were attached, the sac containing a pint of fluid; a larger abscess existed in the right lobe of the liver bounded superiorly by the adherent diaphragm and pericardium; ulceration was present only in the rectum.

Fourth fasciculus of Anatomical Drawings.
Plate 1, Fig. 1.

7. Heart, with the cavities exposed, the pericardium cut in segments and reflected towards the base. The surface of both pericardial layers is coated with a thick firmly adherent reddish layer of granular lymph, and adjacent to the heart's apex are two large irregular paler patches of interstitial thickening; the pericardium generally is also greatly thickened. The heart is enlarged, the left cavities dilated, and the left ventricular walls hypertrophied; the mitral orifice is augmented in area, and the aortic contracted compared to the other apertures, the lappets of the mitral valve and the chordæ tendineæ are interstitially thickened, the lappets of the aortic valve are also somewhat opaque and thickened with a few minute vegetations on the edges (some of these features are not clearly apparent in the preparation *in situ* from difficulty to expose all parts equally well). The weight of the heart and pericardium was 24 ounces.

From a boy 13 years of age. The history records that he had been ill for several months, with pain, occasionally severe; and that during the period he had been under strict antiphlogistic treatment with venesection and leeching. After death the pericardium adhered to the surrounding parts and on the side next the left lung was of a bright red colour; the internal surface was of a purple colour and the sac contained about one pint of sanious serum. The right lung adhered firmly to the chest parietes, the left pleural sac contained about one pint of serum; the pulmonary parenchyma was healthy. The evidence points to the morbid preparation as an example of rheumatic fever complication.

Donor—L. Lawrence, Esq., Surgeon, Military Asylum.

8. Heart, pericardium exposed anteriorly, and large vessels. Lymph is very extensively diffused over both surfaces of

the serous membrane, producing a corrugated-like warty appearance. The pericardium is partially adherent to the heart.

John McAllum, aged 28, 3rd Garrison Battery, was under treatment in hospital for stricture of the urethra, from which he had nearly recovered, when he was suddenly seized with acute pericarditis and died in a few days.

York Hospital, Chelsea.

9. Heart, pericardium incised anteriorly, and large vessels. A considerable quantity of lymph is effused over the serous surfaces of the pericardium, and near the base of heart and along the anterior ventricular groove it presents a lace-like or honey-comb appearance. Irregular masses are hanging from the serous surface of the pericardium.

Donor—Dr. Connell, Asst.-Surg., Rifle Brigade.

Anatomical Drawings, Fascic. IV, Plate 1, Fig. 2.

10. Heart, pericardium reflected, and roots of the large vessels. The heart is generally enlarged and coated with thick lymph, which on the anterior surface has a reddish shreddy appearance. The pericardium is partially adherent to heart.

Private John Peak, aged 26, 17th Light Dragoons, was the subject of frequent hæmoptysis, and while under treatment was seized with pectoral pain and dyspnœa, which shortly terminated fatally.

11. Heart, pericardium incised anteriorly and partially reflected, and roots of the large vessels. The heart is enlarged, the pericardium is thickened, and the serous surfaces are covered with a rough, fur-like, reddish, bulky layer of lymph.

Donor—Mr. Taylor, Asst.-Surg., 58th Regiment.

12. Heart, with the cavities exposed, and roots of the large vessels. The pericardium is opaque and covered with a layer of thin lymph, which is most abundant towards the base and the apex, and hangs in both situations in ragged films. On the serous covering of the left auricular appendix and the pulmonary artery are two small ecchymosed nodules, and from the posterior surface of the auricles are two long pendulous fibrinous sacs filled when recent with turbid serum. The auricles are dilated, especially the right, and an aperture exists in the septum (unobliterated foramen ovale), containing a leaden rod as thick as a goose-quill. The left ventricle is dilated and hypertrophied, the lappets of the mitral valve are interstitially thickened, the aortic valve is throughout thickened, contracted, nodulated, with adhesion between two of the lappets, causing the valve to project as an annular ridge. The heart weighed 16 ounces.

13. A heart, with its tissue minutely injected. The pericardium generally is of a milky opacity, but a large white elevated

patch, into which the injection has not penetrated, covers the major part of the anterior surface of the right ventricle; a still more prominent nodule of thickening, somewhat larger than a split pea, occupies the lower portion of the patch, and projects from it.

The patient, a soldier of the 23rd Regiment, died of dysentery. There was no record of any cardiac symptoms during life. *Necrological Register, General Hospital, Lisbon*, 1827, page 38.

The white opaque patches shown in these and also in preparations 23 and others have been called by some the "soldier's spot," or "soldier's patch," from its supposed frequency among men in the army. They have also been described as "milk spots," *maculæ albidæ* or fibroid granulations, and are often found in hearts which in other respects are perfectly healthy, so that some pathologists have doubted their morbid nature, such as Baillie, Soemmering, Hodgkin, and John Reid. The anterior surface of the right ventricle is their most frequent seat. Occasionally they are observed upon the surface of the left, or upon the auricle, or upon the prominences of the coronary vessels. They vary in size from a fourpenny-piece to a crown-piece or larger; and they are more common in adult than in early life; but they have been observed in the infant under three months old. They are seen more frequently after the age of eighteen, apparently progressively frequent with age. About 33 per cent. post-mortem examinations from the ages of 18 to 39 show such opaque white spots; and about 71 per cent. from ages between 40 and 80. There are two forms of the spot:—namely (1) a superficial, which may be peeled off; (2) a deeper, which cannot be so detached (Bizot, Paget, King, Hodgkin). Some difference of opinion prevails as to the cause of them. Some may be due to previous partial pericarditis; but all are not of this origin. The weight of evidence seems to be in favour of attrition being the most common cause; yet all are not referable to this cause alone (Hodgkin, King, Jenner, Wilks). The circumstances which mostly favour the growth of this white spot are those which would increase the rubbing of the part against the pericardium applied to the anterior wall of the thorax. These conditions are: (1) Dilated heart; (2) Impeded action of the lungs (*a*) from those diseases which (leading to augmented volume) tend to press the heart forwards; and (*b*) from continuous pressure upon the chest in an antero-posterior direction, commencing especially at an early age, before the epiphyses of the ribs and the pieces of the sternum are fully grown and united, as in young soldiers under twenty years of age, who may be subjected to great exertion in carrying heavy packs, or to heavy marching drill. White spots due to inflammatory origin will generally be found associated with other post-mortem evidences of inflammation such as adhesions by bands of lymph between the visceral and parietal layers of pericardium, especially about the roots of the great vessels. (*Aitken's Science and Practice of Medicine*, 7th edition, vol. ii, p. 592.)

14. Heart, pericardium incised anteriorly and reflected, and roots of large vessels. A very extensive deposit of lymph covers the entire serous surfaces, producing in places a lace-like, furry, or ragged filmy aspect. The parietal pericardium is greatly thickened and almost laminated in appearance. No history.

15. Heart, with large vessels; the pericardium incised anteriorly and reflected. The heart is enlarged. A firm thick layer of lymph covers the entire serous surface of the pericardium, varying much in thickness, and presenting

in patches a honey-comb, granular, or warty aspect. The dark brown portions were originally very vascular.

William Ware, aged 22, 4th Regiment, was admitted to Fort Pitt Hospital with lancinating pains in the region of the heart, slow heaving respiration, thready pulse but strong visible pulsations in the carotids, more especially the left, the intercostal spaces bulged outwards to the level of the ribs; the heart's sounds were remarkably clear and very widely diffused. He died two days after admission. On dissection the lungs were pushed from the anterior part of the chest by the enormously distended pericardial sac. The right lung was adherent anteriorly to chest wall by recent adhesions, the left lung was attached throughout by old connective tissue. The pericardium contained muddy serum, and vascular patches covered its serous surface.

Anatomical Fasciculus IV, Plate 1, Fig. 3.

16. Heart with roots of vessels. Visceral pericardium coated with a thick layer of lymph, in some parts of a warty appearance. Tissue of heart was soft and fatty. Its valves were normal. The heart weighed 14 ounces. The pericardium contained 20 ounces of serum, and was much thickened, and covered in its entire surface with lymph.

Private J. Morehead, aged 20, who died at Netley of tubercular pneumonia, 20th December, 1887. The right pleura was much thickened, its layers adherent, and a large empyema was limited to lower part of right thorax. The thoracic and bronchial glands were much enlarged.

The case was one of advanced general tuberculosis, the lungs, spleen, and kidneys, as well as the pericardium, being implicated.

Surgeon H. S. McGill, 1887.

17. Heart, with large vessels; the cavities exposed, and pericardium partially reflected. The serous surfaces of the pericardium is coated with a pile-like deposit of lymph, especially over the right ventricle anteriorly; the parietal layer is much thickened. The ventricular walls are hypertrophied, and vegetations are present near the free edge of the lappets of the mitral and aortic valves. No history.

Donor—Mr. Walker, Surgeon, 92nd Regiment.

18. Heart, with pericardium reflected, and roots of large vessels exposed. The heart is enlarged. The serous surface of the pericardium is coated with a thick irregular deposit of lymph, which, towards the roots of the aorta and pulmonary artery, hangs in shreds. The parietal pericardium is thickened.

Donor—Mr. Winterscale, Surgeon, 2nd Dragoons.

19. Heart, the pericardium reflected anteriorly, and portions of the right and left lungs attached, the roots of the large vessels, and opened trachea and bronchi posteriorly. The visceral pericardium is covered with an extremely thick layer of lymph, which is honey-comb-like in aspect, and towards the base elongated into long flocculent processes, some of which form adhesions between the heart

and parietal pericardium. The latter is also coated with lymph, but to a much less extent, and is thickened. When recent the lymph could be scraped off, leaving the serous membrane of a dark red hue. On the surface of the reflected pericardium, where uncovered by deposit, small nodules resembling miliary tubercle are apparent. Miliary granules are present in the parenchyma of the attached portions of lung, and the bronchial glands are enlarged and deeply pigmented.

William Gastard, aged 40, had been under treatment for "hepatitis" for some time when he was admitted into hospital with pericarditis. He suffered subsequently from pleuritic effusion of the left side, enlarged liver, and ascites, and died apoplectic. After death, the brain was soft and pulpy with fluid accumulation in the ventricles. The right pleura (pulmonalis and costalis) was thickly studded with miliary tubercle, adherent to pericardium, and contained 9 oz. of dark yellow serum; the left pleura was thickly coated with lymph and contained 2 lb. 10 oz. of bloody serum between the base of lung and diaphragm; the lungs were œdematous and studded with crude miliary tubercle. The peritoneum was distended with amber-coloured serum; the liver was enlarged and roughened externally from dark grey "scirrhus tubercles" studding its parenchyma; small ulcers were scattered throughout the large intestine.

Donor—Dr. Williamson.

20. A heart which exhibits over the right ventricle anteriorly a well-defined patch of opacity, which has been partially separated from the smooth subjacent pericardium. A few thin films float from the serous covering over the left ventricle.

The patient died of phthisis, but had suffered from no cardiac symptoms.

Donor—Mr. Gulliver, Asst.-Surg., 71st Regiment.

21. Heart, with right ventricle exposed, pericardium reflected anteriorly and posteriorly, and roots of large vessels. The pericardial surfaces are covered with a layer of firm, reticulated, and ragged lymph uniting the heart in close approximation to the parietal pericardium at the base anteriorly, and posteriorly by thin cord-like processes 1 inch and over in length. The parietal pericardium is thickened. The walls of the right ventricle are hypertrophied, the heart enlarged, and the apex rounded.

John Jay, aged 18, 69th Regiment, was admitted into hospital with symptoms of pneumonia, terminating fatally on the seventh day. In addition to the lesions shown in the preparation, the right pleura was studded with solid white tubercles and both lungs with crude masses; the trachea and bronchi were highly inflamed.

Anatomical Fasciculus IV, Plate 2, Fig. 5.

22. Heart, and roots of large vessels; the pericardium opened anteriorly. The serous surfaces are covered by a loose flaky deposit of lymph and the parietal pericardium thickened.

Thomas Downes, a seaman, died twenty days after receiving an incised and penetrating wound of the chest (position and viscera implicated not stated).

Donor—Dr. Shanks, Asst.-Surg, 82nd Regiment.

23. Heart exhibiting two large, elevated, irregular, opaque patches on the anterior surface of the right ventricular pericardium, and four smaller patches over the left ventricle. The pericardium is also opaque from interstitial thickening over the anterior and posterior surface of left ventricle, the latter especially; and on the prominence of the pulmonary artery there is a patch of opacity and puckering.

Private John Parker, aged 29, 13th Regiment, was invalided for pulmonary disease, and died after five days from fever conjoined with petechia of skin; besides the pericardiac old disease shown in the preparation, petechial spots studded the heart's surface.

24. Heart with the right ventricle exposed, the pericardium reflected anteriorly with attached portions of lung on both sides posteriorly, and the roots of the great vessels. A very irregular and thick layer of lymph coats the serous surfaces of the pericardium in lace-like flakes, forming adhesions towards the base anteriorly; the parietal layer of the pericardium is very much thickened. The walls of the right ventricle are hypertrophied. The adherent portions of lung are thickly studded with miliary growths, and the fibrous tissue surrounding the bronchial tubes is enlarged in amount; in the upper part of the left pulmonary fragment is an irregular excavation (tuberculo-catarrhal phthisis?).

Donor—Mr. Warren, Insr.-Genl. of Hospitals.

Anatomical Fasciculus II, Plate 2, Fig. 1.

25. Heart enlarged, pericardium opened and reflected anteriorly. The pericardium is thickened and the serous surfaces coated with a thick uniform layer of lymph, causing localised adhesion over the pulmonary artery; the substance of the heart is injected, producing a granular vascularity of the lymph coating the visceral pericardium.

John Watts, aged 24, was extremely debilitated from malarial fever, for which he was under treatment, when he was attacked with pericardiac symptoms. He suffered from frequent syncope, and in one of these "fainting fits" died. After death the pericardial sac contained a quart of sero-purulent fluid and the serous surfaces were intensely vascular.

Donor—Mr. Ford, Staff Assistant-Surgeon.

26. Heart with a small portion of the pericardium hanging by the side of it, and detached. The heart is coated by an extremely dense, ragged mass of filmy lymph obliterating all traces of the enclosed viscus; the detached portion of the parietal pericardium is thickened, and the serous surface presents the same aspect as the heart's surface.

The patient, a child, aged 13 months, died at Malta with symptoms of an acute pneumonic character. The lungs however were healthy

the left pleura was adherent throughout by recent lymph, and the pericardium as shown in the preparation.

Donor—Mr. O'Brien, Asst.-Surg., 7th Regiment.

Fasciculus IV, Plate 2, Fig. 3.

27. Heart and the large vessels with right ventricle opened; the pericardium reflected anteriorly. The serous surfaces of the pericardium are coated with a thick layer of plastic lymph, which in places has caused agglutination of the heart to the parietal layer, which is thickened. The right ventricular walls are atrophied.

David Dorling, aged 45, 7th Veteran Battalion, had been under treatment for remittent fever. Shortly after dismissal from hospital he returned with symptoms referable to the pericardium, and died on the third day.

Fasciculus IV, Plate 2, Fig. 2.

28. A portion of the right auricle showing on its pericardial surface a number of thick set, opaque, warty elevations of the average size of a hemp seed. The Eustachian valve is enlarged, the valve of the coronary vein is very cribriform, the foramem ovale septum very thin with a greatly extended area of original opening.

The case was one of phthisis in a patient aged 26 years.

29. Heart, and large vessels; the pericardium reflected anteriorly. The serous surfaces of the pericardium are covered by an extensive thick layer of yellow lymph of a granular aspect; over the right ventricle this layer is superposed by a brownish layer partially detached in flakes. The parietal pericardium is thickened, and on its external aspect, corresponding to the posterior surface of the left auricle, minute miliary growths are apparent.

Private Martin Farrell, aged 19, had suffered from symptoms of chronic pulmonary disorder seven months prior to death, with temporary albuminuria and ascites. He was admitted into hospital from the invalid barracks and died the following day. After death one ounce of limpid yellow serum occupied the sac of the pericardium. The pulmonary parenchyma was studded with crude tubercle, and evidence of recent pleuritis existed on the right side with old disease on the left. Peritonitis was present with lymph, ecchymosis, serum accumulation, and miliary growths dispersed over the entire serous surface.

Donor—Dr. Williamson, Staff Assistant-Surgeon.

30. Heart with the ventricles opened and portions of the pericardium reflected. The surface of the heart presents numerous scattered papillæ, and thick pendulous excrescences of lymph, particularly marked along the thin edge of the organ; towards the base, and especially posteriorly, the deposit is much more extensive, and in this locality firm adhesion between the heart and the parietal pericardium exists. The serous surface of the latter is also coated with lymph and its tissues interstitially thickened.

James Lowe, aged 24, 9th Regiment, of scrofulous habit, suffered from numerous abscesses over the upper half of the trunk, and

ultimately died of hectic. After death the pericardium contained five ounces of sanious fluid, the pleuræ were adherent, with five pints of dark serum in the cavities, and the left lung was firmly attached to the pericardium.

Donor—Mr. Davidson, Assistant Surgeon, 21st Regiment.

Fasciculus IV, Plate 2, Fig. 4.

31. Heart, and pericardium partially reflected. A thin layer of lymph is effused over the surface of the heart, and firm adhesions are present in various parts between the organ and the parietal pericardium.

The patient, a boy 12 years of age, died of acute pericarditis after fourteen days illness. When recent, a layer of organized lymph, one-sixteenth of an inch in thickness, universally coated the serous surfaces of the pericardium. Associated with the lesion of the preparation was disease of the lower lobe of the left lung, the nature of which is not stated.

Donor—Dr. Skey, Inspr.-Genl. Hospitals.

32. Heart, and large vessels; the former opened anteriorly with a portion of the septum removed to expose the ventricular cavities, pericardium reflected. The serous surfaces of the pericardium are coated with a thin flocculent layer of lymph, especially conspicuous over the right edge of the heart; large tuberculated masses of fat cover the heart externally, and cause great thickening of the parietal pericardium by its accumulation; the left ventricular walls are hypertrophied, and fibrinous accretion is present in the cavities of the ventricles, especially the right.

Robert Calder, 50 years of age, 73rd Regiment, suffered from beriberi in India, and was greatly impaired in health from long tropical service. He died from exhaustion in connexion with the pericardiac lesion and precursory disease of the right lung.

33. Heart with its pericardial surface coated with a thin layer of lymph. An old patch of opacity is seen on the anterior aspect of the right ventricle, the serous membrane is generally cloudy and studded in patches with minute opaque dots; traces of prior vascularity in reddish brown discolorations are apparent.

Bryant McDermott, aged 39, 41st Regiment, while in hospital with stone in the bladder, caught cold, followed by symptoms of thoracic inflammation, terminating fatally. After death, recent pleuritic adhesions united the middle and inferior lobes of the right lung, and the posterior part of the left lung to the chest wall; the pericardium was as seen in the preparation, conjoined with great vascularity.

34. Heart, with pericardium opened anteriorly, and the roots of the lungs attached posteriorly. Lymph in thin flakes covers the serous surfaces of the pericardium and reticulated bands in several places connect the parietal layer to the heart. The portions of lung tissue adherent show the bronchi to be extensively thickened with the remnants of small cavities, and miliary growths.

35. Heart, pericardium, and portion of aorta opened. The pericardium has been incised in various places and

partially reflected, but the major part has been so firmly adherent, that it has been impossible to separate the serous surfaces, and the forcible rupture has exposed the superficial muscular fibres of the heart. The pericardium is greatly thickened, both interstitially and by surface deposition as shown especially by a long vertical incision posteriorly, where the thickness of lymph effusion amounts to almost an inch. The heart is enlarged. There are specks of atheroma in the inner coat of the aorta.

36. Heart, with pericardium opened and reflected upwards. Several bands of broad and narrow tough lymph connect the parietal pericardium to the heart. General cloudiness and opaque white cicatricial-like patches are distributed over the serous surfaces of the pericardium, with ragged films here and there.

Taken from the body of a young man accidentally killed who had been the subject of pericarditis six years previously.

Donor—Mr. Gulliver, Asst.-Surgeon, 71st Regiment.

37. Heart, with the pericardium opened in places and reflected. The serous surfaces of the pericardium are covered by a thin layer of lymph, which in parts hangs in delicate lace-like shreds. The substance of the heart has been injected showing the lymph to be made up of layers, the deeper being highly vascular, the surface layer being impermeated by the vermilion.

Donald McDonald, aged 30, 93rd Regiment, died of phthisis. The lungs were studded with tubercle, the small intestines ulcerated and the liver enlarged; the pericardium contained 10 oz. of sero-purulent fluid.

38. Heart with the ventricles opened, pericardium, and roots of the large vessels. The pericardial sac is obliterated by uniform adhesions throughout. The left ventricle is hypertrophied, and the lappets of the mitral valve are greatly thickened.

Thomas Fitzgerald, aged 21, 67th Regiment, two years prior to death suffered from acute cardiac disease. He resumed his duty, constantly subject however to urgent and distressing dyspnœa and palpitation; he was re-admitted and died after four months of great suffering.

39. Enlarged heart with the right ventricle opened, pericardium, and roots of the large vessels. The pericardial sac is obliterated from adhesions. The right ventricle is hypertrophied, and opacities are observed in the lining membrane, and in the substance of the tricuspid valves.

George Burnett, aged 41, 37th Regiment, suffered from dysentery followed by pulmonary lesion implicating especially the tubes, and died from combined exhaustion and emaciation. After death, in addition to the cardiac lesion, the pleural cavities contained six pints of dark serum, and the lungs were studded with miliary tubercular material.

Fasciculus II, Plate 4, Fig. 4.

40. Heart with the left cavities and aorta opened, and the pericardium. The sac of the pericardium is obliterated by

adhesion. The left ventricle is dilated and musculi papillares hypertrophied.

Private W. Bye, aged 21, 46th Regiment, was subject to rheumatism, and was admitted with arthritic swellings of the fingers. On subsidence of the joint implication, symptoms of cardiac complication ensued, and ended in death.

41. Heart with the left cavities opened posteriorly, pericardium reflected in patches, and the commencement of the aortic arch opened along its convexity. The pericardium is extensively adherent to heart, the sac all but obliterated, a portion of the posterior aspect of the left ventricle (non-adherent) shows the serous membrane to be coated with a firm layer of lymph. Sections indicate interstitial thickening of the pericardium, and its external aspect is loaded with masses of fat. The aorta is extensively atheromatous, the walls thickened, with evidence of cicatricial loss of substance internally. The left ventricle is hypertophied. Walls of right ventricle thinner than usual.

From Sergeant Patrick Fitzgerald, aged 39, Royal York Rangers, admitted to hospital with symptoms of pyrexia, pain in chest, and hurried respiration. An abscess formed in one of his thighs, upon which febrile symptoms subsided, but chest symptoms continuing, he died.

42. Heart with the left ventricle and aorta opened, pericardium partially reflected after breaking down adhesions of old standing, which, with the serous membrane, were opaque. The pericardium is thickened and universally adherent. Small opaque nodules (tubercles) are visible beneath the lymph deposit, and also in the lining membrane of the left ventricle. The aorta is studded internally with a few patches of atheroma.

From a bushman boy who died of tubercular peritonitis and ulceration and perforation of the intestines. The lungs were healthy.

Donor—Dr. Alexander Smith, Staff Surgeon.

43. Heart with the cavities and aorta opened, and pericardium. The sac of the pericardium is obliterated by adhesions. The left ventricle is hypertrophied, and a few spots of atheroma are present in the aorta, in a line with the upper edge of the valve.

Private W. Fagan, aged 32, 20th Regiment, had suffered from dyspnœa and profuse expectoration for eight years. On the voyage from India, and during the transition from a warm to a cold atmosphere, these symptoms became aggravated with a sense of constriction and weight at the scrobiculus cordis; he was admitted into hospital moribund. Besides the lesion above detailed, the lungs were œdematous and engorged, the broncheoles loaded with muco-purulent fluid.

44. Heart, pericardium, roots of large vessels, and right lung. The right auricle is opened. The pericardium is universally adherent to heart, with the exception of a small portion over the right cavities, which has been detached and reflected. The pleural surface of the lung is coated with a thick layer of lymph and extensive firm

adhesions pass from this viscus, anterior to the root, to the contiguous portions of the pericardium, covering the right auricle and aorta.

Peter Mulloy, aged 28, 30th Regiment, was under treatment for phthisis when symptoms of "acute inflammation in the cardiac region" supervened, and under these complications he died. After death the left lung was found studded with tubercles, the right lung collapsed and firmly adherent to pericardium. In this subject the left vertebral artery was given off from the aorta between the origins of the left carotid and sub-clavian.

45. Heart with the cavities opened, pericardium partially cut away. The parietal pericardium is thickened. Lymph covers the visceral pericardium, and in the sac are very extensive layers of hæmorrhagic fibrine in some parts one and a half inches in thickness; between the layers are irregular cavities which contained a plastic lymph. The heart is contracted and small, the valves were found healthy. A case of hæmorrhagic pericarditis.

The patient suffered from sub-acute rheumatism and asthenic fever. Latterly there was increased cardiac dullness.

Presented by the Grant College, Bombay.

46. Portion of the heart. Several tubercular nodules varying from a millet seed to a pea in size, are seated on the pericardiac surface, which is coated with a layer of lymph.

Private W. Ward, 53rd Regiment, died of phthisis of two years duration. The pericardium was slightly adherent by a thin layer of plastic lymph; the heart was enlarged.

47. Heart with the cavities opened, and the pericardium reflected upwards. The serous surfaces of the pericardium are covered with a loose lace-like deposit of lymph, especially conspicuous over the posterior aspect of heart. The pericardium generally is thickened and nodulated, especially the parietal layer, and throughout there is a reddish brown discoloration as though from great vascularity during life. The lappets of the mitral valve are nodulated from interstitial thickening, and the left ventricle is hypertrophied.

48. Heart, pericardium, roots of the large vessels, a portion of the œsophagus, and the bifurcation of the trachea. The pericardial sac is obliterated by old opaque lymphy deposit. On the left side and posteriorly is a large surface of very thickened pleura adherent to the pericardium externally.

Sarah Robinson, aged 12, of a strumous diathesis, suffered at different periods from enlarged and suppurating cervical glands, and died from consumption. After death, the pleural cavities were found obliterated, the lungs filled with tubercle and vomicæ, bronchial glands enormously enlarged and caseous, mesenteric glands enlarged and indurated, liver yellow, enlarged and firm, and eight ounces of serum in the peritoneal cavity.

Donor—S. Lawrence, Esq., Surgeon, Military Asylum.

49. Heart with the cavities opened, pericardium, and roots of the large vessels. The pericardium is firmly adherent to the heart posteriorly and to the apex, but anteriorly, and mainly to the right side, it is expanded into a sac which contained about three pints of pus; the inner lining of the sac is corrugated, with here and there a patch of adherent lymph.

Donor—Mr. Fraser, Staff Assistant-Surgeon.

50. Upper portion of the heart with its pericardium reflected upwards, exposing the surfaces covered with lymph in flakes and warty-like growths uniformly over the whole surfaces.

50A. Heart of a child, aged 6; showing hypertrophy consequent on pericarditic effusion and an early division of the pulmonary artery, described as two, with slight patency of the foramen ovale.

The illness commenced 4th July, 1869, with tumultuous action of the heart and friction sound, all which disappeared in five days. About seven months afterwards similar symptoms were followed by œdema of legs and extreme dyspnœa. There was no history of rheumatism. Partial recovery took place. Seven months afterwards symptoms returned with greater severity. Both sounds of the heart were now completely merged into a prolonged "squelch" made up of combined friction and bruit, heart's action violen tand rapid. Death on 1st October, 1870, the illness having lasted fifteen months. On post-mortem examination the pericardium was found toughly adherent over the whole heart except a small patch near the apex of the left ventricle.

N.B.—The heart has been known to double its weight in four weeks. See *Pathological Society's Transactions*, vol. xxx, p. 280; and for this case see *Abstract Book*, vol. ii, No. 136A.

Donor—S. K. Cotter, M.B., Staff Assistant-Surgeon, St. Helena, Dec., 1870.

BONEY DEPOSITS IN HEART AND PERICARDIUM.

51. Portion of the right ventricle of the heart and pericardium. The pericardium was adherent but has been forcibly separated to expose a large bone-like growth, about 1½ in. in breadth and ½ in. in thickness, projecting from the outer surface of the anterior wall of the right ventricle, which is hypertrophied.

Donor—Mr. Ford, Assistant-Surgeon, 72nd Regiment.

52. Heart with cavities opened and the roots of the large vessels. The preparation has been dried and preserved in turpentine. A broad band of calcareous degeneration (?), varying from ¼ to 1½ inches in depth, encircles the heart below the auricles with the exception of an inch anteriorly corresponding to the origin of the pulmonary artery.

Presented by Mr. Stanley, St. Bartholomew's Hospital.

53. Portion of the heart with the roots of the large vessels—dried and preserved in turpentine. A deposit of calcareous material in a layer of fibrine, 2 in. long by 1 in breadth and ¼ in thickness, is situated over the pericardium of the left auricle.

Donor—Mr. Whitfield, Surgeon, R.A.

DISEASES OF THE SUBSTANCE OF THE HEART.

54. Heart with the left cavities and ascending aorta opened. The heart is generally enlarged, the left ventricle greatly dilated and somewhat hypertrophied, the aortic valves are opaque and thickened, the aorta is extensively atheromatous, with great thickening of its coats. The pericardial surface of the heart is studded with large opaque white spots, and fibrous films float from it.

Sergeant John Hague, 36 years of age, 19th Regiment, was admitted with orthopnœa, exaggerated heart's action, violent headache, bruit over the aortic valves, and extended area of cardiac dulness. The lesion of the heart was complicated with pneumonia, and ultimately proved fatal. After death the lateral ventricles of the brain were found distended with serum; the right pleural cavity contained two pounds of serum; the right lung and the greater part of the left were hepatized.

55. Heart with the cavities exposed. It exhibits great dilatation of the left ventricle and hypertrophy of its walls in connection with aortic valve lesion. The lappets of the valve are thickened and irregular in outline; from the free margin of the left one a thin cord-like vegetation hangs nearly ½ inch in length; the central one has on its free edge, contiguous to the left lappet, a few small vegetations adjacent to a spot resembling ulceration, and at the centre of its attached surface an oval aperture large enough to admit a pea.

Presented by Sir James McGrigor, Director-General.

56. Heart and origin of the large vessels, the left ventricle and the aorta opened. The left ventricle is dilated and hypertrophied. The coats of the aorta are thickened, the inner surface nodulated and corrugated from atheromatous changes with a few small calcareous plates in the lining membrane. The aortic valve is opaque, irregularly thickened, with a few surface vegetations along the free edge of the central lappet. Circumscribed opacities are present on the pericardial covering.

57. Heart and portion of the aorta, the cavities and interior of the vessel exposed. The left ventricle is somewhat dilated, the area of the auriculo-ventricular openings is increased. The portion of the sinus of Valsalva corresponding to the central lappet of the aortic valve is dilated, especially downwards, into a pouch capable of receiving

a small walnut; this lappet is detached from its attachments except at the extremities, forming a thick cord-like rough ring of tissue projecting into the aortic area. The other lappets of the aortic valve are also thickened, and a few large nodules of atheroma are present in the inner coat of the aorta, especially apparent at the upper edge of the aneurismal pouch.

Donald Cooper, 29 years of age and 10 of service, 73rd Regiment, complained of cardiac symptoms seven weeks only before death. Action of heart was irregular, area of the sounds increased, the dyspnœa was very great. Fourteen days before death the orthopnœa was so great that he could only sleep with his elbows on the knees and his head supported by the hands; death was sudden while at stool, and an hour after violent vomiting succeeding breakfast. At the post-mortem examination the pleural cavities contained three pints of serum, the pericardium two pints, and the peritoneum one pint. The lungs were gorged and œdematous; the liver was large, dark-coloured, and granular, with dry, shreddy lymph over the capsule. Rupture of the lappet may have been the immediate cause of death.

Donor—Mr. Ford, Assistant-Surgeon, 73rd Regiment.

58. Portion of the heart and the aorta. The left auricle is extremely dilated, and the lining membrane opaque and coated by shreds of lymph. The left auriculo-ventricular orifice is contracted into a narrow linear aperture, with lymph mamillation and calcareous plates on the auricular aspect; the mitral lappets are thickened. The left ventricular walls are hypertrophied, a scanty deposit of lymph is observed on the endocardium near the aortic valve, which it covers on its ventricular aspect. A rent is present in one of the aortic lappets parallel to the free edge and extending from the attachment to the central nodule.

The patient, a man 50 years of age, had in his youth suffered much from rheumatism, and since had never been free from cardiac uneasiness. Six years prior to death indications of the lesions shown in the preparation became apparent, and he died dropsical. The heart was much enlarged, and the pericardial surfaces generally adherent.

Presented by Messrs. Shelly and Stillwell, Epsom.

59. Heart with the left cavities exposed posteriorly. Situated in the wall of the left side of the heart adjacent to the anterior edge of the outer lappet of the mitral valve, and projecting into the auricle and ventricle equally is an oval putty-like mass (stated to be calcareous) about the size of a walnut, and covered on the cavity aspect by the thickened lining membrane, which is, however, distinct from the encapsuled concretion. The auricular endocardium is dense and opaque, with several small calcareous plates visible, occasionally linearly arranged, on its surface. The mitral valve and the chordæ tendineæ are thickened. The heart is generally enlarged, the aorta is atheromatous, and the pericardium covered with extensive shreds of old lymph.

Private James Hunt, aged 49, 7th Regiment, was suddenly seized

with dyspnœa, vertigo, and oppression about the heart: he was bled with immediate relief, but on preparing to return to barracks he suddenly fell and expired. The other viscera of the body were healthy.

60. Heart with the interior of the left ventricle exposed by a transverse section and the upper half by a vertical incision also laying open the aorta. The walls of the left ventricle are hypertrophied to the extent of an inch in thickness, isolated oqaque spots stud the aortic valve, and a ridge of atheroma is present in the aorta corresponding to upper edge of the sinuses. Streaks of opacity are dispersed over the pericardium, and two patches are very prominent, the larger one on the anterior aspect of the right ventricle, the smaller one over the prominence of the pulmonary artery at its root.

Sergeant J. Hunter, 46 years of age, Newfoundland Veteran Company, had suffered from gout and rheumatism three years. Twelve months prior to death he had a seizure of hemiplegia, and a subsequent apoplectic attack, which was fatal. The only signs of cardiac disease were dyspnœa and anasarca (probably of renal origin). At the post-mortem examination the walls of the lateral and third and fourth ventricles were broken down by blood clot, the right pleura contained five pints of serum, the left pleura was adherent; the peritoneal cavity contained eight pints of serous fluid.

31. A heart with the left ventricle opened in continuity with the aorta and a section posteriorly to expose the mitral valve. The left ventricle is dilated and hypertrophied. The aortic valve is opaque, and a few films of lymph are present in its ventricular aspect. The mitral valve is thickened, and a thin fringe of warty excrescences occupies the free edge on the auricular aspect. There is an atheromatous-like patch in the left auricular endocardium, and linear patches of interstitial thickening occupy the pericardial surface of the heart.

The patient, Brian Geary, aged 23, 86th Regiment, died of phthisis.

62. Heart with the cavities and aorta opened posteriorly, and the pericardium partially incised and exposed. The heart is generally enlarged, the left ventricle is hypertrophied and dilated, the free edge of the mitral lappets are somewhat thickened, the attached edge of the aortic lappets are opaque, nodular and thickened; the aorta is extensively atheromatous with calcareous plates visible on the free inner surface. The pericardium is attached to the heart with the exception of the right lateral portion, which is dilated into a flocculent lined sac about four inches in diameter.

Captain T. W., of the Ceylon Regiment, suffered from chronic hepatitis, hydrothorax, and cardiac lesion, the indications of which latter were, during life—severe palpitation on the slightest exertion, oppressed breathing, and sharp, irregular pulse. Œdema of the lower extremities ensued, and he died after eleven months' treatment.

63 A heart with the left ventricle laid open continuously with the aorta. The ventricular wall is hypertrophied and its cavity greatly dilated. The aortic valves are thickened, corrugated, and atheromatous. There is cicatricial loss of

substance in the aorta, and the lining membrane is rough from filaments and polypoid shreds of lymph. Portions of the endocardium of the left ventricle are opaque, thickened, and corrugated. The pericardium is opaque, and there are isolated white spots on its anterior aspect, some from surface deposit, others from interstitial thickening.

64. A heart and portion of the aorta. The left ventricle and the aorta are opened in continuity. The heart is generally enlarged, especially the left ventricle, which is greatly dilated and hypertrophied. The aortic valves are thickened. The aorta is dilated, puckered, and corrugated, from atheromatous changes, and calcareous plates are visible on the inner surface. The lining membrane of the left ventricle is opaque and dense. Opaque white spots are present on the pericardial surface, especially on the posterior and left ventricular aspects; many of these follow the ramifications of the blood vessels. The heart weighed 2½ lbs.

James Gray, 3rd Dragoons, had served 16 years in India, and had been under treatment for inordinate heart's action. The heart disease was subsequently complicated by pneumonia, and the combination proved fatal.

65. Heart and portion of the aorta, the left ventricle and the aorta opened in continuity and the latter folded back. The heart is generally enlarged mainly from dilatation and hypertrophy of the left ventricle. The aorta is extensively atheromatous, with dilatations, puckerings, erosions, and cicatricial loss of substance; shreddy films of lymph seem ready to separate from its surface and numerous calcareous plates stud, and project from, the inner aspect. Films of lymph are observed on the endocardium below the aortic valve, and the same lesion is present on the pericardium together with opacities which not unfrequently follow the vascular ramifications.

Sergeant W. McPherson, aged 52, 79th Regiment, with 34 years' service, was admitted with dyspnœa, anasarca, and difficulty in passing urine; these symptoms increased until death. At the post-mortem examination the right pleura contained 50 ozs. of serum, the left three, the pericardium two. The left kidney exhibited a series of cells filled with albuminous matter, its ureter was impervious, and the vesiculæ seminalis with portions of the vasa deferentia filled with fluid similar to that in the kidney.

66. A portion of a heart and aorta, the left ventricle and the interior of the artery exposed. The left ventricle is enormously dilated, and its endocardium is studded with glistening white linear patches. In the septum ventriculorum are two openings (filled by pieces of whalebone) by which the cavities communicate. Atheromatous changes are present in the aorta and valves.

Private Thomas McCaltery, aged 40, 6th Dragoons, was a remarkably muscular man, and continued at his duty within two months of his death. Eight months previously he complained of thoracic pain,

cough, and expectoration tinged with blood; the heart's impulse was very strong, with a distinct *bruit de soufflet*. He died from sudden profuse hæmoptysis. The blood was found to have issued from a large extravasation in the centre of the right lung.

Donor—Dr. M'Crae, Assist-Surg., 6th Dragoons.

67. A heart and arch of the aorta with roots of great vessels, the left cavities and interior of aorta are exposed. The left ventricle is hypertrophied and somewhat dilated; in the cavity towards the apex are nodular fibrinous concretions, one of which is opened and partially hollow. The aortic valves are opaque, and the aorta is extensively atheromatous, with nodulations, surface erosions, and calcareous plates.

Presented by Mr. Carey, Australia.

68. Heart with the left ventricle and portion of the aorta opened in continuity. The left ventricle is hypertrophied and dilated, its endocardium together with that of the right ventricle is opaque, and thickened in patches, some of them linearly arranged. The aorta is dilated with extensive atheromatous thickening, cicatricial loss of substance, erosion of inner surface, and lymph deposit. The valves are opaque and thickened. Interstitial and surface thickenings are scattered over the pericardial surface.

Charles Mead, aged 26, 43rd Regiment, has been under treatment for dyspnœa during three years, and had latterly suffered from distressing orthopnœa accompanied by a peculiar sensation in the shoulders. He expired in a paroxysm of dyspnœa. The lungs were found at the post-mortem examination to be engorged, and the aorta was in a state of cartilaginous thickening as far as the diaphragm.

Donor—Mr. Ford, Assistant-Surgeon, 72nd Regiment.

69. Septum of the heart with a section of the ventricular walls, and portion of the aorta. A deposit of yellow tuberculous-like material is seen at the base of the lappet of the mitral valve near the septum, the deeper portions undergoing cretification. A similar deposit with surface erosion impairs the structure of the aortic valve.

John Cannelan, aged 26, R.A., with four years of service, suffered from acute rheumatism on passage to India; and during two and a half years' service there, from malarial fever, dysentery, hepatitis, acute rheumatism, and valvular disease of the heart, for which he was invalided, and which ultimately led to his death at Netley. At the post-mortem examination, the heart weighed 19 ozs.; there was stenosis of the mitral orifice; the muscular substance was fatty with a great increase of connective tissue between the fibres.

Pathological Records, Vol. 4, No. 3.

70. Heart and portion of the aorta, the left ventricle and the artery opened in continuity. The left ventricle is greatly hypertrophied and the columnæ carneæ also. The aortic lappets are thickened and nodular in places, and fibrinous deposit is observed on one of them. The pericardium is coated with a layer of thin filmy lymph.

Private W. Sutton, aged 38, 80th Regiment, was admitted for paralysis following an apoplectic seizure, and succumbed to a second

attack while in hospital. After death, a great part of the hemisphere of the brain was found to be in a state of softening, probably the result of embolism.

71. Heart and pericardium, with roots of large vessels: pericardium reflected, and the left ventricle laid open. There is an extensive exudation of lymph on the visceral and parietal layers of the pericardium, which is also thickened, and adherent to the surface of the heart. The exudation is firm and of some standing. There is hypertrophy of the walls of the left ventricle, and thickening and opacity of the semilunar valves.

From Private James Guest, aged 18 years, 97th Regiment, and of fifteen months' service, who was attacked in March, 1868, with acute rheumatism of left knee joint, from exposure to cold while on musketry duty. Other joints were attacked at this time, and the inflammation spread to the pericardium. A month later he was again attacked with rheumatism and pericarditis; his sufferings were intense from dyspnœa, palpitations, and pain in the cardiac region. He returned to his duty apparently well after two months' treatment in hospital. In the month of November following he was again admitted into hospital, suffering from acute pericarditis and rheumatic inflammation of the left wrist-joint. The symptoms of the former were very aggravated. He died suddenly about five weeks after his last admission. *Abstract Book*, vol. ii, 96. January 26, 1869.

Donor—Surgeon J. H. Porter, 97th Regiment.

72. Cavities of the heart filled with wax to exhibit a considerable enlargement of that organ.

From the body of John White, 22nd Regiment, aged 35, admitted into his Regimental Hospital affected with dyspnœa, pain in the right hypochrondium, extending to the scrobiculus cordis, dry skin, white tongue, tumid abdomen, anasarca of the lower limbs, pulse 100, death after five weeks. Treatment. On dissection it was found that effusion had taken place into the thoracic and abdominal cavities.

Donor—Mr. Rolston, Assistant-Surgeon to the Forces.

73. A very large hypertrophied heart, weighing 22 ozs.

Battery Sergeant-Major Nagle, aged 37, service eighteen years. No admissions for syphilis. Has taken alcohol in large quantities, but not to such an extent as to interfere with his duties. On the march to Newcastle-on-Tyne, three years before admission to hospital, he was attacked with severe dyspnœa, and was unable to continue on horseback; it was then found he was suffering from disease of the heart, and it was proposed to invalid him, but on arriving at Newcastle-on-Tyne he recovered his health, and he continued at his duty till April, 1879. The extra work entailed by the battery leaving the station aggravated his symptoms, and compelled him to come into hospital on the 24th April. On admission he suffered from severe attacks of dyspnœa, and his face was livid. The cardiac dulness increased to a very great extent, and a double blowing murmur was heard over the base and apex. Pulse fairly regular, but jerking and hard. These symptoms continued with swollen legs, dyspnœa becoming more frequent, and the face very much swollen; he died on the 19th May, 1879. The mitral valves were found thickened and incompetent, and effusion into the pleuræ and pericardium. The liver weighed 3½ lbs., and had the characteristic nutmeg appearance on section. The kidneys were enlarged and congested. See *Pathological Reports*, vol. iii, 196.

Donor—Surgeon-Major Douglas, M.D., V.C., Newcastle-on-Tyne, 12th June, 1880.

ANEURISMS OF THE HEART.

74. Heart with pericardium partially reflected; the roots of the large vessels and the ventricles are exposed. Behind the posterior wall of the left ventricle is a large exposed aneurismal sac which communicates by an opening, nearly 1 inch in diameter, circular in outline, and a smooth rounded edge, with the left ventricle midway between the base and apex. The aneurismal tumour is fully equal in capacity to the ventricular cavity, from which the endocardium seems to be continuous through the aperture with the lining of the sac. The walls are puckered, irregular and studded with atheromatous matter. On its outer aspect the sac adheres to the pericardium and the lung. The inner, upper, and back part of the sac are thinner than elsewhere. A layer of firm, filmy lymph covers the pericardiac surface of the heart, and an opaque white patch is situated over the prominence of the pulmonary artery.

Sergeant B. M., aged 39, twenty-one years' service, 65th Regiment, had been exposed to cold, wet, and fatiguing marches in the Deccan, and sixteen months prior to death had been subject to copious hæmorrhage from the lungs. He was admitted at Fort Pitt Hospital with dyspnœa, severe cough, purulent expectoration, inability to lie on either side, and great irritability of stomach; a very small and feeble pulse was constantly noted. The stomach rejected all food, œdema of the lower extremities ensued, and death from exhaustion. After death, in addition to the heart lesion, the lungs were tuberculous and adherent to the chest wall and the pericardium.

Anatomical Fasciculus IV, Plate 5, Figs. 1 and 2.

75. A heart and portion of the aorta, with the cavities opened. The left ventricular cavity is dilated, and its walls, although thickened superiorly, yet towards the apex are very thin, at one spot (shewn in the section) resembling a commencing aneurism. The peritoneal surface is covered by dense flocculent lymph.

Private Michael Stand, aged 34, 54th Regiment, was admitted with cough, chest pain, and orthopnœa; palpitation supervened, and irregularity of the pulse and death occurred five weeks after admission.

76. A heart with the cavities exposed posteriorly. The left ventricle is hypertrophied and slightly dilated, and in the wall near the apex is an aneurismal sac, about the size of a walnut, filled with a firm, dark coagulum. The outline of the aneurism is very irregular, and the inferior boundary is about one line in thickness, and formed by the thickened external serous covering of the heart. Lymph has been deposited on the pericardium, especially towards the apex and surrounding the aneurism, where it hangs in firm, thick shreds, originally connecting this portion with the parietal pericardium. A circumscribed

white patch is observed on the anterior aspect of the right ventricle.

See 4th *Fasciculus*, Plate 5, Fig. 4.

From George Tooth, aged 40, 1st Veteran Battalion. He had been in hospital for a considerable time, but the nature of the disease was not apparent. After death the surfaces of the lungs were universally adherent to the thoracic parieties, the heart was enlarged and adherent at the apex.

Donor—Mr. Lamont, Surgeon, 1st Veteran Battalion.

77. A heart with the interior of left ventricle exposed anteriorly, and an aneurismal sac depending from the apex. The interior of the left ventricular cavity is continuous, through an opening in the posterior wall of the apex rather less than an inch in diameter, with a sac as large as an orange. The thickened muscular ventricular wall terminates rather abruptly, and the wall of the aneurism appears to be formed by the visceral pericardium, which is augmented to the thickness of stout wash leather. The endocardium can be traced into the sac, the lining membrane of which is corrugated and very thinned in places. The pericardial surface of the heart and aneurism is covered by a flocculent layer of recent lymph.

From a bandsman (trombone player), aged 26, and with nine years' service, who died suddenly from the rupture of the aneurism into the pericardial sac. No symptoms of the disease were complained of during life. He had suffered from primary and secondary syphilis, and chronic rheumatism. At the post-mortem examination the lungs were emphysematous and somewhat congested, the pericardial surface greatly enlarged and completely pushing aside the left lung. The pericardium was thickened towards the great vessels, and contained about 30 ozs. of commingled serum, blood, and soft coagulum. The heart from pressure appeared twisted on its long axis, and was roughened on its external surface; the walls were loose, flabby, and soft. The muscular tissue adjacent to the communication between the sac and the ventricle was in a state of fatty degeneration, and the same feature characterised the masculi-papillares and ventricular septum. The rupture of the sac had taken place at the farthest point from the apex of the heart. The cavities were empty, the right ventricle dilated; streaks of atheroma were present in the aortic arch.

Donor—L. A. S. G. McNalty, M.D.

78. A heart with the right side removed, the interior of the left cavities exposed posteriorly, and the aorta in front; the pericardium is attached. The lining membrane of the left auricle is opaque and corrugated. The posterior wall of the left ventricle is expanded into a large mouthed aneurismal dilatation about two inches in diameter. On the right section of the preparation the ventricular wall is seen to terminate abruptly, the wall of the dilatation being apparently formed by the thickened visceral pericardium and agglutinated thickened parietal layer. The endocardium is continuous with the lining membrane of the aneurism, which is atheromatous, corrugated, and deeply indented in places. The aorta is

atheromatous, and the same degeneration is seen in the ventricular endocardium immediately beneath the valve.

From Sergeant Buxton, aged 35, Army Hospital Corps. He had suffered from symptoms of heart disease for some time, and died suddenly during the night. A fibrinous deposit lined the aneurismal cavity.

Donor—Surgeon Arden, 1st Battalion, 20th Regiment.

79. Heart showing rupture of an aneurism at the apex, associated with syphilitic gummata in the heart's substance, and fatty degeneration of the muscular fibres.

Gunner C. H., aged 28, a man of intemperate habits—his principal diet was drink. From 1863 to 1869 he had been in hospital twelve times for syphilis, eight for primary disease, once for venereal bubo, three times for secondary symptoms, one of the latter being for syphilitic rupia. He was also subject to chronic rheumatism. He had not been in hospital for more than a year before death, but some time before that event had more exertion at gun drill than usual. He complained only of pain in the back the day before, and the following morning was found insensible in bed, and died comatose shortly afterwards, October 18th, 1872. At the post-mortem the pericardium was found to contain 4½ ozs. of blood, heart slightly enlarged, valves healthy, a yellowish white deposit, partly diffused and party nodular, was found in the muscular structure most marked at the apex and base of the left ventricle, where a sacculated aneurism was seen large enough to receive the ungual phalynx of the thumb. Its parieties were so thin that it could be turned inside out like the finger of a glove, and a firm fibrinous laminated clot peeled off the internal surface when this was effected. In the walls of the sac no muscular substance was apparent. The blood from the left ventricle had also dissected up the visceral layer of the pericardium from the surface of the heart. The aorta showed on its internal aspects atheromatous deposit, festooned along the upper margins of the sinuses of valsalva. Some small smooth white spots showed commencing change further on in the arch, with cicatricial-like loss of substance inducing considerable puckering in the aorta where the left sub-clavian is given off.

The nodules above referred to were examined microscopically by Dr. Steele, Surgeon R.A., and Staff-Surgeon G. W. McNalty, R.A. They were composed of numerous cells, mostly oval. The muscular fibres had undergone fatty degeneration, and looking to the history of the case, it was believed that these deposits were syphilitic gummata, and that the fatty degeneration of the heart was due to syphilis. Similar deposits were found elsewhere. (*Vide Medical Times and Gazette*, June 14th, 1873.)

Donor—G. W. McNalty, M.D., F.R.C.S.I., Staff Surgeon, R.A.

MELANOTIC DISEASE AND TUMOUR.

80. A portion of the ventricular wall of a heart. The pericardial surface exhibits a melanotic appearance, conjoined with a varicose condition of the veins. The discoloration affects in a minor degree the muscular substance also.

Removed from the body of a Greek in which the liver (15 lbs. in weight), pancreas, aorta, and the integuments were similarly discoloured.

Donor—Dr. Davy, Assistant Inspector of Hospitals.

81. Multiple melanotic sarcoma of the heart. The skin, lungs, and kidneys were dotted over with deposits of a similar nature.

The case on admission at Durban, Natal, was diagnosed as remittent fever, and the colouring of the skin due to pigmental degeneration. It was afterwards concluded to be due to melanosis and the diagnosis altered to melanotic cancer.

Donor—Surgeon Ryan, M.S., through Surgeon-Major Giraud, M.S.

81A. A portion of the right auricle of an ox from the inner surface of which projects a large tumour partially preserved, and the section displayed, in the preparation. The section, 5½ inches in diameter, exhibits a firm fibrous stroma, the strands interlacing in all directions, and encircling nodules of a firm, whitish yellow, opaque basis substance, averaging a large pea in size. Some of these nodules have the appearance of central softening and disintegration, and the apertures of severed blood vessels are visible here and there.

Donor—Mr. Stanley, St. Bartholomew's Hospital.

SYPHILIS.

82. A portion of the right ventricle exhibiting fibrinous nodules on the surface externally, and strands and thickenings of the same in its substance. The pericardial surface is coated with old lymph.

Alexander Turner, 79th Regiment, died of heart disease with anasarca dyspnœa and cyanosis. After death, the left pleural cavity contained a large quantity of bloody serum, the heart was hypertrophied, and the pericardium was adherent chiefly over the right ventricle by firm old adhesions.

Donor—Mr. Grant, Assistant-Surgeon, 71st Regiment.

83. A portion of a heart exhibiting a circumscribed nodular growth of an opaque yellow colour, and about half an inch in diameter, situated beneath the pericardial surface. Smaller ones of a similar character are seen in the opposite section of the preparation.

Private Donald, aged 24, 93rd Regiment, is said to have died of exhaustion from a lung disease resembling phthisis. He was suffering at the time from secondary syphilis in a very aggravated form. In addition to the cardiac gummata, nearly the whole lung structure on both sides was converted into a substance of the consistence of cheese and of a stone colour.

84. Sections of the hypertrophied walls of the left ventricle of the heart. In the muscular structure are observed numerous firm, yellowish opaque nodules and strands of similar material. The nodules are circumscribed, varying in size from a marble to a walnut, and situated beneath the endocardium. In general features they are not to be differentiated from gummatous growths in the testicle or brain. By the microscope they are seen to be com-

posed of small, spheroidal or oat-shapen cells interspersed throughout a delicate fibrillated matrix.

From Private F. Kelney, 3rd Battalion 60th Rifles. In 1861 and 1862 he suffered severely from secondary syphilis and strumous (?) affections. In 1869 he was invalided for "Fungus testis." For the last six or seven months anterior to death he had been complaining of weakness, languor, and occasionally pain in the cardiac region, yet he continued at his duty. Two days previously he had uneasy sensations about the heart and was extremely pallid, and after walking a short distance he fell dead. At the post-mortem examination the right ventricle of the heart was covered by a soft reddish lymph, the left was adherent to pericardium by old disease; the right chambers were enlarged and the walls very thin, the left ventricular walls were hypertrophied and pallid, and studded with the nodules shown in the preparation. No strumous or tubercular deposits were present in the body.

Donor—Surgeon Longhurst, 4th Battalion 60th Rifles.

CLOTS FORMED IN THE HEART DURING LIFE.

85. A portion of the right ventricle displaying between the columnæ carneæ a number of hollow, fibrinous, nodular concretions, the central softening having left but the outer cyst-like wall.

The patient, J. Keep, 33 years of age, died of phthisis after fourteen years' service. The inner coat of the aorta was considerably thickened and its surface corrugated.

Necrological Register, 1839, 27th March.

86. A portion of the right ventricle exhibiting oval masses of fibrine, softened in their interior, which contained a pus-like fluid.

From J. Wolfenden, 29th Regiment, who died of phthisis, without cardiac symptoms.

87. A portion of the right ventricle near the apex of the heart displaying a large globular fibrinous concretion in a state of softening, closely attached to the internal surface.

From Stephen Robinson, 8th Foot, death from phthisis.

88. A portion of the heart displaying the right ventricle. Between the columnæ carneæ near the apex are several fibrinous concretions with ragged interior which contained a pus-like fluid.

The patient died of phthisis.

89. A portion of the left ventricle exhibiting two hollow fibrinous concretions with softened contents.

Joseph Cumming, 55 years of age, 66th Regiment, died of phthisis and lumbar abscess.

90. Heart and portion of the aorta, the left ventricle is opened continuously with the aorta. The heart is enlarged mainly from left ventricular hypertrophy. A cluster of globular fibrinous concretions (*végétations globuleuses;*

Laennec) is situated in the left ventricle, their attachments being impacted between the columnæ carneæ: two of them have been opened and are hollow from central softening. There are slight patches of atheroma in aorta. The specimen weighed 18 ounces.

Joseph Cresswell, 59th Regiment, died of phthisis. Two days prior to death he was seized with severe cardiac pain and urgent dyspnœa, which proved fatal.

91. Portion of the left ventricle with aorta laid open. A large fibrinous coagulum is situated between the columnæ carneæ of the inner wall of the ventricle; its ragged interior contained pus-like fluid.

The patient, a female, was in good health within eight days of her death. She was suddenly seized with great dyspnœa and palpitation, which terminated fatally; the heart's action was attended by a bellows sound, and on percussion the right side of the chest was dull. In addition to the heart lesion, both lungs were found hepatized.

92. A portion of the ventricular walls of the heart displaying on each side of the septum, between the columnæ carneæ, numerous nodular fibrinous coagula, two of which are laid open and contained softened contents.

Private J. McLaughlin, aged 38, died of phthisis. On dissection, fluid was found in all the serous cavities, and tubercles in the lungs. Fibrinous coagula obstructed the iliac veins on both sides and also the left femoral veins.

Necrological Register, vol. v, No. 239.

93. The right side of the heart laid open to display globular fibrinous coagula between the columnæ carneæ of the auricle and ventricle. Some of these concretions were solid, others had central softening.

From Private H. Marples, aged 30, 2/24th Regiment. He first suffered from dysentery, and in sequence, renal and hepatic lesions, with heart disease ensued, with a systolic bruit at apex, and death from pulmonary engorgement. At the post-mortem examination the kidney lesion was found to have been of a sub-acute inflammatory nature and of old standing. The aorta was atheromatous, and its valves allowed of water regurgitation; there was slight erosion of its lappets. The left ventricle was dilated and hypertrophied. The lungs were studded with apoplectic patches, and a fibrinous coagulum extended along the pulmonary artery and its branches to the right ventricle, which contained a dark coagulum together with the concretions shown in the preparation.

Post Mortem Records, vol. xii, No. 55.

94. A heart and root of the aorta; the left ventricle is opened in continuity with the vessel. A thick fibrinous deposit is seen in the interior of the left ventricle at the apex, and penetrating between the columnæ carneæ. The left ventricle is dilated; its endocardium is studded with numerous small coalesced opacities.

From Private John Hodson, 21 years of age, 30th Regiment. Death from phthisis.

95. Heart with the left ventricle opened in continuity with the aorta. A thin fibrinous deposit is present on the inner surface of the ventricle, peeling off in some parts. The musculi papillares are hypertrophied; the ventricular

cavity is dilated and somewhat hypertrophied; the endocardium is opaque and thickened at points.

Private McHaffy, 19 years of age, was admitted with ascites and anasarca. A strong bruit accompanied, chiefly the second sound of the heart. Dyspnœa was very urgent until death.

DISEASES OF THE VALVES OF THE HEART.

Ulcerative Endocarditis, &c.

96. A heart and portion of the aorta, the left ventricle opened continuously with the vessel. The left ventricle is dilated and hypertrophied; in the upper part of its wall, anteriorly near the origin of the aorta, is a small rugged cavity, probably the result of an abscess. On the lappet of the mitral valve exposed in the preparation are four small ulcerations. Thickening, nodulations, and wart-like deposits pervade the lappets of the aortic valve, and more especially the one contiguous to the sacculated cavity of the ventricular wall. The aorta is atheromatous. A deposition of soft lymph covers the pericardial surface of the heart.

Alexander Frazer, aged 36, 72nd Regiment, greatly addicted to excess of spirit drinking, had been in hospital fourteen days, suffering from œdema of the right foot and leg, syncope, and dyspnœa, when he suddenly died. After death the pericardium contained 6 ozs. of turbid serum, and its serous surfaces were highly vascular; the right side of the heart was filled with a firm decolorized mass of fibrine, the left side contained to distension dark-coloured partially fluid blood. The lungs were engorged, the liver and spleen enlarged, and the former granular.

Donor—Mr. Ford, Asst.-Surgeon, 72nd Regiment.

96a. Heart, the weight of which was 18 ounces, showing hypertrophied walls of left ventricle. Its cavity and that of auricle dilated; anterior wall covered with rough growths. A large vegetation on the surface of mitral valve; aortic valves incompetent, permitting regurgitation; tissue soft and flabby. Pericardium contained 2½ ounces of serum.

From Private Wm. Walsh, 2nd York Regiment, aged 21 years, admitted 23rd November, 1885, to Netley, for valvular disease of heart contracted in India, of eight months' duration. Total service, two years. On 27th March, 1886, had an attack of coma, and on recovering consciousness was found to be aphasic and was paralysed on the right side. The substance of the brain was soft and diffluent; right Sylvian vessels full, the left empty. In the anterior portion of left hemisphere was a large cavity containing blood clot; fragments of vegetation had been carried up into the left Sylvian vessel, producing rupture of its coats, with the resulting aphasia and right hemiplegia —splenic infarctions existed also due to a similar source.

Pathological Records, Netley Hospital, vol. xv, No. 70.

97. The upper portion of the heart, cut off by a tranverse section through the ventricles, and the auricles partially taken away, to display the auriculo-ventricular aperture. On the auricular aspect of the mitral valve are two elongated

cord-like excrescences nearly one inch in length and one-third in thickness, projecting from one of the lappets and hanging free in the auricle. Numerous smaller deposits are present scattered over the same aspect of both lappets. The right auriculo-ventricular orifice has the area comparatively enlarged, and the auricular walls between the columnæ are very thin.

Donor—Dr. Knox, Edinburgh.
Fasciculus IV, Plate 3, Fig. 7.

98. A heart with the left ventricle opened in continuity with the aorta and the pericardium. The left ventricle is dilated and very hypertrophied. The musculi papillares and chordæ tendineæ of the mitral valve are thickened, and on some of the latter are fibrinous deposits. From the free edge of the aortic lappet of the mitral valve a large fringed mass of fibrinous deposits depend—one, cord-like, being at least 1½ inches long. Deposits are seen on the auricular aspect of the septal lappet. The aortic valve is thickened, and on the ventricular aspect of the lappets contiguous to the nodules are masses of fibrine. The aorta is slightly atheromatous. The endocardium is dotted over with minute opacities. The pericardial sac is obliterated by adhesions.

Private T. C., aged 31, 84th Regiment, had been subject to dyspnœa and other indications of cardiac lesion for several years. Death resulted apparently from acute pericarditis.

Fasciculus IV, Plate 3, Fig. 6.

99. A heart with portions of the left ventricle and auricle removed to expose the mitral orifice. On the ventricular aspect of the valve are numerous cord-like, thick-set fibrinous masses arranged as a fringe around the orifice. The ventricle is greatly hypertrophied, the chordæ tendineæ are thickened with depositions of lymph on some of them; some also have been ruptured and their free extremities are coated in the same way.

From a bandsman, aged 19, of the 7th Regiment. He had been several times in hospital with fever, and when convalescent from an attack, he suddenly became comatose, and died in two hours (doubtless from embolic transference).

Donor—Dr. Shean, Surgeon, 7th Regiment.

100. A small portion of the heart exposing the mitral orifice. On the auricular aspect of the valve are calcareous deposits forming an irregular interrupted fringe to the aperture. The valve is thickened and the area of aperture contracted. A film of lymph covers the auricular endocardium.

The patient, Private Began, 6th Regiment, had suffered from acute rheumatism, and was admitted into hospital with mitral valve disease. Numerous apoplectic patches were observed after death in the lungs, chiefly towards the periphery of the lungs, and immediately beneath the pleural covering.

101. A small portion of the heart exhibiting the mitral orifice. On the auricular aspect of one of the lappets is an extensive, thick, warty, fibrinous fringe, at one extremity of which a thick bulbous continuation, two-thirds of an inch in length, hangs free into the valve orifice. The substances of the valve and the tendons are thickened, with great encroachment upon the area of the opening.

In this case sphacelus of both legs took place as high as the bifurcation of the popliteal artery (embolic transference).

102. A heart and roots of large vessels. The left cavities are exposed posteriorly, the right ventricle and the vessels anteriorly. The apex of the heart is flattened. The left ventricle is dilated and hypertrophied. The mitral valve is thickened and the aperture contracted into a narrow elongated opening. On the auricular aspect of the valve the surface is nodulated from subjacent cretaceous material, and a piece of whalebone is passed beneath the thickened and partially separated endocardium in the vicinity. The aortic valves are thickened and nodulated. Following the ramifications of the vessels of the pericardium there is marked opacity.

103. Heart of a child, 7 years of age, the cavities opened posteriorly. On the auricular aspect of the posterior lappet of the mitral valve is a cluster of minute vegetations, and on the chordæ tendineæ are also minute fibrinous excrescences, giving them an irregularly serrated appearance. Opaque dots stud the substance of the mitral valve. The pericardial surface of the heart is coated with a layer of soft lymph. The lungs were tubercular.

104. A heart with the left cavities exposed posteriorly. The musculi papillares of the left ventricle are hypertrophied. The left auricle is greatly dilated. The mitral valve is greatly thickened and contracted, curtailing much the area of the opening; the chordæ tendineæ are all but obliterated, the valve surface being in close approximation to the lips of the papillary muscles. The auricular aspect of the valve is eroded and calcareous matter there present. The pericardial surface of the heart is generally opaque, especially in patches and contiguous to the coronary vessels; the veins are varicose.

105. A heart and roots of the large vessels, the cavities exposed. The left auricle is dilated, the left ventricle dilated and hypertrophied. The mitral valve is thickened and contracted to an elongated curved slit $1\frac{1}{4}$ inches in length and quarter of an inch broad, the chordæ tendineæ are shortened, thickened, and bulbous. On the auricular aspect of the valve is an extensive warty excrescence mainly limited to one side of the chink, and on the ventricular aspect are two small patches of similar deposit. Patches of atheroma are present in the aorta,

which is pouched, and a film of lymph covers the endocardium of the left cavities and passes into the aorta; in the left auricle also are nodulations of the lining membrane from interstitial deposit.

Private W. Bentley, aged 35, 45th Regiment, two years before death was suddenly attacked on the line of march with severe palpitation, cardiac pain and dyspnœa, which continued more or less until the fatal result. The day before death he was seized with hæmoptysis, and on the morning following while sitting up in bed he suddenly expired. He never suffered from rheumatism or syphilis.

106. A portion of a heart showing contraction of the mitral orifice, with a large warty excrescence on the auricular surface of the valve, which still further diminishes the aperture.

Charles Winter, aged 29, 57th Regiment, had been subject for almost three years to symptoms of obstructive cardiac disease. Death resulted from dropsical accumulations. In addition to the lesion of the preparation the walls of both ventricles were hypertrophied, the heart generally enlarged, and the tricuspid valves studded with vegetations.

107. A portion of the heart showing the mitral orifice. The mitral valve is thickened, rigid, and nodulated, reducing the orifice to an irregular elongated crescentic opening. On the auricular aspect of the valve are masses of calcareous degenerations, and small portions are observed on the auricular endocardium.

From a soldier of the 42nd Regiment, who died of pneumonia. No suspicion of the heart lesion existed during life.

Donor—Dr. Nicholson, Surgeon, 42nd Regiment.

108. A portion of the left cavities of the heart exposing the mitral and aortic valves. The mitral valve is thickened and rigid, the orifice being reduced to a narrow elongated chink. On the auricular aspect at one extremity is a calcareous mass with fibrine deposited on it. A fringe of deposited fibrine, or warty excrescences, is situated on the ventricular aspect of the aortic lappets near the free edge, and two of the lappets are united for half their length, the union being thick, rigid, and nodulated.

Sergeant W. McCarthy was convalescent from acute rheumatism and endocarditis when he contracted bronchitis, and was re-admitted to hospital. With the usual pulmonary symptoms there was increased area of heart's dulness, widely diffused impulse, and irregularity in rhythm. Hæmoptysis ensued with augmented pulmonary disturbance, and death seven days after admission. After death the heart was generally enlarged, the mitral valve was rigid and cartilaginous, just admitting the first finger, and the aperture conoidal from the auricular aspect.

Donor—Surgeon Jackson, 100th Regiment.

109. A portion of the heart exposing the auriculo-ventricular, and the aortic valves. The mitral valve is thickened, nodulated, and contracted, the orifice being reduced to a slit slightly over half an inch in length. On the auricular aspect the valve is eroded, and calcareous matter is

exposed; on the ventricular aspect the calcareous deposit is seen forming surface nodulations and implicating one of the musculi papillares also; the chordæ tendineæ are thickened and shortened. Two of the lappets of the aortic valve are adherent as far as the nodule, and are thickened in spots. Surface erosions of small size are observed on the auricular aspect of the tricuspid orifice.

From Private John Concidine, 32nd Regiment. He had suffered from rheumatism, but was admitted for dyspnœa, cough, and other cardiac symptoms. The heart's impulse was extended in area, strong, and vibratile, a bruit accompanied both sounds, especially the second, and loudest at the second intercostal space. The symptoms of obstructive heart disease increased with œdema and serous accumulations in the cavities of the body. He died suddenly in a fit of coughing.

Donor—Dr. Sanderson, Assist.-Surgeon, 32nd Regiment.

110. A portion of a heart displaying the mitral and aortic valves, on the edges of the lappets of both of which a fringe of cartilaginous-like warty excrescences is present.

Richard Stringer, aged 28, 51st Regiment, died of phthisis. The heart was generally enlarged and the walls of the left ventricle attenuated.

111. A heart with all the cavities exposed. The left cavities are dilated and the ventricle hypertrophied. The mitral valve is thickened, nodulated from calcareous deposit, and contracted, the aperture being reduced to an oval rigid orifice. One of the chordæ tendineæ in the left ventricle is ruptured; patches of opacity are present in the left ventricular endocardium. The aortic valve is extremely thickened, nodulated, and calcareous, the lappets are adherent, and lymph deposit hangs from the roughened surfaces. The tricuspid valves are thickened and a slight fringe of deposit runs along the free edge on the auricular aspect.

From Private T. Twinam, aged 26, 40th Regiment.

112. Heart with the left cavities and the aorta opened. The left ventricle is dilated and hypertrophied, and the remnant of the left auricle suggests dilatation also. The mitral valve is thickened and the orifice is greatly contracted. On the auricular aspect of the valve are erosions, calcareous nodules, and large excrescences. On the ventricular aspect of the valve is ulceration setting free the chordæ tendineæ, and long ragged films of tissue hanging from the edge. The musculi papillares are hypertrophied and the chordæ tendineæ greatly thickened; the endocardium of the left ventricle is locally thickened and thrown into elevated ridges; a layer of filmy lymph covers it. The aortic valve is thickened, nodulated, adherent, and eroded at the adhesion of two of the lappets. The aorta is extensively atheromatous, with nodulations, cicatricial loss, and

surface deposition of filmy lymph. The pericardium is generally opaque and coated with a delicate film of lymph.

113. A heart with the cavities and the aorta exposed. The auricles, more especially the left, are dilated; the left ventricle is hypertrophied. The mitral orifice is rigid, and reduced much in area from ossific-like deposit in the valve. The chordæ tendineæ are thickened, shortened, and adherent in bundles. The aortic orifice is in exactly the same condition as the mitral, only that the aperture is more reduced in size. The tricuspid valve is thickened and nodulated.

Private W. Woods, aged 25, 72nd Regiment, very intemperate in habits, suffered from dyspnœa and hæmoptysis for several consecutive years, and ultimately was admitted with anasarca. Ascites supervened and he was tapped, but peritonitis followed the operation, and caused death.

114. A heart with the cavities and aorta exposed. The left ventricle is hypertrophied, the endocardium of the left auricle, and slightly also that of the left ventricle, is corrugated and nodulated from interstitial thickening. On the auricular aspect of the septal lappet of the mitral valve are two large excrescences the size of a nut, and on the other lappets are numerous nodulations and furrowings of an atheromatous nature which merge into the endocardiac lesion. On the ventricular aspect of the septal lappet of the mitral valve are extensive warty fibrinous excrescences, which coalesce with similar ones on the aortic valve. The chordæ tendineæ are thickened and adherent in bundles. The aortic valve is thickened, nodulated, and contracted.

From Private D. Ames, aged 32, 20th Hussars. He suffered severely from constitutional syphilis, upon which the cardiac lesion was engrafted. While in hospital under treatment for specific ulcers on the leg and necrosis of the left carpus, pneumonia of the right lung supervened and proved fatal. Specific lesions were observed in the body post-mortem.

115. A heart with the ventricles and aorta opened, and the auricles cut away to expose the auriculo-ventricular orifices. The left ventricle is hypertrophied. The mitral valve is thickened, nodulated, eroded, and rigid, the aperture being reduced to a narrow elongated crescentic chink. Calcareous deposit is exposed in the eroded patches. The musculi papillares of the valve are hypertrophied, the chordæ tendineæ are thickened, contracted, calcareous, and adherent. On the ventricular aspect of the valve the cretaceous masses form surface elevations. The aortic valve is somewhat opaque and thickened. The right auriculo-ventricular valve is thickened, nodulated, with a few fibrinous excrescences upon it. The heart weighed 12½ oz.; the circumference of the orifices were:—right auriculo-ventricular 3·70 inches, pulmonary artery 3·70, left auriculo-ventricular a mere slit, aorta 3·70.

From Private E. Simpson, aged 33, 28th Regiment. He had had primary syphillis, but no evidence of constitutional infection. He first experienced dyspnœa about six months prior to death, while climbing the heights of Gibraltar. A double bruit existed over the mitral valve. The extremities became anasarcous and erysipelatous, and, conjoined with pulmonary complication, proved fatal. After death, patches of pulmonary apoplexy were present in the right lung. The aorta below the diaphragm, also the femoral and tibial arteries, were rigid tubes from combined calcareous and atheromatous changes. The internal saphena vein of the right leg was occluded with thrombi, and from the knee downwards the cellular tissue and skin were sloughy. *Pathological Records, Netley*, Vol. VIII, No. 26.

116. A heart and aorta with the cavities opened. The left ventricle is dilated and hypertrophied. The mitral valve is thickened and an extensive deposit of fibrinous vegetations is present, fringe-like on the auricular aspect and here continuous with a patch ½ inch in diameter on the endocardium, more widely dispersed on the ventricular aspect and there continuous with like deposits on the chordæ tendineæ. The musculi papillares are enlarged with localized opacities of the endocardium covering them, the chordæ tendineæ are thickened, nodulated, and, in two or three instances, ruptured. The aortic valve is thickened, with long fringe excrescences dependent from the ventricular aspect. The aorta is atheromatous. Intersticial opacities are present in the visceral pericardium, and especially massed over the right auricle, forming a closely set mamillation of the surface.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

117. A heart and vessels with the interior displayed, the cavities and valves exposed. The auricles are very largely dilated, especially the left, the left ventricle is atrophied. The left auricular endocardium is opaque and nodulated with adherent films of lymph, the opacity especially apparent near the mitral orifice and here conjoined with surface erosion. The mitral orifice isreduced to a small oval aperture, admitting a pea, by ossific-like deposit in its substance. Localized surface deposit of lymph is observed on the pericardial aspect of the heart near the apex, anteriorly.

Donor—Mr. Fraser, Asst.-Surg., Staff.

118. A heart with the left ventricle opened in continuity with the aorta. The left ventricle is dilated and hypertrophied. The aortic valve is extensively thickened and nodulated, with cicatricial-like loss of substance on the surface. The lappets are partially adherent, ulcerated in places, with fibrinous deposit on the roughened surface. The aorta is slightly atheromatous, and a few calcareous plates are observed in the inner aspect. The vascular ramifications of the pericardium are accompanied by opacities; there are also "white spots" at the apex posteriorly with shreddy films of lymph.

Donor—Mr. Marshall, Staff Surgeon.

119. A heart with the left ventricle opened in continuity with the aorta to expose the left valves. The left ventricle is dilated and hypertrophied, but towards the apex this thickening merges into a thinness somewhat less than a ¼ inch. The mitral and aortic valves are thickened and contracted with small fibrinous deposits upon them. Two of the aortic lappets are ulcerated, and the endocardium beneath the valve is opaque and interstitially thickened in places. The pericardium is opaque and studded with innumerable minute dots, some on the surface, others apparently in the substance of the membrane.

From the body of a marine who, while under treatment for pain in the chest and dyspnœa, aggravated by exercise, suddenly expired after ascending the stairs.

Donor—Dr. Dobson, Medical Staff.

120. A heart with the left ventricle opened continuously with the aorta, the left auricle exposed posteriorly. The left ventricle is hypertrophied and dilated. The aortic valve is somewhat opaque and thickened, the lappet corresponding to the left coronary sinus is partially separated from the attachments, forming a large irregular perforation from the edges of which an extensive warty fringe hangs into the ventricular cavity, one of these is at least 1½ inches in length and ½ inch in width, of very irregular contour, and with a narrow pedicle of attachment. Patches of atheroma are present in the aorta. On the auricular aspect of the mitral valve are two large warty fibrinous deposits attached to a nodulated portion of the endocardium. This valve is thickened together with the chordæ tendineæ. Localized thickenings, and lymphy deposits are dispersed over the pericardial aspect of the heart.

The patient was a man of the Rifle Brigade, aged 33, who had served at Walcheren and Waterloo, and had suffered from dysentery and malarial fever. Indications of the cardiac lesion were present three years before death; dyspnœa and inordinate action of the heart were marked symptoms. He died of exhaustion.

Fasciculus IV, Plate 4, Fig. 1 and 2.

121. A heart with the cavities and aorta exposed. There is dilatation of the auricles and thinning of the ventricular walls. The mitral valve is dense, rigid, and contracted, greatly diminishing the area of the orifice; on its auricular aspect are large warty excrescences. The left auricular endocardium has minute scattered opacities in its substance. The musculi papillares of the mitral valve are hypertrophied and the chordæ tendineæ are either thickened or much thinned. There are interstitial nodulations in the aortic valve, and a delicate lengthy film depends from one of the lappets. Two of these lappets are perforated near the free edge.

Private S. Marken, aged 30, 17 years' service, had had repeated attacks of fever and ague, and for some time suffered from palpitation and dyspnœa, increased on exertion. Death was sudden.

122. A heart and aorta, the left cavities opened posteriorly to expose the left valves. The left ventricle is hypertrophied. The aortic valve is thickened and nodulated, and from one of the lappets an extensive fibrinous mass depends. The aorta is atheromatous. The left ventricular endocardium is opaque and corrugated, and a fibrinous deposit is seen on the ventricular aspect of the mitral valve.

From Private P. Norton, aged 40, 90th Regiment, markedly intemperate in habits. He was admitted into hospital comatose, and died the following day.

123. A heart with the left ventricle exposed and widely spread out to display the aortic valve. The ventricle is markedly hypertrophied and dilated. A very extensive warty excresence, obscuring the normal texture, is situated on the aortic valve, and below it similar deposits are present on the endocardium, which in the vicinity has also striæ of opacity in its substance. The central lappet of the valve is partially ruptured, leaving a space between it and the contiguous one about ¾ inch in linear measurement.

Donor—Dr. Mahoney, Staff Surgeon.

124. A heart with the left ventricle and aorta opened in continuity. The left ventricle is hypertrophied and partially dilated. The aortic valve is thickened and the central lappet is perforated, the aperture being about the size of a goose-quill, ragged, with a large adjacent warty excrescence. Contiguous to the perforation the lappet is locally bulged out towards the ventricle. A large elongated fringe-like excrescence depends from one of the other lappets. The aorta is atheromatous, and its ascending portion dilated.

125. A heart with the ventricle opened in continuity with the aorta. The left ventricle is hypertrophied and dilated, but towards the apex the walls are much thinned. One of the lappets of the aortic valve is ruptured, and deposited on it is a large warty excrescence, the adjoining lappet is interstitially nodulated and its sinus greatly dilated. The pericardial surface of the heart is coated with an extensive lymph deposit, one layer of which is partially separated.

126. A heart and aortic arch, the left ventricle opened in continuity with the aorta. The left ventricle is dilated. The sinus of the right aortic lappet of the valve and the base of the lappet is dilated into an aneurismal pouch, about the size of a walnut, projecting downwards into the ventricle, and having the ventricular septum the internal aspect and the base of the valve and the endocardium, the external boundary of the sac. On the latter aspect of the pouch are two openings in the delicate wall, each a quarter-of-an-inch in diameter, and freely communicating with the ventricular cavity. The aorta, especially

at the sinuses, is atheromatous; the other lappets of the valve are thinned in places, and the central one has apertures through it near the free edge.

From a negro, aged 26, a cook by trade. A few days prior to death he complained of feeling unwell, and was found dead in his bed.

Donor—Mr. Allan, 2nd Class Staff Surgeon.

127. Origin of the aorta opened to display the valves. A large warty excrescence, to which a lymphy film is attached, is situated on the ventricular aspect of one of the lappets, which is rigid from calcareous deposit. Smaller warty excrescences fringe the other lappets and the endocardium below them. The aorta is atheromatous, and one small patch is dilated into an aneurismal pouch, the size of a pea, the walls of which are nearly thinned through.

The patient from whom it was taken had been for some time hemiplegic. The kidneys contained numerous calculi.

Fasciculus IV, Plate 4, Fig. 3.

128. A heart with the ventricles opened, the left one in continuity with the aorta. The pericardial surface is coated with films of old lymph and dotted with ecchymosis. The left ventricle is greatly dilated. The aortic valve is thickened and a fringe of warty vegetation is present along the free edge, partially detached in some places, and at one spot projecting as a ragged, thin mass nearly 1 inch in length with the ventricle. Numerous excrescences stud the ventricular surface of the lappets and encroach on the endocardium. The aorta is slightly atheromatous, thinned in places and dilated, two warty nodules are situated on the inner surface contiguous to the right coronary orifice. The right cavities of the heart are encroached upon, the ventricle by the convexity of the septum due to the dilated left cavity, the auricle by the aortic pouch.

Sapper McNeill, aged 23, was admitted with bronchitis, but soon after showed signs of cardiac distress. The area of cardiac dulness was increased, a soft systolic murmur was present, and the pulse was very weak and occasionally all but imperceptible. Symptoms of acute gastritis were conjoined, and death supervened five days after admission. The pericardium contained 2 oz. of serum, the heart weighed 24 oz., the bronchial tubes were congested, and the stomach evinced inflammatory action.

Donor—Surgeon Cockburn, R.E.

129. Aortic valves with a portion of the ascending arch. The lappets of the valves are nodulated and thickened. One is dilated with two perforations in the pouch and the sinus is expanded. The aorta is very extensively atheromatous, especially at the base of the valves, near which is an irregular linear aneurismal commencement; the inner coat is nodulated, with cicatricial loss of substance.

From a man of the 72nd Regiment, aged 26, and of a scrofulous diathesis. He had been subject to inordinate pulsation of the carotids

for some time, and while under treatment for bronchitis the cardiac symptoms increased and proved fatal. The heart was enlarged and all the cavities dilated.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

130. Aortic valves with contiguous portion of the aorta. The lappets are thickened and nodulated and two of them are contracted and united, the union being rigid from calcareous deposit. At the point of divergence of the adherent lappets, the earthy material is exposed. The sinuses of these two lappets are reduced in area to half the normal amount, that of the more normal lappet is dilated. The aorta is extensively atheromatous.

The patient was a lunatic and died of erysipelas. No indication of the cardiac lesion existed during life.

Fasciculus IV, Plate 4, Fig. 8.

131. The valve and contiguous portion of the aorta. The valve is opaque and long, pendulous, warty excrescences depend from the ventricular aspect of the lappets. One of the lappets has an extensive laceration producing a perforation in a part covered by the fibrinous deposit. The aorta is atheromatous.

From a man who died of anasarca and dyspnœa, the results of heart lesion. The organ was greatly enlarged and the lungs highly œdematous.

Fasciculus IV, Plate 3, Fig. 8.

132. Aortic valve and portion of the aorta. The lappets are rigid from calcareous deposit and contracted and covered by fine fibrinous excrescences. The sinus of the central lappet is considerably dilated with local bulgings, and in the bottom is an oblique fissure which extends through the whole thickness of the aortic coats. Patches of atheroma are present in the coats of the sinuses.

From a soldier, aged 28, 7th Fusiliers, who died suddenly.

Donor—Dr. Martin, Surgeon, 73rd Regiment.

Fasciculus IV, Plate 3, Fig. 5.

133. A heart with the left ventricle opened in continuity with the aorta. The left ventricle is greatly dilated and hypertrophied. The aortic valve is extensively disorganized. In the sinus of the right lappet a cretaceous mass has been formed as large as a walnut, and the left half of it has been subsequently eroded, carrying with it the greater part of the lappet and leaving a ragged cavern. The central lappet is thickened, nodulated, perforated, and, adjacent to the right lappet, eroded. In the left lappet there is thickening from interstitial cretaceous accumulations. Patches of atheroma are present in the aorta. On the pericardial surface of the heart are lymphy films and localized opacities.

From Private Cateby, aged 34, 2nd Life Guards. He had long suffered from dyspnœa and dropsy.

134. A section of the heart displaying the septum, the left valves and the aorta. The mitral valve is thickened and nodulated, and on its auricular aspect are fibrinous excrescences, and a large flat patch of probably atheromatous degeneration partially covered by endocardium. The endocardium beneath the aortic valve is opaque, corrugated, with fibrinous excrescences studding it. The aortic valve is thickened, nodulated, and from the ventricular aspect of the lappets large, elongated, ragged fibrinous masses depend ½ inch in length; the right lappet is perforated, the aperture being of very irregular outline. The aorta is atheromatous in patches, especially above the central lappet, the degeneration passing into the sinus and being continuous with the endocardial opacity of the left ventricle. The pulmonary valve is opaque and thickened at its attachment.

Pathological Records, Vol. 3, No. 18.

135. The aortic valve and adjacent small portion of the heart and aorta. Occupying the sinus of the middle and right lappets is a firm, ragged, dark-coloured fibrinous mass as large as two nuts placed side by side. The major part of the substance of the central lappet is ulcerated, the rough surface of the mass being exposed towards the ventricle. The right lappet with its part of the tumour is seen as a section in the preparation; the substance of the valve and the coats of the sinus are greatly thickened, and in the centre is a nodular projection from which the mass of the excrescence appears to radiate and grow, the influence of one being firmly incorporated and conterminous with the other. The left lappet is merely thickened and nodulated, especially at its attachment. A few spots of atheroma are apparent in the aorta and in the endocardium immediately below the valve. The large excrescences have the aspect of gradually increasing fibrinous deposits on an atheromatous degeneration of the walls of the sinuses.

From Sergeant Andrews, aged 38, 57th Regiment. He had been advancing in a state of general debility with atrophy of the lower extremities; he committed suicide. The left ventricle of the heart was dilated and hypertrophied.

Donor—Surgeon W. A. Mackinnon, C.B., 57th Regiment.

136. A transverse section of the aorta with the valves *in situ*. The lappets of the valves are thickened, rigid from calcareous deposit, and nodulated along the free edge, one of them has a round perforation in the centre rather larger than a goose-quill; the other two towards their base of attachment, and centrally, are remarkably thinned and all but worn through. The inner coat of the aorta is atheromatous.

From a black, aged 45. During the three years prior to death he

had suffered from pain and dyspnœa. He suddenly died after the exertion of kneading bread. The left ventricle of the heart was considerably hypertrophied.

Donor—Mr. Allan, Asst.-Surg., 87th Regiment.

137. The aortic valve spread out. A delicate fringe of warty excrescences is situated on the ventricular aspect of the lappets, for the major part following the free edge.

From William Pitt, aged 23, 40th Regiment. He was admitted into hospital with febrile symptoms, followed by acute rheumatism. The latter disease continued until five days before his death, when acute dysentery supervened and proved fatal.

138. Heart with the left ventricle opened in continuity with the aorta, an incision in the right ventricle, partially exposing the tricuspid valve. Two of the lappets of the aortic valve are lacerated, the rupture involving the free edge, and the substance of all of them is irregularly thickened from calcareous deposit. In the aorta are patches of atheroma with ossific-like plates, some of the latter are exposed, others are still covered by the thinned internal membrane. Parts of the left endocardium, especially that covering the musculi papillares, are opaque; the mitral valve and the chordæ tendineæ are thickened and opaque, and many of the latter are ruptured. There is an appearance of rupture and laceration of the tricuspid valve also. The left ventricle is somewhat hypertrophied.

139. A heart with the cavities and aorta exposed. The right cavities are somewhat dilated and the auriculo-ventricular aperture is proportionately enlarged. On the auricular aspect of the tricuspid valve are warty vegetations, and one especially large, about 1 inch long, and bulbous, depends from a constricted attachment into the right ventricle. Films of lymph are apparent over the endocardium, especially of the left ventricle. Lymph films and circumscribed opacities stud the pericardial surface of the heart.

From Private M. Adair, 30th Regiment. He had been in hospital with symptoms of left lung inflammation, and on convalescence quotidian ague supervened and continued until his readmission with œdema of the lower extremities, cardiac symptoms, and bruit accompanying the first sound of the heart. The heart's impulse gradually decreased in strength, and six days after re-entry in hospital he died somewhat suddenly. No disease present in the body except that shown in the preparation.

140. A heart with the cavities exposed posteriorly. The tricuspid valve is nodulated and interstitially thickened, and on the auricular aspect are warty vegetations. One of them is very large and hollow and has the appearance of having contained fluid.

141. A heart with the interior of the left ventricle and the aorta exposed posteriorly. The left ventricle is hypertrophied. Partially occupying the cavity of the left ventricle is a wrinkled globular tumour, as large as a walnut, which

projects from the ventricular surface immediately below the central and left lappets of the aortic valve, and encroaches upon the contiguous lappet of the mitral valve. The exterior of the sac is covered by the endocardium, and at the bottom of the sinus of the left lappet of the aortic valve is an opening (glass rod occupying it in the preparation) communicating with the interior of the aneurism, which is shown to be a pouch-like dilatation of the aortic lappet and sinus into the ventricular cavity. The aorta is studded with a few patches of atheroma.

From No. 1114, Private T. Pope, 1st Battalion, 20th Regiment, aged 27, service 7 years. No important disease in the medical history. He had made no complaint of heart symptoms until the night prior to his death, when he felt a slight pain over his heart and asked a comrade to put his hand to the place; the heart was noted by his comrade to beat very fast and he advised him "going sick" in the morning. He, however, felt in his usual condition and eat his breakfast and dinner heartily, and at 2 p.m. was sent with a message; on his way he was seen to fall down, assistance was rendered and he walked slowly to the hospital, the distance of a quarter of a mile. The main features when seen at 2.30 p.m. by the medical officer were —pain in cardiac region, difficulty of respiration, slight cough, his pulse was very feeble and moist, minute crepitation was heard over both lungs. He rapidly became worse, breathing laborious, with expectoration of large quantities of frothy fluid tinged with blood. At 3 p.m. he was insensible and collapsed with the frothy fluid oozing from his mouth and nostrils; at 3.35 p.m. he died, suffocated.

After death the chest only was examined. The left pleural cavity contained 12 oz. of serum, the right, 8 oz. The bronchial tubes were engorged with frothy sanious fluid, both lungs were extremely congested and in a condition approaching red hepatization. About 1 oz. of fluid was present in the pericardium, heart natural size, right side normal, walls of left ventricle somewhat thicker than usual, in the cavity, which contained no clot or blood, was the aneurism displayed in the preparation. Of the size of a large walnut, the walls were thin and composed of endocardium and muscular fibres, in one or two places darkened in colour and very attenuated. The sac was connected by a circular opening the size of a peppercorn with the sinus of the anterior lappet of the aortic valve.

Donor—Surgeon R. W. Carter, 1st Batt., 20th Regiment, Aldershot.

142. Heart, pericardium, and roots of large vessels, the interior of the left cavities are exposed posteriorly, the aorta anteriorly. The pericardium is universally adherent to heart. The wall of the left ventricle is hypertrophied and situated in it, contiguous to the apex, is an abcess cavity as large as an ordinary marble. The cavity has a distinct lining membrane of a slate grey colour, and tends to open into the ventricle. The pericardium over it is greatly thickened (more than $\frac{1}{4}$ inch) and a large white spot exists in the outer wall of the ventricle. The mitral valve is thickened and nodulated, and the aorta is extensively diseased with atheroma and calcareous plates.

Old preparation—no history.

143. Section of the heart showing the aortic valves and the adjacent aorta. Flat calcareous plates are embedded in its substance.

Private Hill, aged 27, died 3/11/87, with a history of secondary

syphilis and Bright's disease. A patch of necrosis existed, about the size of a shilling, on the frontal bone underneath which the dura mater was thickened and adherent. Tissue of the heart was flabby.

Post Mortem Register, Vol. 15, *No.* 105.

144. Ulcerative endocarditis:—Thickening of aortic valves, loss of substance on lappet of mitral valve, vegetative tumour on lappet edge.

William Pitt, 40th Regiment, aged 23. A history of fever and acute rheumatism of five days duration before death from acute dysentery.

145. Heart showing opacity of pericardium and coronary vessels and dilated aortic and pulmonary artery—no history.

WOUNDS AND INJURIES OF HEART AND PERICARDIUM.

146. A heart with an extensively lacerated wound at the apex and the posterior wall of the left ventricle. There is a free deposition of fat in masses on the external surface.

The rupture was directly caused by external violence, but no further details are forthcoming.

From the Medico-military Museum, Quebec.

147. A heart with roots of large vessels. About ½ inch above the apex is a perforating wound, ⅓ inch in diameter, passing from before, backwards, and somewhat obliquely from right to left. The aperture is irregular in shape in the right ventricle, and is surrounded by a prominent aerola of extravasated blood, the exit is irregular in shape and is in the posterior wall of left ventricle, about ½ inch to the left of the septum.

From a soldier of the 83rd Regiment, who was killed by a thrust from a pointed instrument which passed through the right to the left ventricle. The pericardium was found distended with blood.

Donor—Mr. Hill, Staff Surgeon.

148. A heart and pericardium with roots of the large vessels, portion of the diaphragm, ensiform cartilage, lower portion of the sternum, and attached rib cartilages, to exemplify the results of a lance wound. The surface of the heart is coated with old lymph. On the right edge of the heart is an elongated, puckered cicatrix, over an inch in length, and from above downwards, the upper end of it has appended an elongated, narrow, portion of the heart's substance (sliced up by the lance). Immediately above the wound and over the right auricle, the parietal pericardium is firmly attached. In the diaphragm in contact with the pericardium is a rounded aperture somewhat more than ½ inch in diameter. This is said to be the first preparation set up for the museum at Fort Pitt, Chatham.

J. Dorking, of the 3rd Regiment of German Hussars, was wounded at Waterloo by a lance which penetrated the chest, between the fifth and sixth ribs, left side, and was withdrawn. He lost a large quantity of blood by the mouth and a small quantity by the wound. He recovered, but complaining of palpitation and uneasy sensations in

the chest, he was invalided. In November, 1815, he died at Chelsea, from pneumonia. At the post-mortem it was found that the lance had groved the edge of the rib cartilages, passed through the lower lobe of the left lung in which was a narrow cicatrix, penetrated the pericardium under the heart and sliced off a piece of the outer edge of the right ventricle (seen in preparation but in the fresh state two inches in length), emerged through the central tendon of the diaphragm, leaving the smooth oval aperture still in its integrity, and penetrated the liver, on the surface of which was an irregular cicatrix. There was no adhesion of the heart from abdominal viscera to the diaphragmatic opening, and thus there was a constant liability to hernia through it.

148A. A heart showing a leaden bullet encysted outside the pericardium.

From Ashantee Campaign of 1873–4. Described by Surgeon J. Fleming, M.D., F.R.C.S., Pathologist to the Expedition. See Appendix to *Army Medical Department Reports* for 1873, p. 285, vol. xv.

148B. Penetrating wound of the heart involving the transfixion of both ventricles; but not causing death for several minutes.

Private A. D., 95th Regiment, was accidentally stabbed at Athlone, 5th November, 1878, while skylarking with a boy in the kitchen of the Officers' mess. The boy took up an old knife (a French cook's knife) and was brandishing it about to keep deceased off when the blade flew from the handle and inflicted the fatal wound. The deceased stooped forward, and the blade fell out from the chest. He then went up to the plate room, ascending fifteen steps, and laughingly told the mess-sergeant of the occurrence. He then ran to the hospital, a distance of 200 to 250 yards, meeting a woman on the way, to whom he said that the baker's boy had stabbed him. Within a few yards of the hospital he fell and did not speak again. About five minutes elapsed between the receipt of the wound and the moment he fell. A gaping wound in the left side of the chest showed that the blade of the knife had penetrated between the third and fourth ribs and midway between left nipple and sternum. There was no external hæmorrhage. It was seen after death that the blade had penetrated the anterior surface of the right ventricle, entering that cavity quite close to the septum, causing a wound $\frac{7}{10}$ inch in length, it then passed through the septum into the left ventricle, out of which it passed by an opening near the base about $\frac{1}{8}$ of an inch in diameter. The chordæ tendineæ of the anterior lappet of the mitral valve were almost completely severed. The cavities of the heart were quite empty; and the pericardium was full of dark blood. The knife is preserved in the Museum of Military Surgery, No. 109. The end of a knife-blade similar to that preserved, has been introduced into the wound shown in the preparation. See *Path. Soc. Trans.*, vol. 30, p. 278. Commmunicated by Dr. J. P. H. Boileau, from details of case and preparation sent to Netley, by Surgeon-Major James Davis, A. M. Staff. April 15, 1879.

MALFORMATIONS OF THE HEART.

149. A heart with the cavities opened to display the auricular septum in which is situated a stirrup-shaped, unclosed, foramen ovale about $\frac{3}{4}$-inch in diameter. A round piece of lead (probably a bullet) has been placed in the apex, to keep the heart in position.

James Pilkington, aged 20, 4th Regiment, died of phthisis. Lungs consolidated and filled with tubercle. The surface of the body, especially of the face, was of a bright vermillion hue.

Fasciculus II, Plate 4, Fig. 5.

150. A heart with the cavities opened to expose an oblique oval aperture of the size of a goose-quill in the auricular septum, due to incomplete closure of the foramen ovale.

Private Couray, aged 21, 7th Dragoon Guards, was subject to paroxysms of cardiac syncope, and died of consumption.

Donor—Dr. Blake, Surgeon, 7th Dragoon Guards.

151. A portion of the auricles of the heart with the septum to show an oblique, canal-shaped communication, admitting the tip of the little finger, an incomplete closure of the foramen ovale. The membrana ovalis is thin and ribbed. A number of tendinous cords, like shreds of pure silk pass from the Eustachian valve to the opposite side of the auricle.

From a sergeant, aged 36, of the Royal Fusiliers, who was shot while in perfect health.

Donor—Dr. Davy, Asst.-Inspr. Hospitals.

152. The auricular septum showing the membrana ovalis pouched towards the left auricle, attenuated and cribriform.

Old preparation—no history.

153. Atrophied heart of an adult with the foramen ovale patulous and the Eustachian valve apparently perfect in action.

From the body of a maniac. No indications of cardiac derangement existed during life.

154. A heart with portion of the auricles cut away to expose the septum. In the anterior part of the membrana ovalis is a small opening through which a piece of whalebone is passed.

From Sergeant Allen, 84th Regiment, who died of phthisis.

155. A heart with the cavities opened, and the auricles partially cut away to expose the septum. A round opening, size of a large pea, is situated in the anterior part of the membrana ovalis, and a smaller one posteriorly. Numerous white spots are present on the heart's surface.

From Patrick Flanaghan, aged 20, 30th Regiment, who died of phthisis.

156. An enlarged and cribriform Eustachian valve.

From W. Lacy, aged 37, who died from mania. There was no irregularity of the heart's action during life.

157. A portion of the auricular septum showing the Eustachian valve to be fringed, with a remarkably delicate net-like structure.

From a man of the 42nd Regiment, who died of phthisis.

Donor—Dr. Jackson.

158. The upper portion of a heart with the auricles partially cut away. In the left auricle is a delicate, well-defined, membranous structure, similar to an Eustachian valve.

From John Conniff, 66th Regiment, who died of phthisis.

159. The cavities of the heart exposed, and part of the left auricle cut away to display the absence of the auricular

septum. The heart is generally enlarged, the right cavities are dilated, and the musculi papillares of the tricuspid valve hypertrophied, the left ventricle is somewhat hypertrophied. There is a circular ridge in the auricular space, indicating the proper site of the septal boundary, and with this as a guide the left auricle is diminished in capacity.

From Peter Shaw, aged 25, 80th Regiment, who had evinced pectoral infirmity from his infancy. He was never able to perform military duty, but no symptoms of imperfect blood oxygenation was present during life.

Donor—Mr. Lightbody, Surgeon, 80th Regiment.

160. The upper portion of the heart with the auricles opened, and the septum displayed. The right auricle is enormously dilated and thinned, the left is contracted in capacity. An oval communication exists in the septum, $1\frac{1}{2}$ inches in diameter.

From Michael Corney, aged 37, 45th Regiment, who was invalided from Ceylon, for dyspnœa and distressing pectoral symptoms. He died from acute pulmonary disorder. In addition to the details in the preparation, the right ventricle was dilated and hypertrophied, the left ventricle somewhat hypertrophied, numerous white spots were present on the heart's surface, and the pulmonary veins were much enlarged.

161. Vertical section of the heart with the ventricular walls, septum, and roots of large vessels, with an aperture in the septum forming a communication between the ventricles. The opening is situated immediately below the aortic valve and from the left ventricular aspect its direction into the right ventricle is downwards; it is about $\frac{1}{2}$-inch in vertical diameter and rather more transversely; at its lower edge on the left ventricular side, there is a ridge of the endocardial membrane. The ventricles are hypertrophied, especially the right.

From Private J. Smith, aged 23, a bandsman, 2nd Battalion, 15th Regiment. He was in good health until a few months before death. A loud sawing systolic bruit was audible at the base of the heart, the pulse was very jerky; dyspnœa was the main feature complained of, and the body surface was very livid. Four days before death he suffered severely from epistaxis and died by sudden collapse. At the post-mortem examination the lungs were congested, the pericardium contained 30 oz. serum, and was coated by recent plastic lymph, the weight of the heart was $18\frac{1}{2}$ oz. The walls of the heart were hypertrophied, but the cavity capacity normal, the ventricular communication was lined by endocardium, and the fold seen in the preparation at the lower edge, in the recent state acted as a partial valve. Septal deficiency congenital.

Pathological Records, Vol. 6, No. 17.

162. A fœtus with the viscera exposed and the heart laid open to show a malformation of the septum and aortic origin. A piece of whalebone has been placed in the aorta, which is seen to arise apparently from the right ventricle, but actually from a common ventricular cavity owing to deficiency of the septum.

Donor—Dr. Scott, Rifle Brigade.

163. The heart of an acephalous fœtus with the cavities exposed. The foramen ovale is patulous, and in the septum ventriculorum, are two openings about the size of a pea—no history.

164. An aorta with only two lappets to the valve, but each is larger than natural—no history.

165. An atrophied heart with the cavities and large vessels opened. The pulmonary valve has only two lappets, each of which is larger than normal. There is only one coronary artery, the left, and this is above the usual size.

From an Indian woman, aged 26, who died suddenly in the streets of Port Louis, Mauritius. The lungs were tubercular, and the heart in the condition noted in the preparation.

Donor—Mr. Allan, 2nd Class Staff Surgeon.

165A. Congenital opening in septum, affording communication between the ventricles, and lined by endocardial membrane, serving the purpose of a partial valve. Hypertrophy of walls of both ventricles. Weight of heart—18½ oz.

Private James Smith, 2nd Battalion, 15th Regiment, aged 23. Entered service at age of 15 as a band boy. In good health till within one year of his death, when he suffered from dyspnœa on least exertion, and he was invalided for cardiac symptoms. On admission to hospital he had well-marked cardiac symptoms with lividity of face, hurried respiration, pulse 96 and jerky. A loud sawing single systolic bruit was audible at base. No impairment of vision, vertigo nor headache—frequent epistaxis before death, distressing dyspnœa and collapse just before death.

Pathological Reports, No. 17, Vol. VI.

165B. Three photographs of univentricular (or Tricœlian) human heart.

See *Journal of Anatomy and Physiology*, vol xi, also *Proceedings of Medico-Chirurgical Society of London*, June 23rd, 1868, also small 8vo. vol. in Library of Department.

Donor—Robert Elliot, M.D., F.R.C.P., Carlisle.

PARASITIC DISEASE.

166. Portion of the wall of the left ventricle of a cow. In the muscular substance is a large cavity, nearly 3 inches in diameter, containing the cyst of an echinococcus. The cow died of an acute disease (Angostoli, Corfu), unconnected, it is said, with the heart lesion—See old Catalogue before 1826, p. 209.

Donor—Dr. Davy, Assist.-Insp. of Hospitals.

167. Heart of a dog containing male and female *Filaria immitis*.

From China, described by F. H. Welsh, A.M. Staff, in *Lancet*, March 8th, 1873.

168. The heart of a Hart-beeste, with incisions in the walls to exhibit the presence of numerous echinococci cysts among the muscular fibres. The cysts average a large pea in size, are generally dispersed, and form oval projections on the pericardial surface.

Donor—Dr. J. Murie, Zoological Gardens, London.

SERIES II.

DISEASES AND INJURIES OF THE ARTERIES.

ULCERATION EXTENDING INTO ARTERIES.

169. A portion of the external iliac artery and of the common femoral, with portions of the superficial and profunda femoris. Immediately above the bifurcation of the common femoral is a ragged opening in the anterior wall, about ½ inch in diameter, involving two-thirds of the calibre of the vessel. Irregular masses of fibrine partially occupy the interior of the artery.

From a soldier of the 79th Highlanders, who had suffered for several months with an open bubo in the left groin. The ulcer was

about the size of a shilling; there was great undermining of the skin, and considerable surrounding tissue induration. A fortnight prior to death profuse arterial hæmorrhage ensued, which was held in check for eleven days by pressure, but a recurrence necessitated ligature of the external iliac at the point shown by the silk thread of the preparation.

Donor—Surgeon T. G. Scott, 79th Highlanders.

170. Right half of the facial bones and base of skull with the ear and soft tissues in the vicinity of the division of the right carotid artery. The external carotid, an ½ inch above the origin of the lingual artery, is seen to terminate abruptly in a ragged edge due to sloughing of nearly the whole calibre of the vessel, the only portion remaining being a thin shred of tissue indicating the course of the artery to its termination. A large bougie is passed along the internal carotid artery and through the rupture in its coats into the back of the pharynx.

T. Conolly, aged 21, 97th Regiment, was admitted with tonsillitis, which subsided in a few days. He still, however, complained of pain in the pharynx, for which no cause was apparent. A few days afterwards he was seized with acute pain in the right ear, with a diffused swelling below the mastoid process, but examination of the pharynx led to no detection of disease. Profuse hæmorrhage from the nose and mouth suddenly proved fatal in a few minutes. The sac of an abscess an inch in diameter was found close to the base of the skull, and about 1 inch behind the condyle of the lower jaw, which had produced the sloughing of the vessel shown in the preparation.

MS. in old Cat., Vol. I, p. 212, No. 218

171. A brachial artery laid open. From the superior portion for about 4 inches downwards, the vessel is obliterated by a firm plug constricted midway by a ligature. Immediately beneath this, the anterior wall of the artery is wanting over a space ½ inch in length, the lower portion of the calibre of the vessel being patulous. The remainder of the wall of the ulcerated portion is greatly thickened, and the tissues around are matted together, the medium nerve being firmly agglutinated to the artery.

From J. McGuire, aged 28, 18th Foot. While in hospital with phthisis, an abscess the size of an egg formed over the right brachial artery, midway between the shoulder and elbow. The pus was evacuated, and 29 days afterwards profuse hæmorrhage occurred from the abscess sac, showing that ulceration had taken place in the artery, necessitating ligature of the main artery of the arm. On the following day the pulse could be felt at the wrist, and the temperature of the hand was natural, but complication from lesions of a tuberculous nature led to death 14 days subsequently.

172. A portion of the soft tissues of a stump of the arm, with the brachial artery exposed and opened up. The termination of the vessel is much reduced in calibre and a fibrinous plug occupies the interior up to the nearest branch.

In this case the brachial artery was tied for profuse hæmorrhage from an ulcer, but a recurrence led to amputation of the limb. A fatal termination followed about a month after the operation, but from causes disconnected with it.

172A. A portion of the abdominal aorta, external iliac, and femoral arteries with their accompanying veins, the femoral

being divided but connected in the preparation by a silk ligature. About ½ inch from the origin of the external iliac artery is a firm fibrinous coagulum occluding the vessel and extending downwards throughout the entire femoral artery. About 1 inch from the upper extremity of the thrombus is a partial transverse division of the external iliac, the outer coat having been dissected off to show the laceration of the internal and middle coats at the point of ligature. The ends of the femoral vessels at the silken connection are very ragged and the vein is occluded equally with the artery, continuing downwards in the same state throughout. At the lower end the coats of both artery and vein are much thickened.

From Private W. Penn, aged 26, 14th Light Dragoons. He was admitted with gonorrhœa followed by bubo. On the 43rd day profuse arterial hæmorrhage ensued from the open sore in the right groin, necessitating ligature of the external iliac. On the fourth day of the operation mortification of the toes commenced. On the 11th day the gangrene had extended to the knee, and the thigh was amputated in the middle third. On the 23rd day the ligature of the iliac came away followed by rapid healing of the wound. The amputation flaps partially sloughed, but progress was advancing, when on the 36th day pyæmic symptoms supervened and proved fatal. On examining the bubo ulceration an interval of three quarters of an inch intervened between the ragged ends of the femoral vessels, this amount of their coats having sloughed and given rise to the hæmorrhage. (In the preparation the silken ligature connects the destroyed ends).

Donor—Surgeon A. Stewart, 14th Light Dragoons.

172B. Ulcerated opening into aorta, ¾ inch diameter, close to origin of 2nd intercostal artery, filled with coagulum and slough. No aneurismal sac or other evidence of disease in the aorta. There were two ulcerated openings in the œsophagus about its middle, of a funnel-shaped oval form on its anterior and left lateral aspect, and both communicated with the aorta.

From Augustin, a Mozambique black, aged 45, of strong muscular frame, employed on a plantation six miles from Port Louis, in the Mauritius. He was seized with sudden vomiting of blood, and found dead with trousers partially undone and some blood passed from rectum into them. The stomach after death was found to be completely distended with coagulated blood, and a lumbricus seven inches long in centre of clot. Both large and small intestines were similarly filled with blood-clot as far as anus, and similar lumbrici found in them.

Donor—Mr. Allan, 2nd Class Staff-Surgeon.

172C. Ascending and descending aorta, with portion of œsophagus and trachea attached. Ulceration through coats of aorta (descending) communicating through a sloughing aperture into the œsophagus. The aorta generally is atheromatous.

172D. The thoracic descending aorta showing a rupture by an ulcerative process (not aneurismal). The aorta was the seat of atheromatous disease from close to aortic valves. The vessel had rupture into the left pleural cavity, so that the coagulum of blood compressed the left lung.

From Private Thomas Parker, a bandsman of 70th Regiment, who died suddenly a few hours after admission to hospital. He was

admitted for cough (28th Feb., 1868), with slight expectoration, hoarseness, and some difficulty of breathing, oppression of chest, and a peculiar pulse of a vibratory character, but not intermittent. He had been continually drinking during a month's furlough, from which he had only returned a few days before admission. He died suddenly from symptoms of collapse.—*Ashton-under-Lyne*, March 27th, 1868.

Donor—Surgeon-Major Vere Webb, 70th Regiment.

FAILURE OF CLOSURE AFTER LIGATURE.

173. A portion of the femoral artery laid open to show a thickening and a ridge-like arrangement of the inner membrane. Along the cut edge in places the internal coat is swollen and injected and distinctly differentiated from the middle. (See preparation 355.)

From Private W. Boswell, 5th Dragoon Guards, aged 26 years, whose leg was amputated below the knee for caries of the tarsal bones, and who died with pyæmic symptoms on the 22nd day after the operation. No union on the 7th day after operation had taken place in the stump, the popliteal vein contained coagula and softened milky fluid, the contiguous glands had suppurated. Fibrinous coagula occurred in popliteal vein, and eight ounces of pus were found in the peritoneal cavity.

174. The termination of an artery and nerve in the stump of an amputated forearm with the surrounding soft tissues and ligature still attached. The artery, which is partially opened, is contracted in calibre and a fibrinous layer in the interior is seen to occlude the vessel about 1½ inches above the point of ligature.

The forearm was removed immediately below the elbow for phagedænic ulceration of the hand. The man died four months after the amputation from cancerous disease of the internal viscera. The silk thread in the preparation is the original ligature, which had not separated.

175. The femoral artery opened above and below a ligatured portion. A thin fibrinous plug about ¾ inch in length occupies the interior of the vessel above the ligature; and in the vessel below the ligature, but removed from it, are three isolated fibrinous concretions apparently in connection with the giving off of small branches from the main trunk.

From a soldier of 95th Regiment, in whom secondary hæmorrhage ensued after amputation of the thigh for caries of femur, and to prevent the recurrence of which ligature of the main vessel was performed. On dissection the aorta was found diseased, and a coagulum plugged the femoral vein.

Donor—Dr. White, Assist.-Surgeon, Staff.

176. The ulnar artery opened, together with ulnar nerve. At the inferior free extremity of the former is a slight delicate granular fibrinous deposit in the interior and the tissues externally in the vicinity are thickened. The nerve end is bulbous.

From a soldier of 18th Regiment, whose forearm was amputated in the upper third for caries of the ulna, and who died 19 days afterwards from the operation and extensive lung disease combined with

sacral necrosis. The slight fibrinous deposit in the ulnar artery shows the point of ligature, no other attempt at obliteration has ensued. The lungs were filled with tubercle in various stages (probably syphilitic nodules, as he had syphilitic affections), several sinuses exist in the neighbourhood of the rectum communicating with that gut. There was also extensive disease of the articular cartilages of the humerus, and disease of the lymphatic glands of the arm affected.

EFFECTS OF THE APPLICATION OF LIGATURES TO ARTERIES.

177. A portion of the femoral artery and vein laid open to show the result of ligature applied to both. Occupying the interior of each from the ligature upwards for rather more than an inch is a firm, fibrinous plug, which, however, does not appear to be connected with the inner surface of the vessels. In the vicinity of the ligature the coats of the vessels, especially the internal, are interstitially thickened, and the sheaths are firmly agglutinated.

Donor—Staff-Assist.-Surg. McQuane.

178. Jar containing two preparations,—the one, popliteal artery, vein, and small portion of walls of an aneurism,—the other, femoral artery ligatured with ligature attached; and the vein—all of them opened. The popliteal artery is nodulated internally from atheroma and the lining membrane is covered by a delicate layer of lymph; the vein is corrugated internally, and obliterated for a space of an inch, by adhesions between the collapsed inner coat, and thick fibrinous material externally agglutinating it to the sac of the aneurism. The inner surface of the femoral artery is furrowed transversely and constricted by the ligature which has divided the inner and middle coats, the lacerated surface is coated with thin flakes of lymph; above the ligature is a plug occluding the vessel, below it is a thrombus partially attached. The femoral vein is firmly united to the artery, and internally (the portion seen embracing two valves) flaky fibrine has been deposited.

From a Sergeant, 3rd W. I. Regiment, aged (presumed) 45, whose femoral artery was tied for an aneurism of the popliteal of recent formation. On the seventh day secondary hæmorrhage (with rigor and fever ensued) which was arrested spontaneously and did not recur. The sac became tense and painful, with tenderness along the course of the femoral vein, irritative fever, and death on the 15th day.

Donor—Dr. Collins, 2nd West India Regiment.

179. A portion of the femoral artery, anterior crural nerve, and soft tissues in immediate connection with the obliterated end of the vessel. The artery is much reduced in calibre and terminates abruptly, the obliteration being apparently accomplished by the thickening and collapse of its walls.

The patient from whom this preparation was removed had been

cured of a popliteal aneurism some time previously by ligature of the femoral in the upper third of its course. Death ensued from another disease.

Donor—Dr. Hennen, Deputy Inspr.-Genl.

180. The femoral artery of a dog around which a ligature was placed four days previous to the death of the animal. A small conical plug projects from the ligatured point in the upper portion of the vessel.

181. The carotid artery of a dog. A transverse wound is present, the internal and middle coats are gaping, a mass of lymph is deposited on the outside of the vessel, and closing the tube.

Donor—Dr. Davy, Asst.-Inspector of Hospitals.

182. Dried, dissected, and injected preparation of the pelvis and thigh of a dog in which the femoral artery had been ligatured six months previously. About ½ an inch of the vessel is obliterated, the interval comprising the giving off of two muscular branches, above and below which the calibre of the trunk is of fair size. The sciatic, and the superior perforating branch of the profunda femoris are the main agents of the collateral circulation.

Donor—Staff Assist.-Surg. T. Alexander.

WOUNDS AND INJURIES BY EXTERNAL VIOLENCE.

183. About 4 inches of the femoral artery, including the origin of the profunda, opened. A firm coagulum with convex extremities occupies the interior of the femoral vessel and passes into the profunda for about ½ inch, more extensive below the origin of the latter vessel than above it. Surrounding the thrombus the coats of the vessel are greatly thickened and the external tissues are matted together.

John Bell, aged 47, 1st Regiment, was admitted with ununited compound fracture of the femur, caused by a musket ball at Waterloo two years previously. While under treatment mortification of the limb ensued from the condition shown in the preparation.

184. A portion of the femoral artery opened to show a delicate layer of lymph on the inner surface. The vessel above this point has plates of calcareous matter in the internal coat.

From John Bell, aged 47, 1st Regiment, who died of mortification of the limb from thrombus of the femoral at the giving off of the profunda. *Vide* above preparation, 183.

185. A portion of femoral artery and vein both laid open firmly adherent together, and between them is seen a perforation made by a bullet. The artery, especially in the vicinity of the bullet track, is contracted, but for

about 4 inches is occluded by a firm dark-coloured impassable coagulum which in places is seen to be firmly adherent to inner coat. A large thrombus, unattached and impassable fills the vein for the same distance. The tissues between the vessels are agglutinated and thickened. The bullet had passed at the spot where the vein is nearly situated behind the artery. The coats of the vein are but little injured, and the artery is only bruised.

Private P. Turnbull, of the Grenadiers of 74th Regiment, was wounded on 10th April, 1814, at Toulouse, by a musket ball passing from inside to outside of middle of the thigh. The wound bled considerably at first, but soon ceased to bleed; it was not painful, and for the first two or three days he thinks the leg and foot of the injured limb were colder than the rest of the body. To this, however, he did not pay much attention, conceiving that the numbness, coldness, and impeded power of motion as natural to the injury he had received.

On the 18th of April (*i.e.*, eigth day after injury), the gentleman in charge of the case showed it to Mr. Guthrie as an extraordinary case of spontaneous gangrene. The wound of exit (outside the thigh) had nearly healed, and that on the inside was without inflammation or tumefaction, and with merely a little hardness to be felt on pressure. Pulsation could be distinctly felt to the edge of the wound, but not below it. The artery of the other thigh could be distinctly traced down to the tendon of the biceps. As the patient was at a small hospital on the field of battle about two miles from town, he was not seen again by Mr. Guthrie till 20th, and afterwards on 23rd April, when the gangrene appeared to have ceased, it having then included all the toes. Mr. Guthrie at once left directions that the limb should be amputated *below the knee*, being satisfied that gangrene would still extend. By some mistake his order was not carried out; and, on visiting the hospital on 25th, Mr. Guthrie was annoyed to find that the operation had not been done, and that mortification had begun to spread the evening before. It was then too late to amputate. On 26th gangrene had extended above the ankle, with considerable swelling up to the knee. At night the man died, and on the following morning Mr. Guthrie removed the injured femoral artery and vein from Poupart's ligament to its passage through the triceps, which part was affected by the mortification. He sent the preparation to the museum at Chatham (now at Netley hospital), regarding it as unique, and as proving the elasticity which blood vessels possess, and their capability of avoiding an injury (to a certain extent) about to be inflicted upon them. See Guthrie's *Commentaries on the Surgery of the War*, 6th edition, p. 204.

Presented by G. J. Guthrie, F.R.S.

186. A femoral artery and vein partially opened. A firm coagulum tapering towards the free extremity occupies the interior of both vessels, commencing from the lower end in the preparation where both vessels terminate abruptly as closed ragged tubes, the outer coat being traceable over the stumps and forming a small irregular projection on each. The plug occluding the artery is about 1 inch in length, and is in close apposition with the inner coat, the upper end being on a level with the giving off of an arterial branch. That occupying the vein is at least 4 inches, free for the major part of its length in the calibre of the vessel, and about the middle it bears the impress of the valves.

From an artificer in Chatham Dockyard whose limb was crushed by

the falling of a heavy weight. Gangrene ensued and terminated life on the 14th day. The vessels as seen in the preparation were completely torn across.

Donor—Mr. Tribe, Surgeon, Chatham.

187. Portion of the aortic arch, left carotid and subclavian arteries, internal jugular vein, and vagus nerve, dissected out. About midway in the common carotid artery, on its external circumference, is a ragged aperture as large as a pea exposing the interior of the vessel, which is partially occupied at this spot with a coagulum; ragged shreds of tissue depend from the laceration posteriorly. On the same level with the injury to the artery, the internal jugular vein (the upper half of which is not present in the preparation) terminates abruptly, the division being transverse in direction and irregular. A fibrinous coagulum is seen to occupy the interior of the vein at the laceration and to pass down for some distance in its course. Nodules of lymph are dispersed around the injured portion of the vessels, and the vagus nerve, which is otherwise intact.

From Private John Gardiner, 67th Regiment, who was wounded by a bullet on the left side of the larynx at the attack of the Pei-ho Forts, China. There was no evidence of injury to the vessels at the time. On the 10th day a large piece of cloth (portion of great-coat) was extracted from the wound. On the 13th day arterial hæmorrhage ensued which was checked by pressure. The bleeding recurred; an attempt to ligature the vessel failed, and death ensued on the 24th day, from loss of blood. At the post-mortem examination the bullet was found to have passed through the sheath of the large vessels of the neck at the crossing of the omo-hyoid muscle, opened the carotid artery on its outer circumference and completely divided the vein, ultimately lodging in the body of the 7th cervical vertebra. The opening in the artery was gaping and partially filled by a fibrinous coagulum, which, however, was far from occluding the laceration or the calibre of the vessel. The divided ends of the vein were retracted and firmly occluded by fibrinous plugs.

Donor—Staff-Surgeon Becher, Case 153, China Records.

188. The femoral artery, vein, and anterior crural nerve and branches, dissected out. About 4 inches from the profunda origin, an opening, about the size of a large pea, is seen to expose the interior of the femoral artery; the aperture is ragged, its edges everted, and through it a thin fibrinous coagulum projects, and partially occludes the laceration and the calibre of the vessel. About $1\frac{1}{2}$ inches of the femoral vein, corresponding to the arterial injury, is wanting. The upper portion of the vein is occluded by a firm thrombus for 2 inches from the laceration, which is smooth, transverse in direction, and contracted, no portion of the plug intervening between the collapsed coats. The lower portion is obliterated throughout by thrombus, but the lacerated end is tapering as though the external coat had been drawn up and twisted. A branch of the anterior crural nerve, probably one of the cutaneous, is divided, the end being ragged.

From Gunner H. Travers, who was wounded in China, August 12th, 1860, the match lock ball perforating the thigh on the inner aspect of

the upper third. He lost a considerable amount of blood at the time of injury, which was only stopped by the application of a tourniquet and plugging of the wound. On the 11th day, secondary hæmorrhage ensued, and terminated life rapidly on the 12th day. At the post-mortem examination the ball was found to have perforated the left thigh at about the middle; the bullet passing through the sartorius muscle, between the artery and the femur, lacerating the vessel and dividing the vein, and passing out posteriorly at the same level as the wound of entrance, with hardly more laceration at the exit than in front. The edges of the arterial laceration were swollen, otherwise it was in the condition seen in the preparation, the ends of the vein were firmly occluded.

Donor—Staff-Surgeon Becher, Case 138, China Records.

189. The brachial vessels and median nerve from a limb torn off by round shot. A fibrinous coagulum fills the vessels throughout. The ends of the arteries are tapering, drawn out into a thread, and generally covered by the filmy outer coat. The vein ends are more bulbous, and the outer coat does not conceal from view the thrombus within. In the nerve the external sheath terminates somewhat abruptly, and long nerve fibrils depend below it to the extent of at least 6 inches; in this respect outstripping both the artery and vein, the latter being the shortest.

190. A portion of the abdominal aorta showing in the anterior aspect of the vessel, about 1 inch above the bifurcation, a transverse incision ½-inch in length exposing the interior.

From Private R. Foster, aged 22, 41st Regiment. Whilst intoxicated he endeavoured to force a sentry and received a bayonet wound of the abdomen. He survived the injury three hours. On dissection the abdominal cavity was found distended with coagulated blood from the wounded aorta.

Donor—Mr. Strachan, Inspr.-Genl. of Hospitals.

191. A heart with the arch of aorta and the origin of the large trunks from it. Immediately above the valve the aorta is seen to be all but completely divided, the only attachments being a strip of the outer coat on the convexity of the ascending portion, and a strip of the middle and external at the opposite side. The internal and middle coats are comparatively clean cut, the external is widely separated from the middle. A second laceration involving one half of the circumference of the vessel in a vertical direction, and extending through all the coats is situated immediately beyond the left subclavian origin.

From T. Mc. Geary, age 45, 45th Regiment. He was found dead in a chalk pit into which he was supposed to have fallen when intoxicated. In addition to the aortic lacerations numerous small vessels ramifying on the pleura were ruptured, and the neck of the femur broken. A few spots of atheroma were present in the aorta opposite to the origin of the large vessels.

Fasciculus IV, Plate 10, Fig. 5.

191A. The ascending aorta laid open to show a rupture of its coats in the posterior wall, about ½ inch above the valves. The laceration is vertical, about ¾ inch in length in-

ternally and $\frac{1}{3}$ inch externally, the latter on a lower level. The upper end of the internal laceration terminates in a puckered cicatrix. The aortic coats are thickened and patches of atheroma with commencing ulceration of surface and numerous cicatrices are observed from the valves upwards and especially at the junction of the lappets of the valves.

From Private W. Halligan, 36th Regiment, aged 27. A man of great activity, endurance, and bodily powers. He was on "baggage guard" on removal of the Regiment from Umritsur to Peshawur, 17th December, 1867, and had marched 10 miles when he was observed to fall forwards on his face, he died instantly, blood filling the throat and mouth. The pericardium was distended with blood-clot from the rupture which opened posteriorly between the aorta and pulmonary artery. He had suffered from acute rheumatism and three months before death had remittent fever and the scar of a bubo existed in the left groin.

Donor—Asst.-Surg. John F. Foster, 36th Regiment.

191B. Rupture of the aorta immediately above one of the semilunar valves, in consequence of fungiform disease of its structure. Around the rupture the coats of the vessel are thickened from morbid deposition; the rupture measures five lines in length, and the cellular coat of the artery is raised and forms an elevated ring round the margin of the external orifice.

Fasciculus IV, Plate 10, Fig. 1 and 2.

192. Rupture of the middle meningeal artery at different points, caused by a fall, followed by effusion, compression and death. MS. Cat. Vol. I. page 206, No. 200.

Richard Creegan, 27th Regiment, aged 25, was found at night lying in the street in a state of complete coma, with an apparently slight contused wound on the vertex, supposed to have been caused by a fall while in a state of intoxication. He never recovered consciousness, and died within 24 hours. After death a fissure was found in the calvarium, a firm coagulum of blood, 3 oz. in weight on the dura mater underneath the line of fissure, which flattened considerably the underlying hemisphere. Coagula were found under the arachnoid, and bloody serum in the lateral ventricles.

192A. A dry preparation of an injected femoral and popliteal artery, showing an organised coagulum in the popliteal after an injury occurring at the time of the accident from an explosion at St. John's, Newfoundland.

Case of Corporal G. Downey, R.A., no further history.

Donor—Asst.-Surg. A. Knox Richards, Royal Artillery.

ATHEROMA, PRIMARY, FATTY, AND CALCAREOUS DEGENERATION.

193. A portion of the arteria innominata with portions of the carotid and subclavian partially opened. The walls of the vessels in places are thickened, and in the arteria innominata is a lymphy deposit on the lining membrane. The vertebral artery at its origin is all but occluded.

194. The arch and thoracic aorta laid open. Extensive atheromatous changes of the inner membrane are present from the valves onwards through about 3 inches of the thoracic aorta, where they terminate abruptly by a transverse ridge. The changes consist of nodulation, cicatricial-like loss of substance, surface erosion, and a few calcareous plates, and have led to thinning and bulging of the aortic coats in parts, especially at the sinus Valsalva, and the origin of the large vessels.

From a soldier of the 85th Regiment who died of numerous and extensive vomicæ in the left lung.

Donor—Surgeon Fiddes, 85th Regiment.

195. A heart with the left ventricle opened in continuity with the aorta throughout and common iliac vessels. The heart is small, its coronary vessels are very tortuous and enlarged, the pericardial surface covered with flaky lymph. The inner surface of the aorta is opaque, and patches of calcareous material in plates are scattered beneath the internal coat, and especially frequently near the bifurcation. In places the inner coat is divided over the calcareous plates and curled up, and in places also are thin lymphy flakes attached to them. The large visceral branches of the abdomen are dilated at the origin.

From a man aged 98.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

196. The abdominal aorta and common iliac vessels laid open. On the inner surface are seen large irregular elevated patches of atheroma, some of them very circumscribed. A section through one at the upper part shows this deposit to be situated between the lining membrane of the vessel and the middle coat.

197. The aorta from the valve to half of the thoracic portion. A rim of atheroma ½ inch in depth is present in the inner coat of the vessel immediately above the valve; it passes into the sinuses and involves the lappets at their attachment. Smaller patches of degeneration stud the ascending portion which is also pouched, and just beyond the origin of the large vessels for about 1½ inches in extent is a tuberculated and furrowed patch with central thinning and cicatricial-like loss of substance. Beyond this are a few streaks and spots of degeneration.

From Private H. Williams, aged 27, 1st Battalion, 25th Foot; death occurred from cystic degeneration and lardaceous disease of the knee in conjunction with other syphilitic lesions in the liver and spleen.

Post Mortem Records., Vol. II, No. 19.

198. Lower portion of the abdominal aorta and bifurcation, laid open to show a localized patch of atheroma involving the vessel for about 1½ inches. The patch consists of

tuberculisation, general dilatation, with local thinning. Slight fibrinous deposit has taken place on the irregular fissured surface.

From a soldier of the 73rd Regiment who died of rupture of a thoracic aneurism. into the left pleural sac.

Donor—Mr. Martin, Surgeon, 73rd Regiment.

199. Dried preparation of the abdominal aorta and iliac arteries. Large ossific-like plates are seen irregularly distributed on the inner surface, some of them very thick.

Donor—Dr. Robertson, Chatham.

200. Dried preparation of the bifurcation of the abdominal aorta, arteries of the lower extremity, and of the fore-arm. Calcareous plates are observed on the inner surface, closely aggregated, and arranged transversely in a linear direction. These are sparsely scattered in the iliac and femoral vessels, but very extensive in those of smaller calibre.

From a soldier, aged 41, who died of consumption. The aorta especially at the arch was atheromatous. The carotid, subclavian, and brachial vessels were healthy.

Donor—Asst.-Surg. Williamson.

201. A portion of a small heart displaying the left ventricle continuously with the arch, portion of thoracic aorta, and the roots of the large vessels. From the valve upwards extensive degenerative atheromatous changes are seen in the aorta, consisting of nodulations and cicatricial-like constrictions. The degeneration involves the lappets of the aortic valve at their attachments, and immediately above the valve is a thick ring of deposit beneath the inner coat which induced a diminution of the calibre of the vessel; above this the aorta is pouched. The atheroma is well marked also at the origin of the large vessels and passes into them.

From J. Tuffin, age 29, R.H.A. He was admitted with dyspepsia and subsequently complained of uneasy sensations in the chest connected with gradual obliteration of the left radial pulse. He died in a sudden paroxysm of dyspnœa. The lungs were engorged, the heart empty and but little larger than a closed fist; the aorta was constricted above the valve by the atheromatous ring; the left subclavian artery, immediately giving off the vertebral, was plugged at an atheromatous patch. There was a clear history of syphilitic infection.

Donor—Dr. Hodgson, Asst.-Surg., R.H.A.

202. The aortic valve with a portion of the ascending arch. The inner surface of the vessel is nodulated, furrowed, eroded in places, and with adherent flakes of lymph, from atheromatous degeneration. The coats of the vessel are extremely thick as well as the external surrounding tissues.

Taken from a soldier of the 95th Regiment who died suddenly from pulmonary apoplexy. There were no symptoms during life of the diseased state of the aorta.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

203. A portion of the ascending aorta and semilunar valves. Immediately above the valve is an extensive ring of atheromatous degeneration continuing with the sinus, and involving the lappets at their attachment. The aorta is tuberculated internally and there is cicatricial-like loss of substance, with thin flaky deposition of fibrine. The inner coat is seen to be greatly thickened, and of a milky gelatinous aspect.

From a middle-aged soldier of intemperate habits, who died of phthisis, the left ventricle was found hypertrophied and somewhat dilated.

204. A portion of the ascending and transverse division of the arch of the aorta and valve. The artery is laid open. The vessel is generally atheromatous, but especially over a zone immediately above the valve, where it is extensively tuberculated, fissured, and pouched from lymphy deposits on the inner surface. The origin of the large vessels from the transverse portion are irregular in outline and dilated from the degenerative changes. On the section near the valve the seat of deposit is seen to be the deeper layer of the inner coat.

From a man of the 7th Regiment, age 37, who died suddenly from "angina pectoris." The heart was hypertrophied and dilated and fluid (1½ pints) in right pleural cavity.

Donor—Mr. O'Brien, Asst.-Surg., 7th Fusiliers.

205. A portion of the arch and descending thoracic aorta laid open to show atheromatous changes. The inner surface of the vessel is extremely irregular from nodulations, puckerings, and flocculent lymph-like deposition. The cut surface at the lower portion of the preparation shows great thickening of the inner coat, which is of an opaque gelatinous appearance. The degenerative changes have led to occlusion of the intercostal arteries.

206. About 6 inches of the thoracic and abdominal aorta laid open, illustrative of degenerative changes. Scattered nodulations for atheroma of the inner coat are universally present. At places the inner coat of the vessel is eroded and patches of calcareous material in plates are apparent, especially in the upper portion.

Donor—Mr. Fiddes, Surgeon, 85th Regiment.

207. A portion of the thoracic aorta the seat of atheroma. The inner coat in the upper part of the preparation has been dissected up to show the localization of the disease to it.

208. A portion of the thoracic aorta the seat of atheroma. The coats have been dissected from each other. The inner one is thickened and nodulated from the interstitial deposit, and on the surface next the middle coat a few calcareous plates are observed not apparent on the inner aspect of the vessel.

From J. James, age 44, 9th Regiment, who died suddenly after a few

days' indisposition preceded by rigors. Pain under sternal extremities of left ribs increased on pressure. The heart was found to be diseased from ulceration, and calcareous deposits were present in many parts of the arterial system, especially the aorta.

209. A portion of the thoracic aorta laid open showing ossific matter beneath its lining membrane. It exhibits complete closure of the left carotid and subclavian arteries to the extent of about an inch (beyond which they were not examined). The inner coat of the aorta is irregular, thickened in a slight degree and showing several osseous deposits, other coats are atrophied.

From Hector Mc. Callum, aged 36, a drummer, 22 years' service and of intemperate habits. A year previous to death he was subject to dyspnœa, which gradually became distressing; and for two or three months before death no pulsation could be felt at either wrist, and during last fortnight no pulsation in left carotid, and very indistinctly felt in the right. The arch of aorta was slightly enlarged, heart and its valves natural. Fluid existed in both pleural cavites.

Donor—Dr. Nicholson, Surgeon, 42nd Regiment.

210. Portion of aorta and large vessels, origin of left carotid so much contracted as scarcely to admit a crow quill; inner coat of vessel studded with atheroma.

Hilaire Jan, Mozambique, aged 42, sudden death 20th April, 1844, congestion of arachnoid, effusion at base of brain and bloody serum in the lateral ventricles. Hypertrophy of heart with dilatation of left ventricle to a half more than its natural size.

Donor—Mr. Allan, Staff-Surgeon, 2nd Class.

211. The thoracic aorta laid open exhibiting a large dilatation of the ascending portion, commencing immediately above the valves with extensive atheromatous degeneration of the entire inner coat, great puckering, nodulation, and cicatrices of the transverse portion, with an ulcerated patch the size of a bean, covered by fibrinous masses, and circumscribed smooth elevations of subjacent morbid material in the descending portion. The aortic valves are somewhat thickened and opaque.

From Private W. Millar, 2nd Dragoon Guards, who died at Netley, of paralysis, May 3rd, 1864, with a history of syphilis, followed by paralysis, coma, and death. Thickening and porosity of the calvarium, opacity of membrane, loss of substance of convolutions with deposits of yellow material and loss of substance of central ganglia, nodules in the liver and spleen of round and oat-shapen cells, were associated, together with great hypertrophy of the walls and columnæ carneæ of the left ventricle of heart.

Post Mortem Records, No. 12, Vol. IV.

212. The arch and portion of the thoracic aorta laid open to display atheromatous disease. Immediately above the valves there is much transverse thickening of the coats with nodulation of the surface from subjacent deposit and isolated cicatrices; the orifices of the cardiac arteries are much enlarged. In the ascending portion, which is sacculated at the convexity, are seen diverging undulated rays of degeneration proceeding from an extensive deposit at the junction of the central, with the right

lappet of valve, associated with a puckered depression, the size of a split pea. In the descending portion are patches of thickening and corrugation. There is apparently no erosion of the serous membrane. The tissue of the lappets of the valves at their junction are seen to be involved in the deterioration, streaks of opacity are observed running transversely in the valve structure, and a linear slit close to the free edge exists in the right lappet, at its junction with the middle segment.

From Gunner Murtagh, R.A., aged 33—distinct syphilitic history.

213. A portion of the transverse and descending thoracic aorta laid open to display at the curve a mass of atheromatous degeneration, the size of a florin. The central portion is depressed, thin, puckered, and cicatrized with an annular ring of deposit surrounding it, elevated and irregularly nodular, in one small spot the surface is ulcerated, otherwise the serous covering is entire. There is a cicatrized portion extending from the circular mass into the transverse aorta, and isolated spots and streaks of commencing degeneration are seen in the descending portion.

From Private John Jackson, 48th Regiment, death from phthisis. Evidence of syphilis on the penis, tonsils and pharynx in old cicatrices and induration. Liver and spleen lardaceous.

Post Mortem Records, No. 2, Vol. IV.

214. Ossification around the cardial opening into the aorta, and lining the vessel beyond the arch.

The subject of this lesion was an old pensioner, and ossification of the vessels was diagnosed during life. The coronary arteries were ossified. Both the radial, femorals, and carotids were free. The specimen exhibits spiculæ and scales of bony matter protruding into the vessel. Death appears to have resulted from the constriction of the aortic opening engorging the left auricle and lungs, and occasioning hæmoptysis and pulmonary engorgement. The symptoms he complained of during life were quite characteristic—pain in the cardiac region and pain in the head.

Donor—R. W. Carter, Staff Surgeon.

215. Portion of aorta, arch and thoracic aorta laid open to show thickening and cartilaginous induration of the inner membrane, an example of that form of disease termed "tuberculate steatoma." There is contraction of the inner coats and narrowing at the origin of the left subclavian artery. Print. Cat., page 58, No. 44.

From James Cogle, 71st Regiment, aged 40, whose constitution had broken down under visceral disease. Admitted for paralysis of the muscles of articulation and deglutition, as well as of those of the right arm. Apoplexy supervened, from which he died a few days after.

216. Portion of arch of aorta with semilunar valves laid open to show an irregular ridge of ossific matter in the coats of the aorta immediately above the sinuses of Valsalva,

with partial thickening and ossific deposit in the sigmoid valves. Print. Cat., page 50, No. 5.

W. W., 17th Foot, aged 53, admitted into Fort Pitt Hospital, Chatham, 20th May, 1823 (on arrival from India), with chronic dysentery. During a period of 15 years service in India he had suffered from repeated attacks of acute dysentery, and a relapse occurred on the voyage home. Seventeen days after admission he had pain in lower part of right side of chest, increased by cough and on a full inspiration. He had at different times suffered from pain in that region. These symptoms increased, delirium supervened, and he died three weeks after admission, when hepatization of right lung was found after death, with marks of old and of recent ulceration in large intestines.

Fasciculus IV, Plate 3, Fig. 4.

217. Portions of abdominal and common iliac arteries showing obliteration of the left common iliac artery, calibre of the right also greatly diminished; the coats of the latter vessel and the abdominal aorta are thickened from atheromatous deposit. Print. Cat., page 62, No. 61.

The coats of the aorta were more or less similarly affected. No inconvenience felt from it during life. Sudden death from pulmonary ecchymosis.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

Fasciculus III, Plate 4, Fig. 4.

218. Partial ossification of the superficial femoral artery. MS. Cat., Vol. I, page 172, No. 88.

From a Maltese, aged 98, who died from peritonitis.

Donor—Dr. Davy, Asst. Inspr. of Hospitals.

219. Arteries of the brain, presenting ossific deposit extending even to their minutest branches. Necrol. Reg., Vol. VI, page 156.

Captain W. C., 1st Regiment, aged 38, had been ten years in Fort Clarence Asylum for mania, when he died of apoplexy. Post-mortem examination disclosed opacity of dura mater, with much thickening—fibrinous coagula in longitudinal sinuses—ossification of vessels composing circle of Willis and rupture of posterior cerebral artery—brain firm—weight, 2 lb. 10 oz., left lateral ventricle distended with dark blood-clot, septum softened and broken down, and rupture into left optic thalamus. Choroid plexus surrounded by coagulum and in a state of cystic degeneration.

220. Partial ossification of the internal carotid arteries and their branches.

From a Maltese, aged 95.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

221. Partial ossification of the arteries of the brain. MS. Cat., Vol. I, page 172, No. 86.

From a Maltese, aged 95, who died from hydrothorax.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

222. Partial ossification of the basilar artery and its branches.

From a Maltese, aged 95.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

223. Partial ossification of the internal carotid arteries; and some of the branches forming the circle of Willis obstructed by coagula. MS. Cat., Vol. I, page 172, No. 90.

From a man of the Rifle Brigade who died comatose.

Donor—Dr. White, Surgeon, Rifle Brigade.

224. Portions of popliteal and tibial arteries converted into osseous tubes. Ossification of popliteal artery and its branches, the anterior and posterior tibial and fibular.

From the body of a negro, in whom all the arteries of the body were more or less ossified.

Donor—Surgeon S. Lawrence.

225. Portion of aorta, showing large plates of bony deposit beneath the inner tunic. Print. Cat., page 48, No. 89.

Sergeant James Hunter, aged 46, about a year previous to his admission into hospital, had an attack of hemiplegic paralysis; he had also been for the last three years subject to gout and rheumatism. The only signs of cardiac disease were dyspnœa and anasarca of the extremities. He exhibited the symptoms of bodily and mental decay, and was carried off by apoplexy. On dissection, the brain was exsanguine. Its left lateral ventricle contained much coagulated blood; the walls were broken down, and it formed a large apoplectic cell. The third and fourth ventricles were in the same state. The right thorax contained about five pints of bloody serum; and the lung was much compressed. The left lung was adherent to the costal parietes. The cavity of the abdomen contained eight pints of bloody serum.

226. Portion of arch of aorta and left pulmonary artery showing osseous deposit in the obliterated ductus arteriosus of a man.

227. Portion of arch of aorta and left pulmonary artery showing osseous deposit in the obliterated ductus arteriosus.

From a boy, aged 5 years, who died of measles; previously healthy and robust.

Fasciculus III, Plate 5, Fig. 6.

227A. Inner coat of the femoral artery laid open. It is thickened, puckered, and ossified.

227B. Portion of a coronary artery. The calibre of the artery is partly occluded by ossific deposit in the coats of the vessel.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

227C. Arch of the aorta, exhibiting the arteria innominata of unusual length. The aorta from its commencement to its termination, is generally thickened and its serous coat presented many opaque spots. The inner coat of a part of the thoracic aorta is dissected off, so as to show this.

227D. Inner coat of a portion of aorta. There are numerous plates and deposits of irregular appearance, of ossific matter in the inner coat of the aorta; these plates lie exposed on the interior surface of the vessel.

From Edward Severn, aged 29 years, Newfoundland Veteran Company. Admitted in a very emaciated state, suffering from a

rheumatic affection of the extremities, severe cough, dyspnœa, and purulent expectoration; beneath which maladies he gradually sank.

After death:—The lungs were seen to contain tubercular deposits, and there was a large excavation in the upper lobe of the right lung. The left pleural cavity held one pint of fluid. The liver was enlarged. The aorta contained ossific matter.

227E. Ascending portion of thoracic aorta, from the semilunar valves and extending to the roots of innominata and carotid, in connection with a portion of the aorta. This vessel for about an inch and a half above the valves shows extensive disease in the form of isolated plate-like patches, probably of calcareous degeneration, which is also seen more sparsely interspersed throughout the rest of the aorta.

Private J. H., 4th Battalion, 60th Rifles, aged 36, of fourteen years service, at Home and in Canada, and taking stimulants freely, had syphilis in 1857, contracted at Malta. He was admitted to hospital at Portland, 6th February, 1873, with cough and husky voice—no sore throat nor pulmonic disease. There was systolic bruit at base of heart, indicating aortic obstruction, with a dysystolic bruit at the apex. Both were audible behind the left thorax, and the disease was of long standing. He was employed on light duty in hospital till middle of June, when he again became a patient, suffering from cough, and bloody expectoration, aphonia and puffiness of face; pulse 120 full, with pulsation in carotid and subclavian veins, and venous regurgitation. Dilatation and roughness of arch of aorta was diagnosed and a probable aneurism. He died 26th July, six months after date of first symptoms. There was extreme anasarca with fluid in serous cavities. The heart was much enlarged and flabby, and its tissue infiltrated with serum. All the orifices were dilated, particularly the right auriculo-ventricular. Chordæ tendiniæ thickened and wrinkled. The atheroma extended into all the large arteries—a case of tissue degeneration from use of spirits.

Donor—Surgeon Arthur E. J. Longhurst, M.D.,
4th Battalion, 60th Rifles.

ANEURISMS OF PARTICULAR ARTERIES.

(1.) Intrapericardial portion of Aorta or opening into Pericardium.

228. A portion of the ascending aorta laid open in connection with heart, illustrating advanced stage of atheromatous degeneration. In the sinus Valsalva above the central and left lappet of the valve is an irregular mass of ulceration, which in the former has led to a perforation communicating posteriorly with the pericardium, in the latter a dilatation is present ½ inch in diameter—commencing aneurism. Associated with the right coronary artery is a projection posteriorly the size of a large bean, and probably aneurismal. In the aorta above the ulcerations are scattered patches of subserous cicatricial contraction with deposit extending into the origin of the large vessels from the transverse portion of the arch; in two places the coats are much thinned.

Donor—Surgeon-Major Best.

229. Portion of heart with aorta showing an aneurism below the origin of the aorta, involving the upper and back part of the septum cordis and projecting into the right auricle

so as materially to encroach on the dimensions of that cavity, and slightly on the right auriculo-ventricular opening. One of the aortic valves is widely separated in the direction of the apex of the heart from the usual attachment of its base, for a depth measuring nearly two inches from the free margin of the valves. The curtain thus formed between the aneurismal cavity and that of the left ventricle, projects considerably along its whole length into the latter, and presents, about the middle of its perpendicular measurement at one side, an extensive irregular opening having its edges fringed with elongated verrucose excrescences. The coats of the portion of the aorta around the opening into the aneurismal sac, as well as the sinuses of Valsalva, contain a copious deposit of atheromatous matter.

Private James Meally, 98th Regiment, was re-admitted into hospital on the 17th February, 1833, suffering from dyspnœa, dry cough, countenance pale and dejected, pulse 70. His pulse gradually fell below 70, even to 48, with interruptions; breathing laborious, countenance cadaverous, but face, mouth, and ears of dark purple colour. On 21st March Dr. Murray performed the operation for hydrothorax. Two pints of serous fluid drawn off, but without relieving the distressed and interrupted action of the heart. Therefore the pericardium was tapped from below the cartilaginous margin of the false ribs; 42 oz. of bloody serous fluid was at once drawn off, and some more oozed out afterwards giving temporary relief. He died one hour after the operation. After death the pericardium was found still containing 4 oz. serous fluid; also the left cavity of the thorax held still a pint of bloody serum; the right cavity of the thorax held still 24 oz. of amber-coloured serum. The heart had a blanched appearance, and there was rupture of one of the semilunar valves, and consequent regurgitation.

Fasciculus IV, Plate 5, Fig. 3.

230. Portion of the ascending aorta, with semilunar valves. Immediately above the semilunar valves and from the outer aspect of the vessel arises an aneurism, globular in form, and having a diameter of about two inches, communicating with the vessel through a large round opening about an inch and a half in size. The tumour was situated within the cavity of the pericardium, the sac is thin, and a small opening is situated in its upper part, through which extravasation of the contents of the aneurism occurred into the pericardium. The semilunar valves are thickened and opaque. The inner coat of the aorta is roughened and irregular on its surface, and presents cicatricial depressions from atheromatous disease.

From Corporal G. P. Jones, 70th Regiment, admitted into his Regimental Hospital on the 14th July, presenting the usual symptoms of intense collapse, cold perspiration, pulse scarcely perceptible, urgent dyspnœa, great anxiety about precordia, vomiting, purging, and an anxious, contracted, countenance. Some hours later he rallied somewhat—but during the three days following his admission he remained in a very precarious state—symptoms of pleuro-pneumonia having supervened. On the 18th he was suddenly attacked with fatal syncope, and expired within fifteen minutes. There was no history of syphilis, nor was the deceased an habitual drunkard—but he had previously undergone much exertion and

hardship in the New Zealand War—moreover, he was an inveterate smoker. After death the left lung was found to be firmly adherent (by old pleuritic adhesions) and presented the first stage of pneumonia. The pericardium was found to be filled with coagulated blood encasing the heart. The anterior surface of the heart was covered with elevated red spots. There was hypertrophy with dilatation of the heart. The extravasated blood proceeded from a rupture of the aneurism, above described.

Donor—Surgeon-Major Vere Webb, 70th Regiment.

231. Portion of heart, and of aorta; interior of ventricles and of aorta exposed. There are two aneurismal dilatations of the aorta, connected with two sinuses of Valsalva; each is about the size of a walnut; the one on the right has burst into the pericardium through an aperture capable of admitting a bougie. The coats of the aorta contain atheromatous deposit. There is a thin coating of lymph over the right ventricle.

Surgeon Bradford, 23rd Regiment.

232. An aneurism about the size of a pigeon's egg, situated about three inches above the commencement of the aorta, which burst into the pericardium; the communication between the vessel and tumour will only admit a common probe; the inner surface of the aorta is much thickened, and presents very irregular elevations and depressions from atheromatous deposition. MS. Cat., Vol. I, page 188, No. 145.

Corporal John Gobdulph, aged 39, Rifle Brigade, for twelve months prior to death had been subject to cough and dyspnœa—otherwise he had good health. When in hospital for a few weeks stethoscopic examination of chest gave a negative result. His death was sudden after an excellent breakfast. The pericardium was found distended with partially coagulated blood; and the left pleural cavity contained 5 ozs. of fluid.

233. An aneurism the size of a walnut, situated 2 inches above the semilunar valves, which burst into the pericardium. The opening from the aorta into the sac is in the form of an irregular slit about four lines in length, the edges of which are rounded and covered by the lining membrane. The parietes of the sac towards its upper part are of considerable thickness, but elsewhere attenuated, and near to their lowermost point there is a small opening capable of admitting a bougie, the consequence of rupture, which was followed by immediate death. Half an inch higher in the vessel, and on the concave side of its arch, there is a second aneurism about the size of a hazelnut, round the opening into which the internal membrane of the vessel is fissured in one or two places. The whole of the inner surface of the ascending aorta is thickened, corrugated, and closely studded with atheromatous matter.

Taken from the body of a soldier who died suddenly.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

Fasciculus IV, Plate 8, Fig. 1; and *Fasciculus III*, Plate 5, Fig. 1.

234. Aneurism of the aorta, immediately above the semilunar valves, which burst into the pericardium; the opening between the vessel and sac is about half an inch in diameter, and its edges round and smooth. The tumour encroaches to a considerable extent on the dimensions of the right auricle and upper part of the right ventricle. The inner surface of the aorta is studded with atheromatous deposit. MS. Cat., Vol. I, page 214, No. 222.

Donor—Mr. Allan, Asst.-Surg., Staff.

235. Heart and portion of the aorta to show two aneurisms of the arch of the aorta, one of which commences by a circular aperture, one inch in diameter, immediately above the semilunar valves; has its sac formed in the anterior wall of the left auricle; the auricle is considerably diminished in size, in consequence of the bulging inwards of its anterior parietes; the tumour is lined by firm coagula, and the opening by which the blood found its way into the pericardium was capable of admitting a goose-quill. The other aneurism commences about two inches higher up, by a small opening capable of admitting a bougie; the sac is about the size of an orange, and its walls thinned in some places by absorption. The coats of the aorta are corrugated and studded with atheromatous deposit. Heart enlarged. MS. Cat., Vol. I, page 193, No. 162.

Private John Stairs, aged 29, of sanguine temperament, good general health, was admitted into hospital for acute pains in his shoulders and arms, pulse 76, bowels free. The pains in his left arm and breast prevented him from sleeping at night, but during the day he felt easier; eight days afterwards he expired suddenly.

Donor—Dr. Roe, Surgeon, 38th Regiment.

236. Heart with right ventricle and pulmonary artery laid open. There is shown an aneurismal tumour, capable of containing a middle-sized peach, projecting from the posterior part of the aorta which is dilated for the extent of two inches and a half from its origin. In the posterior part of the enlarged vessel is an oval opening one inch and three quarters in extreme diameter leading into the aneurismal tumour. The edge of the opening is smooth, polished, and firm, like fibro-cartilage. At the upper and right part of the tumour is a lacerated opening an inch long, to a portion of the circumference of which adheres the upper margin of the right auricle, which is thrown considerably upwards and to the right side; the tumour projects backwards to some extent between the right and left auricles in such a manner as, in a certain degree, to force their respective walls towards each other. MS. Cat., Vol. I, page 177, No. 111.

Taken from the body of a woman who had been treated for angina pectoris. The pericardium contained 8 ozs. of bloody serum, which

being removed, the heart was found completely enveloped in a coagulum.

Donor—Dr. Dyce, Asst.-Surg., Staff.
Fasciculus IV, Plate 6, Fig. 4.

237. Heart with left ventricle and aorta laid open and showing an aneurism of the aorta situated immediately above the semilunar valves, which caused death by bursting into the pericardium; the tumour is about the size of a hen's egg; its walls are thin, and the opening through which the blood escaped is capable of admitting a bougie. There is also another pouch of a smaller size in its neighbourhood; the inner surface of the arch of the aorta is studded with atheromatous matter, and the parietes of the left ventricle somewhat thickened. MS. Cat., Vol. I, page 194, No. 163.

Private John Norton, 1st Dragoon Guards, died suddenly on rising from his bed. For twelve months prior to death he had been treated for amaurosis of left eye. On post-mortem examination the optic nerves were wasted, particularly the left and sheath thickened, and pericardium was found distended with blood from rupture of aneurismal sac.

Donor—Dr. Jones, 1st Dragoon Guards.

238. Heart and aorta showing an aneurism the size of an orange, situated immediately below the origin of the left subclavian artery; the opening from the aorta into the sac is about an inch in diameter, with round projecting edges; the walls of the sac are thin, and had given way at the lower part; the inner surface of the aorta is studded with atheromatous deposit. Heart enlarged, with a few flakes of lymph on its surface. Print. Cat., page 52, No. 14.

Sergeant John Saxelly, aged 28, 10th Hussars, died suddenly in the night, *post coitum*. After death the heart was found involved in a thick coagulum of blood, which had escaped from the ruptured aneurismal sac.

239. Portion of heart with ascending aorta showing coats of vessel covered with atheromatous patches, and rupture of middle sinus of Valsalva due probably to ulceration. There is a syphilitic and rheumatic history. September 6th, 1889.

Presented by Surgeon L. P. Lambkin, M.S.

240. Shows portions of the semilunar valves of the aorta in a fibro-cartilaginous state, and studded with pieces of bony matter. Also an aneurism involving one of the sinuses of Valsalva, a portion of the upper part of the left ventricle, and semilunar valves. The sinus of Valsalva is considerably dilated, and there exists at the lower part of its external surface, a distinctly rounded opening, the edges of which are thinned and irregular. At the upper and inner part of the tumour, near the common point of attachment of two of the valves, the

internal membrane appears to have given way; the blood, by its reflux towards the ventricle during the resistance of the arterial system, seems to have raised the edge of the lacerated membrane, to have passed under the base of one of the valves towards the ventricle, and at a situation immediately inferior to the valves, to have there caused a tumour, covered by the endo-cardial membrane. The latter is proved by the fact, that the lining membrane of the ventricle is reflected over the root, and continued along the uninjured portions of the surface of the mass of fibrinous coagula.

From a soldier, 80th Regiment, who died of fever. The existence of cardiac disease during life had not been noticed.

Donor—Dr. Calvert, Asst.-Inspr. of Hospitals.
Fasciculus IV, Plate 4, Fig. 7.

241. An aneurism about the size of a pullet's egg, situated at the anterior part of the origin of the aorta, which burst into the pericardium; the opening which allowed the blood to escape is capable of admitting a goose-quill.

From Private James Morgan, 38th Regiment, who when sitting quietly on his chair, fell suddenly from his seat and died soon after. The pericardium was found enormously distended by coagulated blood and serum, which amounted to 64 oz.

Donor—Dr. Roe, Staff-Surg.

242. Arch of the aorta laid open to expose a rupture, of its middle and internal coats, which runs transversely and occupies more than half the circumference of the vessel. The margins of the lesion are smooth and inverted as if cut by a pair of scissors. The external coat of the vessel is sound, and separated for some distance from the middle coat by a stratum of coagulated blood. The pericardium was filled with blood, but the opening through which it entered was not detected. The preparation furnishes a good illustration of a dissecting aneurism.

R. D., 79th Regiment, a tailor and a man of dissipated habits, suddenly became faint on his way from chapel to barracks; and with much difficulty reached his room. He suffered acutely from pain as if a red hot iron were thrust into his heart. His countenance was pale and anxious; his respirations greatly oppressed, interrupted, and difficult. Cardiac pulsation could not be felt. Relief was obtained by an anodyne, and following day he resumed his work. Two days afterwards he again was seized with distressing symptoms resembling a fit of apoplexy. He became insensible and cyanotic and death supervened. On dissection the pericardium was found distended with blood; and the aorta, from its origin to transverse portion of the arch, was of nearly twice its circumference. A rupture was seen above the valves as shown in the preparation and illustration.

Donor—Dr. MacLauchlin, Asst.-Surg., 97th Regiment.
Fasciculus IV, Plate 10, Fig. 6.

243. A dissecting aneurism of the arch and thoracic aorta; to the left of the origin of the left subclavian artery is a small fissure, involving only the inner and middle coats of the aorta, through which fissure a piece of brass wire

has been passed to indicate more clearly its situation. (Hence the greenish colour of the preparation.) The outer or cellular coat of the aorta is free from rupture, but extensively separated from the two inner coats. The separation of the former from the latter is limited to about a third of the circumference of the vessel, and extends from the origin of the aorta throughout the whole length of the portion preserved in the preparation. The exterior wall of the receptacle formed for the blood effused between the coats of the vessel, seems to have given way into the interior of the pericardium. To point out the extent of the dissection produced by the effusion of blood, as well as the situation of the opening into the pericardium, a long whalebone probe has been passed between the separated coats of the vessel through the opening into the pericardium. The coats of the aorta are loaded with atheromatous deposit, and at some points present portions of calcareous matter. The left carotid arises from the trunk of the arteria innominata.

The patient was a medical officer who died suddenly.

Donor—Dr. Power, Asst.-Surg., 51st Regiment.

244. Heart, roots of large vessels and aorta; interior of heart's cavities and of aorta, exposed. There is an aneurismal tumour about the size of a large plum, connected with the right side of the aorta, immediately above the semilunar valves, which burst into the pericardium. The opening through which the aneurism was connected with the aorta is circular, about an inch in diameter, and its edges are rounded and moderately regular. The tumour projects into the upper part of the right auricle, surmounts considerably the upper limits of that cavity, and presents a ragged opening capable of admitting a goose-quill, through which the blood escaped into the pericardium. No coagulum was found in the sac. The aorta, near the semilunar valves, presents some traces of atheromatous deposit; and similar deposition, but to a far greater extent, is situated in the descending aorta.

From Jean, aged 33, a Creole of Mauritius, a stout, muscular man, who enjoyed good health until the 5th of September, 1837, when after a meal and exhibiting great cheerfulness, he retired to rest. Soon after he was attacked with dyspnœa, and died in a few minutes. After death the organs of his body were found to be generally healthy.

Donor—Mr. Allan, Staff Asst.-Surg.

244A. Heart, roots of large vessels, and portion of aorta; interior of ventricles and of aorta, exposed. There is extensive aneurismal dilatation of the ascending portion of the aorta. The projection inclining posteriorly and to the right side of the vessel. Immediately above one of the semilunar valves, are two additional aneurisms; one is of small size; the other adjoining, about the size of a walnut, has burst into the pericardium through a

fissure, about a third of an inch in length. The coats of the aorta are much thickened, and the interior of the vessel rendered irregular and rough from atheromatous deposit. The endocardium of the left ventricle is thickened and very opaque: the columnæ carneæ are hypertrophied. The cavity of the left ventricle is dilated; and the external surface of the heart is covered with a thin layer of recent lymph, which presents a reticulated appearance.

From Private Samuel Swallow, aged 37 years, 83rd Regiment. Service, 19 years, a stout man, of bloated appearance: habits, stated to be regular. For a considerable period was subject to cough and shortness of breath: had had rheumatic fever. A week before the final termination of the case he applied for medical aid, complaining of cough, dyspnœa on slight exertion, and pain in the region of the heart. The sternum was slightly arched, and yielded a dull note on percussion; a rough double bruit replaced the cardiac sounds. Pulse, 52—a strong, full beat alternating with a feeble one. He died suddenly while resting in an arm chair. A large quantity of coagulated blood was found in the pericardium.

Donor—Dr. Wishart, Asst.-Surg., 15th Regiment.

(2.) Aneurisms of Extrapericardial Portion of Aorta or of the Arch.

245. Aorta and trachea from epiglottis downwards to bifurcation into right and left bronchi. There is a small aneurism of the arch of the aorta which burst into the trachea, a little above its bifurcation, by an opening about the size of a crow-quill. The coats of the vessel are dilated and loaded with atheromatous matter; at the root of the left subclavian artery is situated a pouch of size sufficient to contain a walnut; the left subclavian, for about two inches from its origin, is considerably dilated; the right subclavian and common carotid arteries are given off separately.

From Private William Kirkwood, aged 33 years, 92nd Regiment. For eighteen months previously to his death was subject to uneasiness in the chest, unaccompanied by pain and dyspnœa. Twelve days before his death he was admitted into Fort Pitt Hospital, from Malta. His symptoms then were:—heart's action increased, impulse strong, its sounds heard over an unusually large area. A bruit was detected over the region of heart, and a second short bruit was audible over the left subclavian artery. The pulsation of the left radial was more marked than in the right radial artery. The lips were of a livid hue, sleep was generally impracticable in the recumbent position. While in his usual condition of health, he was suddenly attacked with coughing; immediately blood gushed from his mouth and nostrils, and he died.

After death:—The aorta was found greatly dilated, and semilunar valves inefficient to prevent regurgitation. The right cavities of the heart were atrophied; those of the left side were dilated, and the walls of the left ventricle were hypertrophied.

246. Arch of aorta: also the œsophagus and trachea with right and left bronchi. There is a small aneurism of the upper and back part of the transverse portion of the arch of the aorta, projecting into the trachea about two

inches above its bifurcation. The opening by which the aneurism communicates with the aorta is oval and well defined. The anterior wall of the trachea in connection with the tumour has undergone absorption, excepting a thin layer of mucous membrane which invests the posterior surface of the aneurism: even this has given way at one point. The aorta contains atheromatous deposit: and the aortic valves were thickened.

From Private James Clifford, aged 30 years, 14th Light Dragoons, a robust man, who, during the last eighteen months suffered from attacks of dyspnœa, sense of constriction of the chest, hard cough, quick, hard pulse, with occasional lividity of face and bronchial râles. During one of these attacks he spat up about an ounce of fluid blood. Shortly before his death he was attacked with intense dyspnœa, lividity of countenance, and was unable to move or speak. These symptoms became more severe, and he expired suddenly.

Donor—Dr. Archibald Stewart, 14th Light Dragoons.

247. Heart and aorta: with portions of right lung, trachea, bronchial tubes and pericardium. There is extensive aneurismal dilatation of the arch of the aorta, embracing the whole of the vessel from its commencement to the origin of the left carotid artery, and pressing posteriorly on the trachea and bronchial tubes. Some layers of coagulum are deposited on the anterior wall of the sac. The pericardium adheres firmly to the surface of the heart.

From Peter McGlashin, aged 42 years, 40th Regiment, admitted into hospital, after a service of eight years in India. His respiration was attended by a wheezing, hollow sound, he had cough; anxiety of countenance, feeble pulse; he was unable to stand upright or to assume a horizontal position, but always remained in a sitting posture; any attempt to lie down producing a feeling of suffocation. He expired very suddenly. About a pint of coagulum was found in the sac of the pericardium, which also contained layers of fibrin of considerable thickness. The lining membrane of the sac was raised by deposition of atheroma.

248. Two aneurisms of the arch of the aorta. One about the size of a plum, situated on the posterior part of the vessel, between the arteria innominata and left carotid artery, burst by an oval opening into the trachea, one of the rings of which is stretched half across the aperture quite denuded of membrane, as is also the aneurismal surface of four others. The second tumour is situated on the anterior part of the aorta, and only separated from the former by a duplicature of the coats of the vessel, the sac is about the size of a hazel-nut, and its walls very thin. The inner surface of the aorta is studded with atheromatous deposit.—No history.

Donor—Dr. Henderson, Asst.-Surg., 78th Regiment.

249. Heart, aorta, and trachea, illustrating aneurisms of the ascending and transverse portions of the arch. An aneurism springs from the vessel about ¾ inch above the aortic valves from the posterior wall, the communicating

opening, soon after death, being 14 lines in length. The sac is spherical, 2 inches in diameter, formed by a dilatation of all the coats, its inner surface very corrugated and lined by laminated fibrine. Atheromatous degeneration exists throughout the aorta, and especially in the transverse portion beyond the aneurism; here extensive nodulation and puckering is present and a second aneurism also formed of all the coats and about the size of a walnut springs from the superior wall just beyond the left subclavian artery, it was completely filled with a fibrinous coagulum. The heart is small and aortic valves thickened. The left bronchus is observed to be compressed by the larger aneurism, a patch of ulceration from pressure is situated in the anterior wall and one of the cartilaginous rings is ruptured. The bronchial glands are melanotic.

From Corporal J. Brooks, aged 33, military train, invalided from Yokohama, for phthisis. The lungs were riddled with cavities. No ante-mortem evidence of the aneurisms. No. 20, vol. 8. P.M. Records.

250. Heart and aorta: a portion of the sternum, anteriorly: trachea with the bronchi, and the œsophagus, posteriorly; also a small portion of the right lung in connection with the corresponding bronchial tubes. A false aneurism of the arch of the aorta, and a true one of the descending portion of that vessel. The false aneurism is the size of a large orange, of an oblong shape, attached anteriorly to the first bone of the sternum, posteriorly to the trachea at and immediately above the part where this tube divides into the two bronchi, the calibre of the lower part of the trachea being diminished by the pressure of the aneurism. The left carotid and subclavian arteries are unconnected with the tumour, but the arteria innominata arises from its summit, and is plugged up by one of the layers of coagula which form the walls of the sac. The true aneurism is about the size of a small egg, and commences about half an inch below the origin of the left subclavian artery. It lies parallel with the division of the trachea, and here, in consequence of pressing on the œsophagus, has diminished its calibre at least one-third.

From William Harrison, aged 29 years, 32nd Regiment, admitted into hospital, complaining of a sensation of suffocation, and of tension in the upper part of the chest. Palpitation and dyspnœa on slight exertion were prominent symptoms: inspiration was accompanied by a wheezing noise. Subsequently dysphagia was present, and the dyspnœa became so extreme as to compel him to take rest, in the sitting posture, only. A slight swelling, pulsating synchronously with the heart, was observed between the first and second ribs of the right side, near their sternal articulation. Pulsation ceased in the carotid and brachial arteries of the right side. Death occurred suddenly.

Donor—Dr. Williams, Surgeon, 68th Regiment.

251. An aneurism of the arch of the aorta, the size of a hen's egg; the walls of the sac are formed laterally by condensed cellular tissue, posteriorly by the trachea and œsophagus; two of the rings of the former are ulcerated, and the mucous membrane partially destroyed and pushed into the tube by a coagulum. The communication between the vessel and sac is situated opposite to the left carotid artery, and so small as scarcely to admit a probe. *A large coagulum hangs into the vessel, and is suspended by a small neck to the opening. The walls of the sac are lined by coagula.*

George Woods, aged 29, died from an attack of *bronchitis* supervening on a slow convalescence from *pleuritis*.

Donor—Dr. Gordon, Asst.-Surg, 35th Regiment.

252. Portion of thoracic aorta with semilunar valves, attached; posteriorly, the trachea and its bifurcation. An aneurism, about the size of an orange, arises from the convex surface of the transverse portion of the arch of the aorta; communicating with that vessel through an oval-shaped opening, about an inch in diameter. The wall of the sac appears to be formed of an expansion of the arterial coats, is uniformly thick, and lined, internally, by deposition of laminated fibrin. The innominate artery is involved in the posterior wall of the aneurism, and its calibre at its origin much contracted. The right subclavian and carotid, and the left carotid arteries appear to arise from the tumour. The aneurism presses upon the right pneumogastric nerve, which, for some distance, becomes incorporated with the posterior boundary of the sac. The inner surface of the aorta is rendered uneven and corrugated from atheromatous deposit.

From Private James Killeen, aged 26 years, service 7 years, 2nd Battalion, 13th L. I. Regiment, who was admitted into the Regimental Hospital, for an attack of acute bronchitis. His medical history sheet presented three admissions for syphilis. A week after his admission his condition had not improved: the tongue was dry and furred, dry râles were audible, dyspnœa prevailed, and dysphagia was complained of. At the root of the neck on the right side a small pulsating tumour was discovered: at neither wrist could the pulse be counted. On the following morning, he had a fit. The right pupil was more contracted than the left. Aphonia noted. Five days later he was cheerful and well, but there was aphonia and contraction of the left pupil. During the next three weeks, he was attacked, on six occasions, with convulsions. He was then seized with intense dyspnœa, which lasted until his death, twelve hours later. After death the structure of the lungs was seen to be condensed. The heart and brain presented a normal appearance.

Donor—A.S. R. L. Power, 2nd Battalion, 13th L.I. Regiment.

253. Arch of aorta, with semi-lunar valves: also a portion of the trachea, posteriorly. There is an aneurism arising from the transverse arch of the aorta, the size of a pigeon's egg, is closely connected to the trachea behind and bounded by the brachio-cephalic trunks in front, one of which (the innominata artery) makes a deep

indentation in the sac; the opening into it is circular and measures half an inch in diameter, its edges are round and covered by the lining membrane, which spreads out for some distance on the interior of the sac. The great sinus of Morgagni is considerably dilated, and there are two small pouches immediately above the semilunar valves, one of which is capable of containing a hazel-nut; the coats of the vessel in these situations are much infiltrated with atheroma.

From O. B., of twelve and a half years' service, admitted into the General Hospital, Fort Pitt, for cough and dyspnœa with palpitations; these symptoms increased on exertion. His pulse was weak, irregular, and seldom less than 120. He had been subject to palpitations for eighteen months previously to his admission. On examination the chest yielded a dull note on percussion, especially in the left infraclavicular region: loud râles were audible over the upper part of chest. The dyspnœa became aggravated almost to suffocation, the pulse feeble, the body covered with cold perspiration and the mind wandering. Death occurred on the 22nd day after his admission. The right lung after death was found to weigh three pounds, and was infiltrated with tubercle. The right and left bronchi and their ramifications contained thick yellow fluid. There was hypertrophy of the walls of the left ventricle.

See *Fasciculus. IV*, Plate 9, Fig. 1 and 2.

254. An aneurism of the size of a large orange, arising from the arch of the aorta, and pressing on the trachea. The opening into the tumour is of an oval shape, with smooth defined edges. A piece of bougie is passed through this into the small circular aperture by which the aneurism burst into the trachea. The greater portion of the aneurism is filled with fibrinous coagulum. The coats of the aorta are thickened from atheromatous deposit. Heart of unusually small size, but its valves healthy.

An Indian labourer (Dookun) native of Madras, aged 45, five years service in Mauritius, was suffering from dyspnœa for three months, died suddenly on 2nd December, 1848. Had suffered from dyspnœa for three months before death.

Donor—Staff-Surgeon R. Allen.

255. Portion of aortic arch with trachea posteriorly showing an aneurismal tumour, the size of a walnut, situated between the origins of the left carotid and innominata arteries and communicating with the aorta, by an opening three-quarters of an inch in diameter, the edges of which are smooth and round. The sac is partially filled with organised coagula or fibrine; the transverse portion of the arch of the aorta is closely studded with thin bony plates situated between its middle and internal coats, except where the latter has disappeared, which is the case at many points. The trachea is pressed backwards, contracted in calibre, and two of its cartilaginous rings widely separated from each other. The mucous membrane, at the point of separation, is very thin and elevated into a tumour the size of a horse-bean.

Corporal J. S. A., bugler, 60th Rifles, aged 33, was admitted into

hospital in July, 1837, for severe cough, constant difficulty of breathing and slight muco-purulent expectoration. Seventeen months prior to his admission he was seized with pain in the chest and hæmoptysis, which he attributed to his occupation in the regiment. On physical examination of the chest, the auscultatory signs of advanced phthisis were present to such a degree as completely prevented any sounds being heard, indicative of the existence of lesion of the vascular system. Nine months after the attack of hæmoptysis he died, much emaciated; during the latter period of his illness the dyspnœa was accompanied with aphonia.

Fasciculus IV, Plate 7, Fig. 2 and 3.

256. Two aneurisms, with dilatation and discoloration of the arch of the aorta, showing the morbid anatomy of atheromatous chronic arteritis. One aneurism is situated at the origin of the arteria innominata, about the size of a hazel-nut, filled with coagula, and attached posteriorly to the trachea, through which there is an ulcerated opening capable of admitting a bougie. The second aneurism is situated on the concave aspect of the arch, filled with coagula, and a little larger than the other tumour. There are also two depressions of a smaller size in the arch of the aorta, and its whole internal surface is studded with atheromatous matter.

From Joseph Wood, 36th Regiment, aged 40, who died suddenly from enlargement of the heart.

257. Arch of aorta with portion of trachea and left bronchus. There is an aneurism, the size of an orange, entirely confined to the arch of the aorta. It communicates posteriorly with the left bronchus—the communication being partially filled up by a fibrinous coagulum deposited in concentric layers. This coagulum is seen filling up the aneurismal pouch on the one side and the commencement of the bronchus on the other. A piece of whalebone has been passed through the opening into the bronchus. At this point the bronchus shows an ulcerated opening about an inch long in diameter, and from its lower edge to the end of tube, the wall of the bronchus covering the coagulum is reduced to a thin membrane. The aneurismal tumour is firmly adherent to the lower part of trachea and left bronchus; and encroaches so much on the origin of the pulmonary artery as to impede the circulation through it. The inner surface of the arch is rough and uneven from atheroma. The other portions of the aorta were healthy, as were also the valves of the heart, and of the aorta and pulmonary artery.

Private Henry Wallace, 94th Regiment, aged 32 years, and 11$\frac{4}{12}$ years' service, the whole of which (except four months) was passed in India. Always enjoyed good health till he was much exposed to fatigue when on field service, in aid of civil power in 1852. Was admitted into hospital in May of that year, suffering from what was believed to be intermittent fever, which did not yield to treatment. He complained of a constant burning pain in the epigastric and umbilical regions, attended with palpitation, and loss of appetite. A small tumour about the size of a walnut was found to exist immediately to the left of the umbilicus, and a strong double

pulsation with bruit was heard there. Emaciation increasing with no relief to symptoms, he was sent to England and admitted to General Hospital, Fort Pitt, Chatham, 28th April, 1853. He then suffered from urgent dyspnœa, inability to lie on the left side or back, a harassing cough with scanty and difficult expectoration and total loss of appetite. The action of the heart was tumultuous over the whole chest, but more especially under the left clavicle. The two following days after admission the dyspnœa became extremely urgent, with inability to swallow even liquids, and with aphonia. He died 5th May, eight days after admission to Fort Pitt. After death the bronchial tubes, even to the smaller divisions, were found to be filled with black jelly-like coagula. The left lung was collapsed, and more crepitant, of a dark slate colour and sinking in water. It was not consolidated, but weighed thirteen ounces and four drachms. The pressure of the aneurism against the dorsal vertebræ had produced absorption of their bodies to a considerable extent, and there was extensive atheroma confined to the arch.

Donor—Staff-Surgeon, 2nd Class, William Parry.

258. Arch and a portion of the descending aorta: the trachea with the right and left bronchi, posteriorly showing an aneurism, the size of a large orange, arising from the transverse portion of the arch of the aorta, and extending two and a half inches above the bifurcation of the trachea, against which it presses. The coats of the sac are thin, particularly at the summit of the tumour, which is pointed and lies to the left of the trachea. The large brachio-cephalic trunks are in front of the tumour. The opening from the aorta into the sac is large, its edges are rounded, and situated posteriorly to the above-named vessels.

From J. H., aged 36 years, of the 55th Regiment, admitted into the General Hospital, at Fort Pitt, Chatham, after a service of eight years in India. At the time of his admission the slightest exertion caused violent palpitation of the heart, the sounds of which were heard over the whole anterior surface of the left side: loud râles masked the heart's sounds. An aneurism was diagnosed in India; and while under treatment, the dyspnœa became more urgent; lividity of the lips, violent cough with expectoration, anxiety of countenance, and œdema of the lower extremities were prominent symptoms on arrival in this country. Inability to lie on the right side had been present for eighteen months. He died sixteen days after his admission without rupture of the sac; pulse varying from 86 to 94. After death it was found that the superior lobe of right lung was hepatized: portions of the lower lobes were emphysematous, the bronchial tubes were congested. There was hepatization of portions of the left lung. The pericardium contained an ounce and a half of yellowish fluid. The heart was enlarged and the semilunar valves diseased.

See *Fasciculus IV*, Plate 8, Fig. 3.

259. Portions of arch and of descending aorta: also a portion of trachea with the right and left bronchi. An aneurism is shown situated at the descending portion of the arch of the aorta, which has its sac composed of all the coats of the vessel. The tumour burst into the left bronchus by two small round openings each about the size of a crow-quill. The coats of the aorta are thickened and contain much atheromatous deposit. A portion of the preparation is shown in *Fasciculus IV*, Plate 7, Fig. 4.

From a man, aged 24 years, of the 73rd Regiment, who died suddenly, without previous illness.

Donor—Mr. Martin, Surgeon, 73rd Regiment.

260. Portion of the arch of the aorta: posteriorly the trachea, to which a large aneurism of the arch of the aorta is attached; the mucous membrane covering three rings of the trachea is absorbed. The sac of the aneurism is partially filled with concentric layers of coagula; the arteria innominata arises from its summit, and is about three inches apart from the origin of the left carotid artery.

From a tailor of the 28th Regiment, a man of intemperate habits. He died from phthisis pulmonalis. The existence of the aneurism was not suspected during life.

Donor—Dr. Roe, Surgeon, 28th Regiment.

261. Portion of aorta, with semilunar valves attached. An aneurismal tumour, of the transverse portion of the arch of the aorta, laid open anteriorly to show the perpendicular septum by which it is separated from the artery. The septum consists of the two inner coats of the latter and the sac of the aneurism generally of the external coat, which had been detached by the blood from the outer surface of the middle coat. The opening through which the blood reached the aneurismal sac is nearly three-quarters of an inch in diameter, almost circular, and situated in the upper half of the septum. The edges of this opening are rounded, and coated with the lining membrane of the aorta, which membrane is also continued for a short distance on the outer surface of the septum. The interior of the aorta is much thickened by atheromatous deposit, particularly opposite the left subclavian artery. There is also an appearance as if a second aneurism had been about to form at the upper part of ths descending aorta.

From a soldier of the 73rd Regiment, who died from rupture of the aneurismal tumour, and effusion of blood into the left pleural cavity.

Donor—Mr. Martin, Surgeon, 73rd Regiment.

Fasciculus IV, Plate 8, Fig. 2.

262. Arch of aorta with portion of left lung and air tubes. Shows three aneurisms of the arch of the aorta. The first, about the size of a plum, situated an inch and a half above the semilunar valves, and the opening leading into it is half an inch in diameter. The second, about the size of an orange, is situated on the anterior side of the arch, and rests externally on the inferior lobe of the left lung; its walls are thin, and lined with coagula; the irregular opening in the sac was produced by forcible separation from the sternum to which it firmly adhered. The third aneurism is of smaller size, formed on the posterior aspect of the arch, situated between the two other tumours, and the opening into it has a very irregular

appearance. There is also ossific matter deposited in the semilunar valves and below the lining membrane of the aorta.

From Thomas Smart, aged 24 years, 55th Regiment. He was affected with unnatural fulness of the left thorax; there was pain on pressure of that part, and violent throbbing of the heart against the fourth and fifth ribs. The pulsations not being synchronous with those of the wrists. Whilst in hospital he had a serious attack of hæmoptysis, which recurring, caused his death. The sternum was found after death to be adherent to the aneurismal sac. The heart was enlarged, the semilunar aortic valves ossified; the aorta contained ossific deposit in its inner coat. The left lung was consolidated and adherent to the ribs, and the pleura was thickened. The arch of aorta contained much ossific matter, was considerably dilated and had given way in various places. It communicated anteriorly by circular opening with the aneurismal sac, with a second small sac, to the right near vena cava superior, and with an irregular cavity at base of left lung, containing some loose coagula and was probably the part from which the hæmorrhage took place. The left lung was consolidated and adhered to the ribs by a cartilage-like membrane.

263. A sacculated aneurism at the extreme concavity of arch of aorta, globular in shape about size of a hen's egg, filled with red, laminated coagula. A well-defined oval aperture led into the sac, with smooth circumference, an inch in length, and a quarter of an inch in breadth. The aneurismal sac opened into the œsophagus, with the substance of which it was incorporated by adhesion, and the calibre of which it greatly diminished. The opening into the œsophagus is about an inch and a half long, and half an inch wide, through which the coagulum protracted.

Troop Sergeant-Major William Black, 8th Hussars, aged 32 years, 12 years' service—all at home—single, admitted to hospital, at Curragh Camp, 8th September, 1872. He was a fat, bloated-looking man who had been a free liver, with a rheumatic and syphilitic history. He had never been salivated, and had appeared in good health until five weeks before admission. His troop was there on fire piquet duty, and an alarm of fire in camp being sounded, he doubled with the fire engine from Donnelly's Hollow to Videte stables, nearly a mile, without stopping. On arrival at the stables he was completely exhausted and breathless; he has ever since suffered with a short, hacking cough. On admission to hospital he had a very peculiar, loud, wheezing, ringing paroxysmal cough, increased when lying on his back, but relieved by lying on right side. He could not lie on left side without distress. The expectoration was mucous and scanty, and slightly tinged with blood. On inspiration (deep) there was a wheezing, rustling sound, and a slight amount of laryngeal stridor could be occasionally detected. The dyspnœa was not much; there was some uneasiness in the chest, but not amounting to pain. Dysphagia was a most marked symptom, referred to the junction of middle with lower third of sternum, but never to episternal notch. He could not swallow any solid without washing it down, and invariably felt it sticking at the seat of obstruction. No dulness on percussion over chest; nor was throbbing or tumour discoverable, nor any second centre of pulsation. Diastole very distinctly heard over supra-mammary regions on both sides—the systole not so loud and shorter than normal. Posteriorly on each side of spine, nothing was audible save the heart's sounds faintly at one spot on left side at about sixth dorsal vertebræ. Respiration throughout the left lung was very feeble, absent altogether superiorly and anteriorly, whilst on right it was loud and puerile. The symptoms pointed to pressure on vagus nerve, œsophagus and left bronchus. Aneurism of thoracic aorta was diagnosed. There was also observed a decided difference in pulsation of carotids, left feeble;

no difference in pupils, no *arcus senilis*, nor hoarseness, nor aphonia, nor venous congestion, nor pain in back. He died suddenly on 18th September, 1872. The aorta throughout was the seat of atheroma. The vagus was stretched as it wound round the arch, and its third stage was pressed upon. Bodies of vertebræ were not affected.

Donor—Surgeon-Major J. Smith Chartres, M.D.

264. An aneurism of arch of aorta the size of an orange which burst into the trachea by a granular-looking opening capable of admitting a crow-quill. The aorta is dilated, thickened, rough, and irregular, from the deposition of atheromatous matter.

Donor—Mr. Stanley, Surgeon, St. Bartholomew's Hospital.

265. An aneurism of the arch of the aorta, the size of a duck's egg, which burst into the trachea by an opening large enough to admit a goose-quill. The communication between the vessel and the sac is two inches in diameter; its edges smooth and round, with the exception of a portion of the lower margin which is ulcerated. The aorta is studded with atheromatous matter. No history.

266. Heart and great vessels, trachea and œsophagus showing an aneurism of arch of aorta which burst into œsophagus. The opening is plugged by a fibrinous coagulum, there is considerable dilatation of aorta between its origin and the site of the aneurism, with atheromatous deposit. The valves of the heart are healthy.

Private Mathias Tobin, 13th Light Dragoons, aged 41, of 21 years' service, of which thirteen had been in India, where he generally had good health. Was admitted to Dublin Regimental Hospital, 9th November, 1846, complaining of acute pain across the chest, chiefly in the precordial region, palpitation, throbbing of carotids, and dyspnœa, inability to lie on the right side. He continued in this state until 29th November, when the pain became more severe, extending to spine and left scapula. By the 12th December his symptoms were much relieved; but as by percussion and auscultation no aneurism could be made out, he was discharged convalescent to barracks, to be under observation. There he continued to improve till February 21st, 1847, when at 10 a.m. he walked steadily up to hospital, complaining that he had just vomited a large quantity of coagulated blood. His countenance was expressive of much anxiety. His chest was resonant on percussion, with some bronchitic râles present. In the evening he was extremely feeble. He lay constantly on his face. There was no return of hæmorrhage till 2 a.m. on 23rd, when he had a fit of coughing and vomiting of blood of a scarlet hue. About 4 o'clock p.m. a similar attack occurred, when he vomited about two pints of blood and soon afterwards died. See MS., Appendix 236.

Donor—J. Young, M.D., Surgeon, 13th Light Dragoons.

267. A portion of heart with arch of aorta and bifurcation of trachea posteriorly showing an aneurism of transverse portion of arch which has opened into the left bronchus. The opening in the arch is very small and is partially obstructed by coagulum. The sac is nearly filled by

concentric laminæ of fibrin. The opening into the left bronchus is lacerated and irregular. The heart is healthy.

There is no history. The man (a Sepoy) died suddenly.

See Appendix, MS. 588.

From Grant College Museum, Bombay.

268. Transverse portion of arch of aorta with larynx, thyroid gland and trachea with bifurcation into right and left bronchus. The preparation shows a large sacculated aneurism, as large as a cricket ball, projecting backwards from the transverse portion of the arch. It commences by an extremely well-defined aperture, about 2¾ inches above the valves, and its superior limit corresponds to a point in trachea about 3 inches above its bifurcation. The innominata, carotid, and subclavian spring from its anterior wall. The lining membrane is very rough and contained a very firm clot. There was no evidence of rupture. Distance from cricoid cartilage to top of sac, 2 inches.

Private Robert Green, 39th Regiment, aged 45, of 18 years' service, about eleven years in India and seven at home. In India he is reported to have had ague, muscular rheumatism, bronchitis, and phthisis pulmonalis. He was a man of good character, and of temperate habits. For two years or more he had suffered from cough, debility, dyspnœa and frequent vertigo. He ascribes the origin of his disease to great exertion on the march to Delhi, in December, 1875; and since that date he has scarcely done any duty. He was invalided from India for bronchitis and emphysema, and on admission to Netley, his disease was diagnosed as phthisis pulmonalis. On the voyage home he had profuse purulent expectoration and night sweats, and was greatly emaciated. He suffered from orthopnœa and much dyspnœa on 29th May. He died on 30th.

After death it was seen that he suffered from broncho-pneumonia, with much effusion into left pleural cavity; while the right pleural cavity was obliterated by adhesions.

Pathological Reports, Vol. XIII, No. 73.

269. Aneurisms (two) of arch of aorta. One of the aneurisms pressed against the sternum in front, and was adherent to second rib. Posteriorly it pressed against the trachea and so caused death by suffocation.

There is a history of syphilis in 1871. The whole aorta showed extensive deposits. No other history.

Donor—J. Hensman, Surgeon, 1st Life Guards.

270. An aneurism of ascending aorta. The opening is about three inches above semilunar valves on convex and posterior surface, and pressing upon the trachea posteriorly, into which it has opened by a ragged aperture about ¾ of an inch long, and ½ an inch broad. No history.

271. An aneurism about the size of a billiard ball, arising from the posterior portion of arch of aorta, at the commencement of its transverse part. The sac was dense and filled with layers of decolorized clot, and the opening into it was surrounded by a hardened rim. The sac directly pressed upon the trachea and œsophagus.

Private Frederick Petworth, aged 37, of 21-$\frac{3}{12}$ years of service, was

admitted to Netley Hospital from Malta, 12th April, 1867. He had served in the East Indies and at Mediterranean Stations. He had been in Hospital at Malta for chronic bronchitis. The symptoms of the ailment which proved fatal were first observed at Malta, in February, 1867, namely, gnawing pain in chest, dyspnœa, and cough, followed by choking sensation and difficulty of swallowing. As the disease advanced a gradual loss of strength became a prominent symptom, and the cough, at first unattended with expectoration, was accompanied by hæmoptysis. Vertigo, and *muscæ volitantes* showed interference with cerebral circulation. On admission to Netley his symptoms were mainly respiratory, with expectoration of mucus, thick and fœtid, huskiness of voice, constant dyspnœa, daily increasing and aggravated by its paroxysmal character. The choking sensations were referred to the *pomum Adami*. No prominence of thorax existed. There was dulness over left apex, with absence of vesicular murmur and increase of vocal resonance. The laryngoscope revealed no mischief. Heart's action was quick and vehement with violent pulsation of larger vessels. Pulse 108. Extreme fits of dyspnœa supervened, and on 30th April an abnormal systolic sound was heard, and eventually he died from exhaustion on 12th May, 1867. The known duration of his illness was 3½ months. A partial examination of the body only was permitted. *Pathological Reports*, vol. vi, No. 14.

272. Heart and portion of aorta, interior of heart and of the aorta, exposed. There is a very large aneurism of the convex surface of the arch of the aorta; the vessel and the sac are continuous, there being no distinct opening, but rather a dilatation of this part of the vessel. The inner surface of the dilated portion is lined by a few layers of coagula, and at some points, the walls of the sac are very thin. The pressure of the tumour has caused obliteration of the superior vena cava.

Death is said to have resulted from "a clot falling into the aorta."

Donor—Mr. Fraser, Asst.-Surg., Staff.

273. A heart with arch of aorta and thoracic aorta, also larynx and trachea laid open to its bifurcation. The preparation shows dilatation of aorta from the aortic valves, and a sacculated aneurismal cavity laid open which is full of laminated, decolorized coagula. It is very thin at upper part where it is adherent to trachea, and a small, ulcerated opening exists in the trachea, about an inch and a half above the bifurcation. There are evidences of considerable irritation of the tracheal mucous membrane for an area of an inch in circumference round the ulcerated opening.

274. A dry preparation of the aorta, showing extensive dilatation (aneurismal) of the arch. There is very extensive deposit of ossific matter in the inner coat of the aorta; it is deposited in large plates, which encircle the whole of the vessel. The plates are about two lines in thickness, and present a smooth surface internally. There are, also, numerous small, irregular, warty, ossific deposits, varying in size from a millet seed to that of a bean, dispersed over the inner surface of the aorta, and projecting into its interior. It forms a complete bony tube.

From James Bevis, aged 37 years, 12th Regiment. The chief symptoms were dyspnœa, strong impulse of the heart; "bruit de

soufflet" audible over the upper part of the sternum, and a full, soft, vibrating pulse.

Donor—Dr. Cotton, Surgeon, 12th Regiment.

275. Portion of aorta with the semilunar valves attached; also a portion of the left lung. Three aneurisms of the arch of the aorta. The first, about the size of a hen's egg, is situated on the concave side of the arch, opposite to the left carotid and subclavian arteries; the opening into the sac from the vessel is about one inch and a half in diameter, its edges round and smooth; the walls of the sac are thin, and its cavity almost filled with coagula. About an inch and a half below the origin of the subclavian artery, on the convex side of the arch, there is a small digital depression, formed by dilatation of all the coats. The third, and largest, aneurism is situated at the lower part of the arch, about the size of an orange, and almost entirely filled with coagula; the outer surface of the sac is covered by a portion of the left lung, and the opening from the vessel into the tumour is circular. with smooth, round edges. The inner surface of the vessel is rough and irregular, from atheromatous deposit.

From Private William Kloes, aged 45 years, a Hotentot of the Cape Corps, an athletic man of robust health, but addicted to intemperate habits for many years. He was attacked suddenly with pain in the occiput and vertigo, which symptoms shortly subsided. Soon afterwards, he became subject to a short, dry cough, when in the recumbent position; the cough was aggravated at night-time. Three months after the first attack, during a paroxysm of cough, he brought up about a pint of arterial blood. Twice during the succeeding four months he had hæmorrhage from the lungs; and on the eighth month after the first attack he brought up about a quart of blood suddenly, fell to the ground and expired.

After death:—The body, generally, was seen to be very obese: much fat deposited, especially on heart and pericardium. Heart, enlarged; its left ventricle hypertrophied. Lungs, emphysematous: air cells infiltrated with blood. Trachea and bronchi filled with coagulated blood.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

276. Heart and portion of aorta, interior of left ventricle and of aorta exposed. There is a large aneurism of the anterior and convex surfaces of the aorta, commencing about three inches above the semilunar valves, and extending to the origin of the left carotid artery. The tumour is formed by a dilatation of all the coats of the vessel; but the sac is very thin, in places, from destruction of the two inner coats; it was lined by concentric coagula. Between this aneurism and the semilunar valves is a second aneurism of small size. The innominate artery is obliterated at its origin. The endocardium of the left ventricle is thickened and opaque; the free margin of the semilunar is also thickened. The inner coats of the aorta are irregular from atheromatous deposit.

277. Heart and ascending arch of aorta with three aneurisms, two of the size of a turkey's egg, the third a little smaller, about the size of a large cob-nut. On opening the arch, three circular apertures were observed leading

to the sacs; none had burst their walls were thickened and the cavities nearly filled with fibrinous layers. The whole aorta was atheromatous, white, and glistening. Both the pericardium and the left pleural cavity contained each about eight ounces, straw-coloured, serous, fluid. Heart pale and fatty.

Private George Fyson, 12th Lancers, aged 28, service 6 years. On the 5th of February, 1869, he was admitted into the General Hospital, Dublin, suffering from aneurism and pain in the inter-scalpular spaces shooting along the nerves Wristberg. Over the second intercostal space of the right side a loud bruit is heard also behind. Unable to lie on his left side; has frequent cough, but no expectoration, no hoarseness, no difficulty in swallowing. The right pupil is contracted, there is no difference in the radial pulses. On the 5th April, he is advanced in phthisis, and it was a question which disease, the phthisis or the aneurism, would carry him off first. With the exception of a slight fulness and tenderness over the situation of the aneurism, there were no further indications of its presence. About the end of February, the pain suddenly ceased and the contracted pupil had nearly resumed its natural size. He continued to live till 22nd May, when raising himself in bed to reach his medicine he suddenly died. The pericardium contained about eight ounces of fluid. Contrib., No. 104, June 10th, 1869, vol. ii, Abstracts of cases.

Donor—J. Woolfries, Surgeon-Major, A.M.D.

278. Heart and arch of aorta, with aneurisms and attached portions of the right first rib, clavicle, and sternum. The arch of the aorta is seen to be studded throughout with scattered patches of atheroma of the inner coat with intervening portions free from degeneration. The attachment of the aortic valve and the lappets are implicated. Above the right lappet is an aneurismal sac, the size of a large walnut with mouth of an equal diameter. From the superior portion of the arch, immediately before the origin of the innominate artery, is a second aneurismal opening about $\frac{3}{4}$ inch in diameter, which expands into a sac, 4 inches in diameter, occupy the whole right half of the osseous walls of the thorax above the first rib, portion of clavicle and sternum being firmly attached to the sac externally. This aneurism is completely consolidated by fibrinous deposit, which near the circumference of the tumour is laminated.

From Private Kerry, 13th Light Dragoons, Scutari. The history of the case is scant and upon verbal testimony. This soldier was invalided to England from the Crimea for some disease otherwise than vascular lesion. He was on the point of embarcation when he suddenly dropped dead. The disease exemplified in the preparation was observed post-mortem; and is a perfect illustration of the natural cure of a thoracic aneurism with small mouth even when exposed to the full cardiac impluse.

279. Heart and aorta with the œsophagus and air tubes. There is an extensive aneurism involving the whole arch of the aorta; and compressing the œsophagus and trachea. The walls of the sac are very thin, and have undergone absorption in great part; and contain concentric laminæ of coagula.

From William Adams, aged 40 years, 14th Regiment, who was admitted into hospital, on arrival from India, for chronic catarrh,

which had lasted for twenty months. Soon after, orthopnœa and dyspnœa with difficult and painful deglutition and a sensation of impending suffocation became prominent symptoms. An irregular convexity was apparent at the upper part of the sternum, where pulsation was plainly observed. He died in a violent paroxysm of dyspnœa. A large aneurism, which had not burst, was found to occupy the arch of the aorta, and to ascend as high as the inferior border of the left clavicle. The sac was in many places very thin, and here the coagula in the tumour were thickest. The sternum and bodies of three vertebræ were carious and partly absorbed.

See *Fasciculus III*, Plate 5, Fig. 5.

280. Heart and aorta, with trachea and bronchial tubes; interior of the auricles and left ventricle, and of aorta exposed. A large aneurism of the arch of the aorta which burst into the right pleural cavity. The tumour commences about two inches above the semilunar valves, and terminates at the origin of the left subclavian artery; it is firmly united posteriorly to the trachea and bronchial tubes; the walls are in some places very thin and lined with a few concentric layers of coagula. Atheromatous matter deposited below the lining membrane of the aorta, both above and below the aneurism. Surface of the heart covered with a number of large, white, glistening spots.

From James Shean, 59th Regiment, aged 32 years. Admitted into Hospital in a nearly dying condition, with dyspnœa, inability to lie down, pulse very small and irregular. The right side of the chest was dull in every region on percussion, and there was absence of respiratory murmur on that side. Had been complaining for eight months, and carrying his knapsack caused him much agony. Shortly after he died very suddenly. The cavity of the right pleura was filled with blood: of which three quarts were removed, and the lung also was distended with blood.

Donor—Dr. Williams, Surgeon, 68th Regiment.

281. Heart, the left ventricle of which is laid open, showing the aortic valves, and about two inches of the aorta. An aneurism about the size of a walnut is situated above the anterior coronary artery, and projects into the pulmonary artery near its origin. There are two small oval openings (the largest about the size of a crow-quill) leading from the aneurism into the pulmonary artery. These apertures have well-defined edges, and appear to be of old formation. A similar perforation exists in one of the semilunar valves of the pulmonary artery, immediately opposite to the larger of the openings, from the aneurism. The commencement of the aorta shows great dilatation with much atheroma under the lining membrane, which is rough and puckered. There is general hypertrophy of the heart. The endocardium is opaque from endocarditis.

From Private Charles Bailey, 30th Regiment, aged 30, 10 years and 9 months' home service. In the month of January, 1851, when stationed at Portsmouth, he caught cold from sleeping on a damp bed, and was admitted into his regimental hospital complaining of cough, dyspnœa, pain in the cardiac region, and occasional expectoration of blood; he experienced temporary relief from treatment, but returned to hospital towards the end of the month in a nearly similar state. He

was invalided and sent to Fort Pitt on the 2nd of June, 1851, when he complained of symptoms similar to those above described. There was strong pulsation in the great vessels of the neck, especially the right carotid, a loud bellows murmur, most marked with the second sound was audible over the sternum, and could be traced although becoming fainter in character to the apex of the heart. Some crepitation was heard over the lower part of right lung, and his expectoration contained blood. He improved so far as to be discharged to St. Mary's, on the 23rd of August, but was re-admitted on the 1st of September. Nearly the same physical signs were present as formerly noticed. The cardiac dulness was increased, and the pulse very full, dyspnœa urgent, and percussion impaired over both lungs behind with muco-crepitant râles in the same situation. He expectorated about four ounces of pure blood on the morning of the 3rd and died on the 4th of September.

282. The aorta from the valves to half of the thoracic portion laid open to display degenerative atheromatous changes in the inner membrane. In the thoracic portion these changes mainly consist of dispersed, circumscribed nodular elevations, from intersticial deposit. In the transverse portion are aggregated elevations with furrows and cicatrices. In the ascending part, in addition to these, the inner membrane is eroded with films of tissue, floating out from the edge of erosion, and above the outer and inner lappet of the valve, the vessel is dilated into two aneurismal pouches, as large as a walnut, with parts of their walls very thinned. Throughout the whole of the preparation some of the nodules are undergoing no change in colour, others are yellow. Except in the spot mentioned, there is no erosion of the inner coat.

From Gunner A. Campbell, aged 35 years. A history of primary syphilis with death from peritonitis ensuing on paracentesis—the operation performed for ascites preceded by cirrhosis of the liver. The aortic lesion gave no subjective signs of its presence during life; the heart was normal with the exception of white patches on pericardium and a few small fibrous nodules on the edges of mitral valve. Distinct evidences of the syphilitic virus were observed in scalp and the cranial bones; the liver was the seat of fibrous contractions and fibrinous nodules; the only post-mortem lesions were ascribable to the specific virus.

Pathological Report, Vol. 11, No. 44.

283. Arch of aorta with semilunar valves and pulmonary artery with its valves. There is an aneurism the size of a plum situated immediately above the similunar valves, on the concave side of the vessel; the tumour presses upon the right pulmonary artery in such a manner as almost entirely to obstruct it. The opening from the aorta into the the aneurismal tumour is of an oval form, and measures two inches in its longest diameter; its edges are smooth and round, and the serous membrane of the vessel is continued entire over the inner surface of the sac. The coats of the aorta are studded with atheromatous deposit.

From Corporal Sherron, aged 33 years, who died from phthisis pulmonalis. The aneurismal disease was never suspected during life.

See *Fasciculus III.*, Plate 6, Fig. 5.

284. Portions of arch and of descending aorta. There is an aneurism, about the size of a hen's egg situated on the concave side (not a common site) of the arch of the aorta, opposite to the origin of the innominate artery. No further history.

285. An aneurism of the size of an orange, arising from the arch of the aorta. It is completely filled with a fibrinous coagulum of a laminated structure.

Private George Taylor, aged 38, St. Helena Regiment, was admitted into hospital 12th August 1850, for chronic bronchitis, and died 8 days afterwards. During life there were no symptoms leading to the suspicion of an aneurism. After death the heart was found healthy, only a slight atheromatous deposit at the commencement of the aorta.

286. Arch and portion of descending aorta: interior of the vessel, exposed. There is a great dilatation of the arch of the aorta, but particularly of the ascending, and upper part of the descending aorta. The internal coat presents numerous opaque spots from atheromatous deposit.

From Sergeant Patrick Mullen, aged 41 years, 8th Regiment; admitted into the General Hospital at Fort Pitt, with symptoms of advanced phthisis. He also complained of palpitation of the heart, from which he had suffered for three years. The heart's sounds were audible over the whole of the left side, and were accompanied by a distinct "bruit." The lungs were affected with tubercular disease. The heart was normal. The aneurismal dilatation contained a recently formed coagulum.

287. Heart and aorta. Great dilatation of the arch of the aorta. The greater portion of the lining membrane of the ascending portion of the aorta is converted into plates of ossific matter of a yellow colour and concave internally. Heart small, and a large, white patch on the anterior surface of the right ventricle.

From a Maltese Woman, aged 46 years.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

288. Portion of arch of aorta, with semilunar valves. There is an aneurismal dilatation of the ascending portion of the arch of the aorta: the lining membrane is rough, from the deposition of the atheromatous and bony matter; two of the semilunar valves are also thickened and contain fibrinous concretions.

From Conrad Fresnac, aged 58 years, 60th Rifles; who for a long time previously to his death was the subject of amentia, no symptons indicating disease of the vessels were recorded during the life-time of this man, the immediate cause of his death was paralysis. His amentia was possibly due to cerebral disease subsequent to blood coagula transmitted to cerebral vessels from aorta.

289. Aneurismal dilation of arch of aorta to the inner surface, of which two masses of fibrine, about the size of filberts, are attached with atheromatous deposit on the inner surface of the vessel. MS. Cat. Vol. I, page 200, No. 188.

From H. Savage, 74th Regiment, 24 years and 6 months of service, who died at Fort Pitt from pulmonary phthisis on 14th August, 1838. The epiglottis, the upper part of larynx, and the upper part of colon were found studded with small ulcers.

289A. A dry preparation of portion of ribs and sternum showing considerable dilatation of arch of aorta, with a large globular aneurism projecting from the posterior wall, and communicating with the vessel by a circular aperture.

From Private William Guilford, 45th Regiment, who died of phthisis pulmonalis, 6th September, 1864. After death the aneurism was found to the right and in close contact with the bifurcation of the trachea. The principal symptoms during life were cough and inability to remain in the recumbent posture.

Donor—Staff Asst.-Surg. Sanderson.

290. Portion of arch of aorta and semilunar valves laid open. There is aneurismal dilatation and thickening of the aorta with adventitious matter deposited beneath its inner coat, producing a very irregular, tuberculated, surface. The lappets of the valves are thickened and opaque.

From a man aged 28 years, who died from disease of the heart. There was considerable hypertrophy and dilatation of the left ventricle.

Donor—Mr. Cathcart, Asst.-Surg., 7th Dragoon Guards.

291. Portions of heart and aorta dried and preserved in turpentine. There is an aneurism of the aorta, situated immediately above the semilunar valves. The tumour contains a clot, in which is a distinct osseous deposit; there is similar deposit in the coat of the vessel. The osseous deposit was found, on an analysis by Dr. Davy, to consist of phosphate of lime, animal matter, a little carbonate of lime, and a trace of sulphate of lime.

292. A dried preparation in a glass case showing a large aneurism of the ascending portion of the arch of the aorta. The aneurism arises from the right and posterior aspect of the vessel, about ¾ inch from the sigmoid valves. The opening by which the aneurismal cavity communicates with the canal of the aorta is oval in shape, with a well-defined sharp margin surrounding it; this margin at the front of the opening is doubled with a sort of valve or membrane. On the walls of the cavity of the aneurism, near the opening into the aorta, numerous deposits of calcareous matter are visible. The cavity of the aneurism occupies almost the entire right side of chest, extending from the clavicle above to the diaphragm below, and pressing so much against the ribs of the right side of the chest, both anteriorly and laterally, as to have caused considerable thinning (atrophy from pressure) of those bones, most marked in the former situation, where several of the ribs are thinned to perforation. The opening by which the aneurism burst, contains a dark clot of blood in the interspace between the fourth and fifth ribs, immediately outside their junction with the corresponding costal cartilages. This opening communicates with the anterior and inferior part of the cavity of the aneurism. The lung on the right side appears to be compressed

between the aneurism and the ribs posteriorly, and partly between it and the back part of the diaphragm. The passage through the œsophagus appears to have been perfect. The superior vena cava is nearly obliterated.

Paul Lindor, a black Creole of Mauritius, aged 40, was admitted into the Civil Hospital at that station on the 18th July 1848. He had received a blow on the right side in 1843 whilst employed as a mason. On examination, a pulsating tumour (with "bruit de soufflet," alternating with a whistling noise) the size of the clenched fist was perceptible on the outer side of the right breast. There was also great dyspnœa. The dyspnœa and cough continued to increase and the tumour to enlarge until the 8th August, 1848, when the integuments near the right nipple ulcerated and gave way, allowing fatal hæmorrhage to occur, other organs were healthy.

Donor—S.A.S., S. S. Sievwright, P.M.O. Mauritius.

293. Portion of the thoracic aorta with aneurismal tumour; also a portion of the anterior wall of the thorax, and showing ends of clavicles. An aneurism, about the size of a large orange, arises from the convex surface, and at the commencement of the transverse portion of the arch of the aorta; the wall of the sac appears originally to have been formed by dilatation of the arterial coats, but the sac at its upper and outer aspect has undergone absorption, and at this situation the boundary is formed by the first and second bones of the sternum, and by the pectoralis major muscle. The sac is firmly adherent to the inner surface of the sternum around the portion of bone forming the outer boundary of the sac; this portion of bone is reduced by pressure to a mere shell, and is entirely absorbed to the extent of two fingers' breadth, leaving the pectoralis muscle exposed; an incision through the muscle is made to exhibit an anterior view of the tumour. The internal surface of the sac is rough and corrugated, and in many situations there are irregular patches of ulceration. The large vessels are not interfered with. The ascending portion of the aorta contains extensive deposition of atheromatous material, and a small aneurism, about the size of a hazel-nut, is situated about an inch above the semilunar valves on the outer aspect of the vessel.

Private John Brown, 2nd Battalion, 14th Regiment, who died on board the troop ship "Trevelyan," 8th September, 1866, met with a severe strain four years previously while lifting a tree. He felt no inconvenience at the time, or to prevent his doing his duty in the ranks for three years afterwards. Four months before death he began to suffer pain in chest, shooting backwards to under right scapula, and he had frequent attacks of dyspnœa. He has had constitutional syphilis, and has been a hard drinker. *Abstract Book II*, No. 38, Oct. 24, 1866.

Donor—Surgeon A. F. Turner, 43rd Regiment.

294. Portions of arch of aorta and descending thoracic portion; also the trachea with the right and left bronchi, and the œsophagus. A large irregularly-shaped aneurism, rather larger than an orange, is situated on the convex surface of the aorta. The tumour commences about an inch

below the left subclavian artery, and extends downwards for about six inches; it opens into the left bronchial tube through an aperture, in its posterior wall, which is an inch in circumference, and is plugged up with soft coagula. The aneurism also communicates with the œsophagus by an oval-shaped opening, 2½ inches by 1 inch in size, which is filled up with coagula; the mucous membrane surrounding the aperture is of a dark red colour. The communication between the vessel and the sac is of an oval form, and measures 2½ inches in long diameter; the internal lining membrane of the vessel is continued over the inner surface of the sac. Another aneurism, in size about that of a horse-bean, filled with coagula, is situated on the posterior aspect of the aorta, half an inch above the larger aneurism. The coats of the aorta are studded with atheromatous deposit.

From John Paul, aged 33 years, Rifle Brigade, of 17 years and 3 months' service; who, on admission into hospital, presented the following symptoms: emaciation and great weakness; absence of respiration with dulness on percussion over the left side of the chest; the intercostal spaces were narrowed; the right side was abnormally resonant, and muco-crepitating râles were audible. Two days before admission he had an attack of hæmoptysis, and considérable gastric irritation. Paroxysms of dyspnœa supervened and caused death on the seventh day after admission. Heart was found enlarged after death, weight 16 oz. Right lung adherent to wall of chest; a large, and two small cavities were situated in upper lobe, bounded by consolidated lung structure. The left lung was firmly adherent, pulmonary and costal surfaces of pleura coated with lymph; texture of left lung of a dark red colour, and condensed. The aneurism had caused absorption of a portion of the left side of the body of the 6th dorsal vertebræ.

Donor—Dr. Williamson, Staff Asst.-Surg.

(3.) Aneurisms of Thoracic or Descending Aorta.

295. Upper part of the thoracic aorta, showing an aneurism the size of a duck's egg, attached posteriorly to the left bronchus into which it burst by an aperture capable of admitting a bougie. The communication between the vessel and the sac is about one inch in diameter, its edges smooth and slightly puckered, and on each side of which there are two small depressions, about the size of horse-beans; the lining membrane surrounding the opening is thickened and irregular.

From a soldier who died suddenly, without signs of disease.

296. The thoracic descending aorta, folded back on itself. There is great degeneration of the vessel; extensive loss of substance of the tunics, and tough, yellow lymphy masses are attached to lining membrane. Small irregular dilatations may be noticed, with cicatricial loss of substance. A small aneurism is seen in the upper part of the vessel.

From Private George Downey, aged 35, of 12 years' service, admitted to Netley for phthisis pulmonalis, having suffered also from hæmoptysis and diarrhœa. No history of syphilis, and habits described as

temperate. Cough left when diarrhœa came on. Voice failed and laryngoscope showed extensive laryngeal ulceration. He died of asthenia apparently from the diarrhœa. Examination after death showed caries of 4th dorsal vertebra to which the aneurism had been attached. There were ulcers on the tongue and tonsils and pharynx, and extending to an inch below the larynx. The small intestines were ulcerated throughout by extensive transverse ulcerations, and minute miliary growths on the peritoneum corresponding to the ulcers. The villi were lardaceous. The post-mortem lesions were suggestive of syphilis.

See *Pathological Report*, Vol. 12, No. 27.

297. Portions of descending thoracic aorta; also of the fourth, fifth, and portion of sixth dorsal vertebræ. These vertebræ form the posterior portion of an aneurismal tumour at the posterior portion of the aorta, immediately beyond its arch, capable of containing a pigeon's egg. The tumour has caused absorption of the whole anterior surface, to the depth of a quarter of an inch, of the fifth,—and in a less degree of the upper part of the body of the sixth,—dorsal vertebræ. These were covered by laminated coagula only; the sac is closely adherent to the sides of the vertebræ, and thus effusion of blood into the posterior mediastinum was prevented. A free communication exists between the aneurism and the vessel, and the coats of the latter are much thickened from a deposition of atheromatous matter.

From Private R. M., aged 28 years, 92nd Regiment, of ten years' service, who, previously to his death, complained of dyspnœa and of pain in the chest. His general health was good. He was found lying insensible in the barracks, with his mouth and nostrils immersed in a muddy pool. He had been drinking. He was conveyed to the hospital without delay, but life was extinct. After death the central ganglia of the brain were found to be softened; the lungs engorged posteriorly, and the heart normal. Thoracic aorta much thickened by atheromatous deposit.

See *Fasciculus IV*, Plate 8, Fig. 5.

298. Thoracic aorta laid open; also a portion of the right lung, and the second and six following dorsal vertebræ, with portions of the corresponding ribs. Aneurism of the thoracic aorta; showing a large and nearly circular opening of communication into the sac, measuring one inch and a half in its perpendicular, and one inch in its transverse diameters; the edges are smooth, callous, and rounded. The parietes of the sac are closely attached to the sides of the bodies of the third, fourth, fifth, sixth, and seventh dorsal vertebræ, and also to the heads of the corresponding ribs, which are denuded and rough from absorption. The lung adheres intimately to the front and side of the sac on the right side of the chest and immediately behind the adhesions there is a large lacerated opening in the sac, through which the blood was effused into the lower lobe of the lung. The coats of the aorta are much thickened by atheroma, and at the junction of the transverse and descending parts of the arch there is an incipient aneurismal dilatation.

From R. B., aged 25 years, a stout and muscular tailor, and

habitually a drunkard. He was admitted into the Regimental Hospital complaining of severe pain between the scapula and in the cardiac region. The heart's action was frequent, irregular, and violent, and audible over an increased area; its pulsations were not synchronous with the pulse at the wrist; decubitus, dorsal. Five weeks after admission, during his removal to the General Hospital, he experienced an increase of pain in the cardiac region, and at the same time expectorated a small quantity of blood. The heart's action was accelerated, pulse more feeble and irregular, and the extremities cold; he rallied for a short time, but shortly after a pint and a half of florid blood gushed from his mouth and nostrils, and he instantly expired.

The inferior lobe of the right lung was found after death to be closely connected to the pericardium, and formed the sac of the aneurism; the texture of this lobe was of a dark purplish colour, and where the rupture was, the lung presented the appearance of a clot of blood. Each pleural sac contained about a pint of red-coloured serum. Attached to the upper surface of the diaphragm was a cyst containing an ounce of dark, thick fluid. The aortic valves were thickened, heart's structure soft. The stomach contained large quantities of altered blood.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.
Fasciculus IV, Plate 7, Fig. 5.

299. The descending thoracic aorta, showing an aneurism, which burst into the left pleural cavity; it extended from the third to the eight dorsal intervertebral cartilage, the intervening vertebræ, and the heads and necks of the corresponding ribs on each side, were denuded and partially absorbed. The pleura formed the most external covering of the tumour, at the most prominent part of which, on the left side, an irregular ragged opening of the membrane, about an inch in length, had given egress to the effusion of blood. The large deficiency in the posterior aspect of the tumour was closed in the natural state by the vertebræ and ribs. The communication between the aorta and sac is of a square form, and embraces nearly half the circumference of the vessel, the inner membrane of which is studded with atheromatous deposit.

From Sergeant Andrew Thompson, aged 30 years, 72nd Regiment, a man who enjoyed good health until he became addicted to habits of intemperance. He was admitted into hospital complaining of pain in the left breast, small, quick, but not irregular pulse, anxious countenance, and furred tongue. He was discharged from hospital after a few days, and did his duty until his death, which occurred very suddenly about two months after. The left pleural cavity was found after death to be distended with serum and coagula, which together measured six pints. The lungs and heart were in an anæmic condition.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

300. Portion of the descending thoracic aorta, exhibiting an aneurism, commencing about an inch below the left subclavian artery and embracing five inches of the course of the vessel. The lining membrane of the aorta is thickened and studded with atheromatous and bony deposit.

From John Shrubb, aged 42 years, 10th Hussars, who for some time previously to his death suffered from dyspnœa, and short, dry cough.

These symptoms were aggravated when he lay recumbent. Fits of an apopletic kind attacked him at intervals, but were absent during the four months preceding death. The middle and inferior lobes of the right lung were found after death hepatized; the lower lobe was similarly affected.

301. Arch and portion of thoracic aorta, trachea, right and left bronchi and portion of left lung, with six lower dorsal vertebræ, and heads of the corresponding ribs. An aneurism of the thoracic aorta is shown, which burst into the left cavity of the chest. The tumour extends more to the right than to the left side of the spine: an incision is made into it on the right side, which exhibits the sac filled with concentric layers of coagula. Part of the left lung adheres to the front of the tumour, where the rupture which proved fatal is observed to be about an inch in diameter, and plugged up with coagulum. The arch of the aorta is thickened and infiltrated with atheromatous deposit, and on its summit there is a pouch the size of a pigeon's egg.

From George Harwood, aged 35 years, 49th Regiment, who had long complained of oppression of breathing and of occasional pain in the chest. On admission into hospital there was evident protrusion of the chest to the right side, and strong pulsation about the third and fourth ribs of the right side, but no irregularity of the heart's action. Subsequently he complained of dysphagia, and a sensation of heat at the lower part of the trachea. The left side of the chest after death was found to contain about a quart of blood-stained serum, with a loose coagulum floating in it, weighing about two pounds. The arch of the aorta was dilated, and when cut open, exhibited some layers of fibrin. Fatal hæmorrhage had occurred through an opening near the base of the left lung.

Fasciculus II, Plate 5, Fig. 3.

302. Heart with arch and portion of descending aorta. A very large aneurism of the arch and upper part of the thoracic aorta, with rupture of the sac, which shows an immense mass of yellow concentric coagula; the walls of the tumour are thin, and the inner surface of the vessel is studded with atheromatous matter. The bodies of the neighbouring vertebræ and heads of the adjoining ribs were carious.

303. Larynx and trachea, with the ascending arch and descending thoracic aorta; also three dorsal vertebræ with portions of corresponding ribs. The preparation shows two aneurisms and an expansive dilation of the thoracic aorta. In the first stage or ascending aorta, where it emerged from the pericardium, there is a small globular aneurismal pouch (about size of a "lime fruit") projecting upwards and to the right of arteria innominata to the outer surface of which it is attached or apposed for about ¼ of an inch from its origin. The anterior surface of transverse portion of the arch is dilated, bulging out forwards and upwards. The descending thoracic portion from beyond origin of left subclavian and extending as low as body of fifth dorsal vertebræ, was the seat of a false

sacculated aneurismal tumour filled with laminated fibrine. It is about the size of a large orange and closely adherent to the vertebræ behind, the bodies of which were extensively corroded. The tumour is mainly central but projects forwards into the anterior mediastinum. The pneumogastric and recurrent nerves were stretched and somewhat flattened. The walls of the aneurism are very thin in places and had given way by a large sloughy looking opening about the size of a finger's tip, on the right side behind the root of the lung, and close to the œsophagus. The blood had passed into the pulmonary structure on both sides, and had found its way along the tube of the aorta, and by its opening through the diaphragm whence it was diffused all about the abdominal cavity amongst the coils of the intestines.

From Private John Jones, 8th Hussars, age not given, of 15 years' service in the Cavalry, of which 10 years and 3 months were passed in India, where he is reported to have had five attacks of syphilis and four attacks of tropical fever. He was a man of ordinary temperate habits. He looked prematurely aged. When in hospital in 1870 under treatment for a contused injury by the kick of a horse on his shin, his general health appeared to be much deteriorated. He was anæmic, emaciated, and debilitated, and often complaining of "pleural stitches." On 19th March, 1871, was again admitted to hospital for general debility, complaining of severe burning pain between the shoulder blades, constant, but influenced by changes of weather. He was soon discharged again to light duty in cook-house, and exempted from all military duty. On 6th June, 1871, he was once again admitted for aneurism of aorta, or other intra-thoracic tumour. He was in great distress, with countenance expressive of much anxiety, suffering from what seemed to be symptoms of urgent laryngitis. Paroxysms of impending suffocation came on by exertion. Examination of larynx and trachea failed to indicate any morbid condition of these parts, and there was an entire absence of fever. Thoracic and dorsal pains were present. There was dulness on percussion to right of first bone of sternum and beneath sternal half of right clavicle, extending as low down as cartilage of third rib, where a marked impulse could be felt through stethoscope. Both cardiac sounds were loud and distant. There was no dulness elsewhere, either in front or behind. There was deficiency of respiratory murmur throughout both lungs, and the vesicular breathing was masked by laryngeal stridor, wheezing sounds with sonorous snoring were heard at and around the summit of sternum. There were also visible throbbings on a lateral view being taken over site of dulness to right of first bone of sternum. The throbbing could be felt by the hand and communicated to stethoscope, but there was no bulging, prominence, nor tumour. Pressure symptoms were shown upon the trachea by cough, huskiness, tickling with mucous expectoration, continuous dyspnœa, wheezing, insufficient chest expansion; on the nerves by thoracic pains of an intermittent neuralgic character, and dorsal pain referred to about fourth dorsal vertebræ, of a continuous boring kind, also paroxysmal cough with metallic-like ring, paroxysms of dyspnœa aggravated by exertion almost to suffocation, lying on left side causing most distress; pupils were not affected. Dysphagia was referred to episternal notch and centre of first bone of the sternum. There was turgescence of the veins of left side of the neck and of the thorax. The diagnosis made was aneurism of descending thoracic aorta. Death was sudden on 9th June, 1871.

Donor—Dr. J. Smith Chartres.

304. Portions of heart and aorta and of the vertebral column, posteriorly. There is a very large aneurism of the thoracic aorta, which lies to the left of the spine, and has

caused absorption of the bodies of four of the vertebræ; the intervertebral cartilages are entire and project into the sac, which is very rough and irregular. The tumour pressed posteriorly on the œsophagus, anteriorly against the sternum part of which had become absorbed, and also formed extensive adhesions with the adjoining viscera. No rupture of the sac took place. The arch of the aorta is greatly dilated, and infiltrated with atheromatous deposit.

From Corporal William Young, 52nd Regiment, a robust, healthy man, until eighteen months previous to his death, when he received a blow on his breast from a cricket ball. From that time his health declined, he became emaciated, and suffered much from dyspnœa. A year later, it was remarked that the middle portion of the sternum and the ribs adjoining had become deformed. Six weeks before his death the sternum curved outwards and pulsated strongly. He complained of orthopnœa, dysphagia, and pain in the right arm, which gradually became benumbed. The pulsation in the left radial artery became feeble and irregular, in the right completely extinct; the lower extremities were anasarcous. After death the aneurism which constitutes the preparation was found. No rupture of the sac had taken place. The tumour pressed posteriorly on the œsophagus; anteriorly on the sternum, a portion of which was carious.

Donor—Dr. Paterson, Asst.-Surg., 52nd Regiment.

305. Heart with left ventricle laid open in continuity with ascending and descending thoracic aorta with sternum and ribs attached, and showing an enormous aneurismal tumour, which slightly encroached upon the pericardium. The tumour consists of two portions divided by the middle line of the body. The left portion extends from middle line outwards towards left clavicle 3½ inches, and from above downwards 6 inches. The right portion measured from middle line to coracoid process 8½ inches, and also from above downwards 8½ inches. The tumour occupied the lower region of the neck, and the upper region of the sternum, appearing in two lobes, the right being the larger. The skin over the tumour is especially thin over the right lobe. The most prominent part had commenced to slough. It is adherent to the sac of the tumour. There is extensive atheromatous disease of the aorta commencing immediately above the aortic valves.

From Private Edward Langton, aged 38, of 20 years' service at home, in India, Burmah, and the Crimea. He had suffered from ophthalmia and febricula, and gonorrhœa in India. He is described as temperate and of regular habits, with no history of syphilis. He had good health generally up to 1861, when he began to suffer from dull neuralgic pain, with now and then a feeling of pulsation behind the upper part of sternum. He continued at duty, but his voice became so affected that he ceased to sing in the choir. In 1869 he suffered from quotidian hemicrania shooting down to right shoulder, which continued for a year. In June, 1870, he began to suffer pain behind the inner end of the right clavicle, which soon became spontaneously dislocated forwards, with relief to the neuralgia. A small tumour about the size of a walnut was then discovered behind the sterno-clavicular articulation. It continued to increase in size till 1st February, 1871, when he embarked for England. During the voyage the tumour increased. On landing at Portsmouth his foot slipped, he fell, and the tumour henceforth rapidly increased. On admission to

Netley Hospital the tumour imparted to the hand an expansile sensation, from the middle of right clavicle to the junction of the middle to inner third of left clavicle, and from midway between the clavicle and angle of right jaw to within three inches of the centre of right nipple. It continued to increase in every direction. He had little pain, no dyspnœa, and very slight dysphagia. Right pupil was contracted and fixed, with some conjunctival congestion, and unilateral sweating of left side of head and face. Pulse equal at both wrists. On 30th July he awoke with severe pain in the tumour, shooting down right arm and up the right side of head and face; and, during the day, dyspnœa with noisy inspiration and dysphagia came on. On 23rd blood and bloody serum began to exude from prominent part of the tumour, the dyspnœa and dysphagia becoming more and more distressing, and he died on 26th with all the signs of suffocation from direct pressure on the air tubes. After death the right lung was found compressed against the side of the chest, its structure non-crepitant and void of air. It was solid and carnified. The trachea was flattened out and pressed upon by the tumour. See *Pathological Register*, vol. xii, No. 18.

306. A dry preparation showing a large aneurism of the posterior part of the thoracic aorta, which has produced partial absorption of seven of the dorsal vertebræ, and entire absorption of two of the heads of the ribs on the right side, and corresponding transverse processes. The whole of the thoracic aorta and part of the sac are loaded with calcareous deposit.

Donor—Dr. Arthur, Dep. Inspr.-Gen. of Hospitals.

(4) Aneurisms of the Abdominal Aorta.

307. Portion of descending aorta, and of the bodies of the last dorsal and two upper lumbar vertebræ, posteriorly. A large aneurism is situated at the termination of the thoracic aorta; it is bilobed, each lobe extending laterally and resting upon the bodies of the two upper lumbar vertebræ. The sac is formed by an expansion of the coats of the vessel; posteriorly, however, the sac has undergone absorption, and the boundary is constituted by the bodies of the vertebræ, which are in a carious condition. The portion of the aneurism on the right side of the vessel is about the size of an orange, and projects forwards; at its upper and outer aspect is an opening, about an inch in diameter, where rupture occurred before death; the cœliac axis is involved in the anterior wall of this portion of the aneurism. The left expansion of the tumour is compressed by the crura of the diaphragm, and rests upon the left side of the bodies of the two lumbar vertebræ, it measures 2·5 inches vertically, by 2·1 longitudinally. Both the lobes of the aneurism communicate freely with each other, and with the aorta for nearly an inch of its extent.

From Private William Gibbs, 1st Rifle Brigade, who while at the rifle practice camp near Ottawa, in Canada, suffered from a slight febrile attack, for which he was sent to the Regimental Hospital. The day following his admission into hospital, at 5 p.m., when visited

he appeared cheerful and well. About 9 p.m., on the same evening he suddenly sat up in bed, grasped his abdomen, moaned and fell back dead. Latterly he had been treated for "lumbar pains," but made no complaint, immediately preceding his death. After death :—On opening the abdominal cavity coagula and serum measuring six quarts were discovered, which preceded from a rupture of the aneurism of the aorta, above described. See *Abstract Book*, Vol. ii, No. 92.

Donor—Surgeon A. P. M. Corbett, Rifle Brigade.

308. Portion of descending aorta. An aneurism the size of a duck's egg, situated on the anterior surface of the abdominal aorta, immediately above the cœliac axis. The vessel communicates with the sac by two oval openings, each about a quarter of an inch in diameter, and separated from each other by a portion of the aorta half an inch in breadth; the edges of the openings are smooth, and covered by the lining membrane of the vessel which, in the neighbourhood of the apertures, is puckered and irregular. The tumour burst into the cavity of the chest and posterior mediastinum.

From James Fairweather, 72nd Regiment, who was admitted into Hospital about eight months before his death for dyspepsia and spasmodic pains of the bowels. Pulsation was discovered about an inch above the umbilicus. Vomiting and irritability of the stomach were constant symptoms. On the morning of his death he was seized suddenly with violent pain in the right hypochondrium and a sensation of sinking. The pulse at the wrists became imperceptible, and death took place four hours after the commencement of the attack. The right pleural cavity after death was found to contain two ounces of blood. The posterior mediastinum was filled with coagulated blood. Heart, normal, excepting slight thickening of the mitral valves.

309. Portion of descending abdominal aorta. There is a double aneurism situated close to the cœliac axis. The larger of the tumours burst into the abdomen and the smaller through the diaphragm into the right pleural cavity.

From Private James Quinn, 22nd Regiment, of 19 years and 10 months' service, who died 17th November, 1850. A month before his death, when confined in the guard room for drunkenness, he fell off his bed and hurt his back severely. After this accident he always complained of pain in the loins, loss of appetite, and inability to swallow solid food which caused pain on deglutition. He was employed as orderly in the dead house Fort Pitt. He died very suddenly in his quarters.

310. Portion of descending aorta. An aneurism of the anterior part of the abdominal aorta, situated immediately below the origin of the cœliac axis. The tumour is about the size of an orange, its walls thick and lined with coagula, except at the lower and fore part, where it has burst by a fissure half an inch in length. The communication between the vessel and sac is of square form, with smooth edges, and occupies almost the whole of the anterior part of the aorta. The superior mesenteric artery arises from the anterior part of the tumour, and is plugged up by coagula.

From Simon White, aged 33 years, 24th Regiment. He suffered from dyspepsia and gastrodynia for the last thirteen years of his life. On his admission into hospital, he complained of dyspnœa, pain in the

left hypochondrium and constant vomiting. He attributed the origin of his ailments to a blow received on the left hypochondrium while on board ship on passage to India. He was much emaciated. There was an indurated tumour in the left hypochondrium, which was painful on pressure and pulsated strongly. A loud bruit was also audible over the position of the tumour. He expired suddenly. About three pounds of coagulated blood was found after death, effused beneath the peritoneum extending downwards to caput cæcum coli and surrounding the right kidney. The blood had escaped from a rupture in the anterior wall of the aneurism. The stomach, pancreas, duodenum and mesocolon were seen to be elevated in front of the aneurism.

311. Portion of descending aorta and of common iliac arteries. An aneurism about the size of an orange, of the abdominal aorta, embracing about two and a half inches of its anterior surface, commencing immediately below the cœliac artery. The superior mesenteric artery arises from the centre of the tumour. A portion of the upper part of the sac, the size of a pigeon's egg, appears externally to form a distinct aneurism, but on a more careful examination, is found to communicate with the larger portion of the sac. The tumour burst below the inferior portion of the duodenum.

From Michael Lawler, aged 27 years, 8th Hussars, who was admitted into Fort Pitt Hospital, in November, 1842. Some time previously to his admission he had a fall from his horse at drill; and sustained a severe injury in the right side, fracturing one of his ribs, from falling upon the butt end of his carbine. Shortly after this accident he suffered from tenderness in the epigastrium and pain extending from the kidneys across the loins. There was also a pulsating tumour, tender on pressure, in the epigastric and left hypochondriac regions. It extended from the umbilicus to the left false ribs a little to the left of the mesial line. The heart's action was audible over an abnormal area, and a distinct bruit was present. About a month after admission, the stomach could not retain any nourishment excepting sago and wine, the pain in the epigastric region became very severe, violent convulsions succeeded; and death occurred a few days later. About three or four pounds of blood were found after death effused beneath the peritoneum, eight ounces of serum and some coagula were contained in the cavity of peritoneum. The blood effused, proceeded from a rupture of the aneurism.

312. Aneurism of the anterior part of the abdominal aorta, immediately above the superior mesenteric artery; the sac is about the size of a large orange, the walls thin and lined with a few coagula; the communication between the vessel and sac is about an inch in diameter, and its edges smooth and round.—Albany Hospital, Isle of Wight. No further history.

313. Aneurism of the anterior part of the abdominal aorta, situated immediately above the origin of the renal arteries; the walls of the sac are thin, and lined with a few layers of coagula; the communication between the vessel and sac is about an inch and a half in diameter, and the lining membrane of the former is continued for some distance on the interior of the latter. The tumour burst into the cavity of the abdomen. No further history.

314. Sacculated aneurism of the abdominal aorta springing

from the posterior part of the vessel above the origin of the cœliac axis. The aneurism is the size of a large orange with a rupture on the left side, inferior surface.

From Private Creighton, 75th Regiment. A delicate man often complaining of dyspepsia, while in hospital for this derangement a pulsation with slight bruit was noted at the epigastrium associated with pain in back. He had a succession of fainting fits commencing at 10 a.m., and terminating in death at 1.30 p.m. The abdominal cavity was filled with clotted blood from the ruptured aneurism. The other organs and viscera were healthy.

Donor—Surgeon Ramsay, 75th Regiment.

315. Large saccular aneurism of the abdominal aorta with the bodies of the three lower dorsal and three upper lumbar vertebræ attached. The aneurism springs from the posterior wall of the aorta by an oval vertical aperture $1\frac{3}{4}$ inches long by $\frac{1}{2}$ inch broad and projects mainly to the right side of the spine, the sac measuring about 6 inches by 4, and its upper portion reaching the level of the eleventh rib. A large laceration extends obliquely across the anterior and superior wall, where the coats are evidently very thin. The aorta at the mouth of sac and above it is very atheromatous.

From Private E. Harris, 2nd Battalion, 8th Regiment, aged 28. He was in hospital with rheumatism, pain in the loins and hips. On stretching himself to take something off the table he fell back and expired. The aneurism was found to have ruptured into the right pleural cavity by an aperture in the thinned diaphragm which was attached to the sac. The bodies of the six vertebræ were eroded and assisted in forming the posterior boundary; the right crus of the diaphragm was spread over the tumour anteriorly.

Donor—Surgeon-Major Madden, 2nd Battalion, 8th Regiment.

316. Portion of arch with commencement of descending aorta, with four dorsal vertebræ in relation with the aorta. There is an aneurism about the size of an orange, situated at the termination of the thoracic aorta. The tumour consists of an expansion of all the coats of the vessel, forwards, and presents a large rupture in front, with another smaller opening behind where the tumour rested on the bone. The internal surface of the sac is uneven and rough from irregularly deposited coagula. The cœliac axis arises from the anterior and inferior part of the aneurism. The aorta immediately above the tumour was dilated; but above this point its inner coat throughout its entire extent was free from disease. The anterior portion of the body of the ninth dorsal vertebra is extensively absorbed from the pressure of the aneurism.

From Private Christopher Mahoney, aged 34 years, 28th Regiment, service 12 years, who had previously suffered from primary and secondary syphilis. He was admitted into hospital complaining of pain in the lumbar region, and a feeling of nausea, tongue furred, countenance sallow. Three days later, he looked yellow and pale; there was some tenderness in the right hypochondriac, and the epigastric regions, nausea, and occasional vomiting of green bilious

matter, the pain in the lumbar region continued. No bruit could be detected, on the 2nd day later these symptons were increased the pulse was noted to be very feeble. He improved during the day, but at 11.30 p.m. was found on the stairs, outside the ward, labouring under intense dyspnœa, and unable to speak much, or move. When removed to his bed, he was sensible, but unable to speak. Deglutition was lost, and shortly afterwards he died quietly. After death coagula and blood-stained serum were found effused into the abdomen, the heart and other viscera, were normal. The principal arteries were elastic and healthy. See *Abstract of Cases*, Vol. ii, 26th Oct., 1868, with a photograph.

Donor—Staff Surgeon A. E. J. Longhurst, M.D.

317. An aneurism of the abdominal aorta of the size of an orange, situated on the anterior surface, opposite the cœliac axis. The opening being larger from above downwards than laterally. The rupture had taken place anteriorly by an irregular ragged opening behind the stomach. The sac was nearly free from coagula, a few fibrinous bands only being found in it. The walls of the sac at several places were very thin and on the point of giving way. Atheromatous deposit although in a much less degree was observed in the branches of the abdominal aorta.

Private Thomas Farnham, 17 years 5 months' service, nearly all in India; a stout, thick set man of moderate height and of good health till September, 1856, when he was treated in hospital for popliteal aneurism in left leg, (see preparation 332), by a bandage applied from the foot upwards to the middle of the thigh. A thoracic aneurism was soon afterwards discovered, which increased in ratio with the diminution of the other. On admission, 17th June, for aching pains in trunk and limbs; the popliteal aneurism had entirely disappeared and flexion of leg was completely restored; pulse 88, with a slight rebound; pulsation perceptible in right third intercostal space, just to the right edge of the sternum immediately following the impulse of the heart. A loud bellows murmur heard behind sternum along the course of the aortic arch; complains of a sensation of constriction in œsophagus during deglutition; never had hæmoptysis; lungs healthy. On the morning of 19th June he felt quite comfortable; passed the morning sitting quietly in the ward; later he went out, began conversing with his comrades, when suddenly he cried out that he felt faint and wanted to go in. Grasping the arm of a neighbour, he almost instantly became insensible. He was quickly brought in and placed on a bed. His eyelids were closed, pupils contracted, insensible to light; no pulsation either at the wrist or heart. The respiration became irregular, and was twice revived by cold water and friction. The pupils now dilated, the jaw fell and after a few convulsive gasps he died without having given once a sign of consciousness. Lungs, brain and heart were found healthy; extensive atheromatous deposit in the coats of the aorta.

318. The aorta from the valves to bifurcation laid open to show the inner surface and a large sacculated aneurism of the abdominal portion. The aneurism springs from the posterior wall immediately above the cœliac axis and involves the vessel 4 inches in length, a large lobe projecting on each side, each about 4 inches in diameter; on the outer wall of the left lobe is a large, ragged aperture somewhat circular in shape and occupied by a fibrinous mass, the walls of the aneurism are rather less than $\frac{1}{2}$ inch thick, but the anterior portion of the right lobe is extremely thin; a firm, fibrinous layer occupies

the interior of the sac. The aorta is extremely atheromatous throughout, there are nodular thickenings, internodular thinning, puckerings, opacities, and lymph attachments; immediately above the valves the thickening of the coats is very apparent, and a patch of ulceration is seen between the central and right lappet of the valve; in the iliac vessels the degeneration is slighter and less advanced.

From Corpl. J. Boyce, 1st Battalion, 9th Regiment, aged 29, Gibraltar. Duration of lesion 2 years; syphilitic history. Bruit present. While in hospital under treatment, in the act of stooping, he felt something give way and died in 15 minutes. Heart 7½ oz. weight, the aneurism extended from the diaphragmatic opening to the 3rd lumbar vertebra eroding the bodies which form partially the posterior boundry of the sac and also portions of the three lower ribs; the under surface of the diaphragm was attached to the sac and on the left side a perforation existed into the pleural cavity which was filled with clotted blood. The upper portion of the left kidney was flattened and atrophied.

See *Pathological Records*, Vol. IV, No. 36.

318A. A dry preparation consisting of the dorsal and lumbar vertebræ and pelvis with six ribs. It shows a very large aneurism of the abdominal aorta, arising from posterior and back part of the vessel, opposite 11th and 12th dorsal and first lumbar vertebræ. The tumour extends along the left side of the spine, having produced absorption of the two last dorsal and two first lumbar vertebræ, as low as the crest of the ilium and brim of the pubis, and also projects to a great extent in the left lumbar region filling up the space between the ilium and ribs. The sac is bounded posteriorly by the left half of the two last dorsal, all the lumbar vertebræ, lumbar muscles and os innominata; about ten pounds weight of coagula were extracted from the sac. The sac is open anteriorly showing caries of the vertebræ.

From Daniel Baillie, 40th Regiment, aged 40, who was admitted complaining of pain and debility of the loins, and incapability of progression. He stated that eighteen months previously he had received a violent contusion on that part by a fall from a baggage cart, since which period he had never been free from these symptoms. A pulsating tumour could be distinctly felt in the left lumbar region. He remained in hospital seven weeks, when death took place in consequence of the rupture of the aneurism internally.

Fasciculus II, Plate 5, Fig. 2.

(5.) Aneurisms of the Innominate Artery.

319. A small aneurism of the arteria innominata firmly attached to the trachea into which it burst. The arch of the aorta is dilated and its coats studded with atheromatous deposit.

320. Arch and portion of descending aorta, with portions of trachea and œsophagus. There is a small aneurism at the commencement of the arteria innominata, and another about the size of a billiard ball, situated at the termination of the arch; the coats of the tumour are

thin and lined with coagula; the opening between the vessel and sac is of an oval form, the edges round, smooth, and projecting, and measuring in diameter one inch and a quarter; the tumour is firmly attached to the œsophagus. The coats of the arch and upper parts of the thoracic aorta are studded with atheromatous matter, thickened, puckered, and irregular, with a number of small dilatations.

From Private Gavin Pettigrew, aged 27 years, 72nd Regiment, a man of intemperate habits, admitted into hospital for loss of appetite, lassitude, dyspnœa, and pain between the shoulders. Four months later he was seized with urgent dyspnœa, the pain at upper part of sternum being constant, causing loss of rest, sleepless night's and restless days, great anxiety, and dread of death. Aphonia and painful deglutition were noted shortly before death, which occurred through exhaustion. After death the lungs were found to contain tubercular cavities; and presented the different stages of pneumonia. The bodies of the 4th, 5th, and 6th dorsal vertebræ had become carious. He had been ill from Feb. 10th, 1834, till 10th Sept. when he died.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

321. Portion of arch of aorta; posteriorly, the larynx and the trachea with its bifurcation. An aneurism about the size of an orange, arises from the posterior aspect of the innominate artery, it had burst into the trachea by a ragged ulceration. The communication of the aneurism with the artery is through an opening about one inch in length. The internal and middle coats of the artery are continued for some distance into the interior of the sac, which is partially filled up with laminated coagula. The coats of the aorta are studded with atheromatous deposit.

From Carpian, aged 35 years, an Indian labourer, who lived for several years in Mauritius. He was suddenly seized with profuse hæmorrhage from the trachea, and almost immediately expired. A mark of recent blistering was discovered over the anterior part of the thorax, from which it was inferred that he had suffered pain in chest.

Donor—Dr. Allen, Staff Surgeon.

322. Arch of aorta, with origins of vessels and a portion of the trachea and its bifurcation. There is an aneurism of the arteria innominata; the tunics of which are dilated into an oval pouch, which is accurately filled by layers of coagulated fibrine. The orifice of the innominata has been dilated to about the diameter of half-a-crown. The arch of the aorta has also been dilated. The fibrinous coagulum projects so as to cover up the opening of the left carotid which, with the right carotid and subclavian, are completely obstructed; so that the circulation to the brain could only have been through the left vertebral, which, with the subclavian, was somewhat enlarged. The aneurism is firmly attached to the trachea, some of the rings of which are absorbed. The coats of the aorta are very atheromatous.

W. Martin, aged 40 (a patient of Messrs. Hammond and Biddle,

Lower Edmonton), in April, 1844, first began to complain of cough and loss of voice. He had bronchitis of both lungs, and well-marked symptoms of an aneurism of innominate artery. It pressed upon the windpipe. He was kept on very low diet, and confined to the house. His cough was much relieved, and in the autumn the pulsation over the superior end of the sternum became gradually less and less distinct so that about a month before death the signs of aneurism appeared no longer to exist. Pulsation could not be detected in either carotid; and almost from the commencement of treatment, no pulse could be felt in the right wrist. He died in the latter end of February, 1845, of phthisis pulmonalis, 10 months after the aneurism was first detected. Several large cavities existed in both lungs. The aneurism was practically cured.

Donor—Dr. Wishart, Asst.-Surg., 15th or 17th Regiment, Aug., 1847.

323. Arch of aorta (laid open) with roots of large vessels. The preparation shows a large aneurism of the arteria innominata, which burst into the lung at the spot where a small part of that viscus is visible in the preparation. The aorta and the other vessels connected with it are tolerably healthy.

Donor—Dr. McMunn, Asst.-Surg., 10th Regiment.

324. Portion of arch of aorta, with vessels proceeding from it; also the larynx and cricoid cartilages with a large portion of corrugated skin. A large aneurism of the arteria innominata is seen to extend as high as the upper part of the thyroid cartilage. The walls of the sac are in many places very thin, though no rupture has taken place, and its inner surface is partially divided into two compartments by a fold of the coats; the lining membrane of the vessel is continued smooth and entire over a considerable part of the inner surface of the sac. The communication between the vessel and sac is of an oval form and measures about an inch in its longest diameter. The vena cava descendens and internal jugular vein were partially obstructed by firm adhering lymph. The right par vagum where most pressed on, was nearly obliterated. The tumour contained a considerable quantity of coagula.

No symptoms had been noted in this case, excepting some dyspnœa with frequent and violent palpitation of the heart. The disease was of several years' duration, the man's health progressively declined and he became much emaciated.

Donor—Dr. Portelli.

(6.) Aneurisms of the Carotid.

325. The right common carotid artery laid open with a section through an aneurismal sac. The mouth of the sacculated aneurism, smooth and oval, is situated in the posterior wall of the vessel just below the bifurcation. The sac, elongated laterally, is about 3 inches in diameter, the section showing the thin aneurismal walls, and stratified fibrine 1 inch in greatest thickness mainly

occupying the lower segment of the aneurism, and the remaining space filled in by a firm fibrinous coagulum and a central irregular nucleus of pigment. About ½ inch above its origin a portion of the coats of the carotid artery is wanting for the space of ½ inch, mainly in the anterior wall; the coats are ragged, thickened, and lined internally with fibrine. Following the vessel upwards towards aneurism, the commencement of the portion where the whole calibre is present is very sharply defined; the walls are thickened, the calibre decreased, and a fibrinous plug rather more than ¼ inch in length with a convex upper surface and flat inferiorly occupies the interior; succeeding this are irregular depositions of fibrine on the lining membrane for rather more than an inch. Towards the mouth of aneurism the vessel appears healthy.

From a man in the 84th Regiment. The tumour was situated behind the angle of the right jaw, and had only been observed 7 days previous to admission into hospital when it was of the size of a hen's egg. Owing to the undecided character of the swelling it was allowed to continue without interference for 3 months when it had increased to the size of an orange and all doubt dispelled. The carotid was tied in the lower triangle of the neck. On the 25th day the ligature came away, on the 27th wound was healed, but hectic ensued, on the 31st day the wound re-opened and a small quantity of pus was followed by a jet of blood, controlled after great loss by pressure; he died on the 33rd day. April, 1865.

Donor—Surgeon-Major Grant, 84th Regiment.

325A. A small sacculus at the termination of the internal carotid artery.

(7.) Aneurism of Subclavian Artery.

326. Portion of arch of aorta, with vessels proceeding from it.

An aneurism the size of an orange, arises from the superior part of the left subclavian artery; its walls are thick and lined with a few coagula. The communication between the artery and sac is about an inch in length. The vertebral artery at its origin is involved in the tumour and arises from its upper part.

See *Fasciculus IV*, Plate 9, Fig. 6.

(8.) Aneurism of External Iliac.

327. A large aneurism of the right external iliac artery, for the cure of which the aorta was tied; the tumour, when exposed by dissection, extended from an inch and a half below Poupart's ligament to within an inch and a half of the bifurcation of the aorta, overlapping the left common iliac artery, occupying the whole of the right iliac fossa and pressing the kidney nearly double. An incision has been made in the aneurism, which is filled with concentric layers of coagulable lymph deposited on its inner surface, and in the recent state contained loose coagula and thin

sanies. The iliacus and psoas muscles were in a state nearly approaching to putridity, and the aneurismal sac itself had been on the point of giving way at two different parts—viz., at its upper part behind the peritonæum by sloughing, and at its lower and anterior part it was nearly bursting into the cavity of the abdomen from the extreme distension and attenuation of its parietes, where it was most prominent. By simple inspection of the inner surface of the aneurismal sac, it was difficult to discover the communication with the artery. A probe was attempted to be introduced into it from the femoral artery, but the crural was so much contracted as not to admit of its passing. By blowing into the femoral, however, with a blow-pipe, an opening was discovered at about half an inch above Poupart's ligament; but from this upwards there was no continuation of the external iliac; the place of communication with the upper part of the artery was only ascertained by passing the end of the blow-pipe around, and blowing at the same time gently through it, till a part was found whence the common iliac became inflated, which was more than three inches above the lower opening. In the intervening space between them no trace of the tube of the external iliac was discernable. Around the upper aperture several small spiculæ of osseous matter were discovered. At first it appeared as if nearly the whole of the external iliac was disorganized and involved in the aneurism; but after careful dissection, about two inches of its tube were disentangled from the condensed cellular tissue forming the outer layers of the sac, in a sound state, after which it became confounded with the walls of the aneurism. The whole of the lower part of this artery, together with the crural and nearly an inch of the femoral, is in a diseased state and implicated in the tumour. The aorta is tied at three or four lines above its bifurcation, and about an inch below the inferior mesenteric artery. The ligature is well placed and includes no extraneous substance, except two small bits of detached nervous fibre, that had probably been torn from the aortic plexus. The aorta is distended with wax injection to within about one-third of an inch of the ligature, a clot of blood intervenes between them; beyond the ligature neither size nor wax had passed, and no particle of either was discernable in any of the iliac or femoral arteries, or in any of their branches. The patient survived the operation scarcely twenty-three hours.

From Joseph Banama, aged 33 years, a Portuguese, of spare habit and naturally of a good constitution. He was admitted into hospital on account of a large firm tumour occupying the right iliac, inguinal, and hypogastric regions. He attributed the disease to constant exposure while engaged in whale fishing. A fortnight before admission, the tumour, previously small, commenced to enlarge rapidly, and pulsated strongly; it was accompanied by acute pain in the loins, groin, and the right leg. The bowels became very consti-

pated; and there was frequent desire to micturate. The operation of ligature of the abdominal aorta was performed—the patient surviving the operation for twenty-three hours.

Donor—Dr. Murray, Dep.-Inspr. of Hospitals.

(9.) Aneurisms of Left Femoral Artery.

328. Portion of left femoral artery. There is an aneurismal sac the size of a billiard ball, immediately below Poupart's ligament. The lining membrane of the vessel is continued over the greater part of the inner surface of the sac. MS. Cat., Vol. I, page 203, No. 194.

From a soldier of twenty-five years service, aged 48. He was under treatment for palpitation. His death was sudden.

Donor—Dr. Shean, Surgeon, 7th Fusiliers.

329. Right thigh injected and dried showing an aneurism of the popliteal artery, for the cure of which the operation of tying the superficial femoral was performed successfully; but aneurism recurred from anastomosis with other branches. The superficial femoral for about three inches is completely obliterated, and converted into a cord-like process where the ligature was applied; the artery immediately below this point is filled with injection, and continues so until it reaches the aneurismal sac; it is again filled with injection where it leaves the aneurism. The artery between the obliterated part and the aneurism is nothing diminished in size, and the circulation has evidently been restored by the perforating branches of the profunda, which are large and tortuous, and join the artery at this part.

From William D., Grenadier of 56th Regiment, aged 27 years, who was admitted into hospital in Jamaica for a pulsating tumour of the right ham. This tumour had increased slowly for six months. On 24th September, 1834, Dr. Bradford tied the femoral artery in its upper third. Pulsation in the tumour instantly ceased. The case progressed favourably: the tumour became solid, and the wound soon healed. The ligature came away on the 9th October. In six weeks the tumour had almost disappeared, and there only remained a dense mass, which was quite free from pulsation. On the 18th January, 1835, after continued intemperance, the swelling had not increased, but pulsation returned. A compress was applied. The pulsation was reduced in force and frequency. He became impatient and was discharged the hospital. On the 5th of May, the swelling increased; it became elastic, and could be partly emptied on pressure. It pulsated strongly. The man refused further operative treatment. He addicted himself to intemperate habits. The tumour increased in size, and he died in great suffering on the 6th of November, 1835.

Donor—Dr. Bradford, Surgeon, 56th Regiment.

329A. The profunda femoris showing a traumatic aneurism. The artery was injured just before its termination in adductor magnus muscle.

From Major Baird, 42nd Regiment. Wounded at Amoaful. H.M.S. "Emanuel," Dec. 31, 1884.

(10.) Aneurisms of Popliteal Artery.

330. Aneurism the size of a duck's egg of popliteal artery, with an opening in the sac. No further history.

331. The femoral artery and popliteal with an aneurismal sac immediately above the bifurcation, and a portion of the tibial vessels. The femoral artery from about four inches below Poupart's ligament to within two inches of the aneurism is impervious by a fibrinous coagulum, and is reduced to a fibrous cord. Immediately above the aneurism the walls of the vessel are thickened and its calibre diminished. The sac on being laid open contained a reddish brown fibrinous clot. The aneurism was cured by pressure three years before death, which was caused by aneurism of the aorta.

Donor—Asst.-Surg. Pyper, 11th Hussars.

332. Left popliteal artery and vein. The artery exhibits the state of the coats of the vessel and sac when obliteration and absorption of the contents of an aneurismal sac is taking place. The aneurismal tumour is about the size of a marble and filled with pale, rather soft, fibrinous coagulum. The fibrinous clot extends up the artery for about three inches, and adheres to the coats of the vessel, and becomes smaller and more tapered as it descends towards the sac, where the artery is completely obliterated. The artery below the aneurism is converted into a round cord. (See preparation 317.)

Private Thomas Farnham, of 17 years, five months service, nearly all in India. A stout, thick-set man of moderate height, and of good health till September, 1856, when he was treated in hospital for popliteal aneurism in left leg, by a bandage applied from the foot upwards to middle of thigh. A thoracic aneurism was soon afterwards discovered (see preparation, 317), which increased in ratio with the diminution of the other. On admission, 17th June, complains of aching pains in trunk and limbs. Popliteal aneurism had entirely disappeared and flexion of leg was completely restored. Pulse 88, and with a slight rebound, pulsation perceptible in right third intercostal space just to the right edge of the sternum immediately following the impulse of the heart. A loud bellows murmur heard behind sternum, along the course of the aortic arch, complained of sensation of constriction in œsophagus during deglutition, but never had any hæmoptysis. Lungs healthy. On the morning of the 19th of June, he expressed himself quite comfortable, and had nothing particular to complain of. After sitting quietly in the ward all the morning, he went out and began conversing with his comrades. Presently he cried out that he felt faint and wanted to go in. Grasping the arm of a neighbour he almost instantly became insensible, he was quickly brought in and placed upon a bed, eyelids closed, pupils contracted and insensible to light, no pulsation either at the wrist or at the heart. The respiration became irregular and was twice revived by cold water and friction. The pupils now dilated, the jaw fell, and after a few convulsive gasps he died without having once given a sign of consciousness; he had not been upon orderly duty, nor had he undergone any exertion. Appendix, 477.

333. Aneurism of the right popliteal artery with an extensive ragged opening in the outer wall of the sac from

sloughing. Thick decolorized laminæ of fibrine line the interior.

From Gunner W. Scott, C Battery, R.A., aged 36. The aneurism observed only four days before admission into hospital and after a walk of eight miles. Compression by the fingers, by Carte's instrument, and flexion were adopted without success, and thinning of the aneurismal walls becoming apparent with a small blister of the surface ligature of the femoral at the apex of Scarpa's triangle was carried out. Nineteen days after the sac had suppurated; and on the 23rd, profuse hæmorrhage from the distal extremity of the sac necessitated amputation which was followed by recovery. The knee joint was found to be filled with serum and flakes of lymph.

Donor—Staff Assist.-Surg. McNalty.

334. Specimen of popliteal aneurism, oval from above, downwards three inches in length, and flattened from before backwards 1 inch thick. The sac is a solid mass, the femoral vessel at the point where the specimen is suspended (the seat of ligature) is obliterated, but below this, until very near the tumour, continues patulous; the anterior and posterior tibials are in the same condition, not being occluded except just at the sac.

From Corporal T. Cross, A.H.C. The femoral had been ligatured successfully and the man had performed his full duties some months before he was admitted into hospital with phthisis—the cause of his death. The collateral circulation was very extensive.

Donor—Surgeon Carter, 1st Battalion, 20th Regiment.

335. Diffused aneurism of the right popliteal artery; the tumour occupied the right ham and lower part of the thigh, in the latter direction it burst and profuse hæmorrhage took place. The superior extremity of the vessel is pervious and communicates with the sac, the inferior is plugged up with coagulable lymph for about three inches of its course.

From Sergeant John Campbell, aged 30 years, 45th Regiment. At the period of his admission into hospital he had an extensive tumour in the right ham, and inner and lower part of the thigh. The tumour had already burst, and profuse hæmorrhage had occurred from an external opening. The limb was amputated; the patient surviving the operation only thirty-two hours. On examination of the limb: the muscles in relation with the aneurism were found displaced and infiltrated with blood. Three or four pounds of coagulum were removed from the seat of the rupture of the aneurism.

(11.) Aneurisms of Temporal Arteries.

336. Shows a false aneurism on one of the branches of each temporal artery, the result of opening them during a previous apoplectic seizure. The left temporal artery, in which the probe is placed, shows a sac about the size of a pea filled with a firm fibrinous coagulum which communicates with the artery by a small oblique opening; the walls of the sac are formed by the surrounding cellular substance. The skin covering the right tempora artery is ulcerated from pressure applied for its cure

there is a coagulum in the ulcerated opening which prevented hæmorrhage.

Donor—Dr. Williamson, Fort Pitt, Chatham.

THROMBOSIS AND EMBOLISM OF ARTERIES.

337. Occlusion of the middle cerebral artery by thrombus.

338. The circle of Willis. A firm thrombus occupies each internal carotid artery and passing into the anterior and middle cerebral vessels. The basilar artery is dilated.

From a man, of the 94th Regiment, who died of paralysis and softening of the left cerebrum. The coagulum firmly adhered to the inner coat of the vessels.

Donor—Dr. Dix, Surgeon, 94th Regiment.

339. Some of the vessels forming the circle of Willis. The basilar, right carotid, and branches of other arteries are occluded by fibrinous clots; the former vessel is also aneurismal.

From James Worth, Grenadier Guards, who died of epilepsy.

340. A circle of Willis showing the basilar artery and principal branches of the internal carotids completely obliterated by fibrinous coagula.

From George Laird, aged 38, who was attacked with left hemiplegia, headache, blindness, and imbecility. He died in the Lunatic Asylum, Fort Clarence, fifteen months afterwards. The arteries after death were as seen in the preparation, the optic nerves were small, corpora quadrigemina very small, medullary brain substance soft, walls of third ventricle very soft.

MALFORMATION AND IRREGULARITIES OF ARTERIES.

341. Left carotid artery arising from the lower part of arteria innominata. No history.

342. A dry preparation showing a superficial interosseus artery, which ran in the course of and accompanied the median nerve, and terminated by joining the superficial palmar arch formed by the ulnar artery. The superficialis volæ was very small, and distributed solely to the muscles of the ball of the thumb. The ulnar and radial arteries were of the natural size, and followed their usual course. The vessels only are preserved, but their is a diagramatic drawing of the hand at back of the preparation.

Donor—Dr. Stubbs.

343. A monster fœtus showing the left hypogastric artery unusually small, with corresponding development of the right.

344. Vertebral artery unusually small.

345. Arteria innominata and left carotid arising by a common mouth from the arch of the aorta.

SERIES III

DISEASES AND INJURIES OF VEINS.

WOUNDS AND INJURIES OF VEINS.

346. Inflammation of the superficial veins of the arm resulting from venesection. The veins are filled with coagula, which at parts are softened in the centre. The lining membrane in the recent state was highly vascular, and the coagula adheres to it, the cellular substance along the course of the veins was much thickened and condensed, particularly surrounding the incision; and pus was found both in and external to the veins.

Ordnance Hospital, Chatham, August, 1847.

347. Median cephalic vein, three days after phlebotomy.

From a man, aged 24, who died of phthisis.

348. Ulceration of the femoral vein at the point where the vena saphena enters. Print. Cat., page 67, No. 3.

From John Cogan, aged 38, 35th Regiment, admitted with a large lacerated and contused wound in the left thigh, from the passage of a cart-wheel over the limb. Three weeks after the accident it was deemed expedient to amputate, in consequence of profuse hæmorrhage from the femoral vein, which had been tied. He died of phlebitis on the tenth day after the operation.

349. Median vein showing the effects of phlebitis. MS. Cat., Vol. I, page 226, No. 17.

Private D. Shaw, aged 24, 29th Regiment, was admitted to hospital

24th June. Five days previously he had been bled; general fever with early disturbance of the brain and circulatory system set in followed by coma and death on 4th July.

Donor—Dr. Stewart, Asst.-Inspr. of Hospitals.

VARIX (AND VARICOCELE. See TESTICLE).

350. Portions of vein exhibiting varix. Print. Cat., page 67, No. 4.

This vein had been operated on to remove its varicose condition by complete division and obliteration of the vessel. Only partial division was effected, and it subsequently resumed its natural diameter and remained pervious.

Donor—Dr. M'Donnell, Surgeon, 57th Regiment.
(See also preparations 358 and 362.)

EFFECTS OF INFLAMMATION (PHLEBITIS) AND THROMBOSIS.

351. Fibrinous clot firmly adhering to the inside of the left iliac vein.

Donor—Dr. Martin, Surgeon 73rd Regiment.

352. Left iliac and femoral vein obstructed by coagulum. MS. Cat., Vol. I, page 226.

The coagulum in these veins extended even into the minute ramifications in the foot, the limb had become very œdematous three days previous to the death of the patient.

Donor—Mr. Martin, Surgeon, 73rd Regiment.

353. External iliac vein and artery, the former obliterated by a substance resembling lymph; from a woman who died of phlegmasia dolens.

Donor—Dr. Jones, Surgeon, 1st Dragoon Guards.

354. Vein filled with coagulum.

354A. A portion of splenic vein filled with coagulable lymph, and its coats partially ossified.

Donor—Dr. Burrell, Asst. Surg., Staff.

355. Popliteal vein filled with a fibrinous clot, at most places firmly adherent to the inner tunic of the vessel; the absorbent glands contain several small purulent cavities. MS. Cat. Vol. I.

William Boswell, aged 26, 5th Dragoon Guards, whose leg was amputated below the knee on account of caries of the tarsal bones of long standing. Three days after the operation he had diarrhœa—on the seventh day no adhesion had taken place between the flaps of the stump. He became confused in intellect, low fever and coma soon succeeded; his breath was particularly offensive, and he died twenty-two days after the operation. No laudable pus issued at any time from the stump. About eight ounces of pus were found in the peritoneum; there was also pus and fibrinous coagula in the popliteal vein and in the contiguous absorbent glands. *Vide* preparation **173.**

356. A portion of the vena cava ascendens together with artery (not opened). The vein exhibits in one spot deposition on the inner coat; iliac glands much enlarged, some of

them excavated and contained purulent matter. The artery is described as rigid. MS. Cat. Vol. I. page 226, No. 18.

Donor—Dr. Davy, Asst. Inspr. of Hospitals.

357. Left iliac and femoral vein, with continuation to the ankle plugged up with coagulum. Print. Cat. page 68, No. 12.

From a soldier of Rifle Brigade who died of phthisis pulmonalis. The state of the veins was indicated a considerable time before death by swelling of the limb and acute pain in the groin.

Donor—Dr. Scott, Surgeon, Rifle Brigade.

358. Femoral vein, containing coagulable lymph; a ligature had been placed on the femoral artery on account of secondary hæmorrhage after amputation.

Donor—Dr. White, Staff Asst.-Surgeon.

359. External iliac and femoral veins distended with coagulated blood and lymph, which extending as far as the branches from the sole of the foot. The internal lining membrane at parts was highly vascular, the lymph and coagulum adhering to it.

James Gubbins, aged 20, 1st Regiment, 2 years' service, a few months in West Indies, was attacked with dysentery three days after his arrival in Barbadoes and never able to do duty afterwards. On admission into Fort Pitt Hospital, October, 1844, he had violent purging, unattended with pain. There was general debility loss of appetite and much emaciation. On the 2nd of November, 1844, he was attacked with severe pectoral symptoms, and muco-purulent expectoration. Ulcerations appeared on the hips and sacrum with sloughing. In December the lower extremities became affected with phlegmasia dolens. Discoloured bullœ appeared followed by gangrenous spots and he died on the 4th, January, 1845. The lower extremities, particularly the right one, was seen after death to be œdematous with large livid spots on it. The cellular tissue of this limb was much condensed.

360. Fibrinous clot firmly adhering to the membrane of the vena cava. MS. Cat. Vol. I. page 23, No. 34. See also preparations 368.

From Charles Buckley, aged 33, who suffered much from pain in the lower extremities, varicose veins and general feebleness of circulation. He died of phthisis.

361. Fibrinous clot in femoral vein partially softened and adhering to the lining membrane.

From J. M., a soldier who died from the constitutional results of syphilis.

362. Popliteal vein completely filled by a sanguineous coagulum. Print. Cat. page 67, No. 6.

A man, in consequence of a fall from a building, sustained a comminated fracture of the tibia into the ankle joint. Gangrene followed and the limb was amputated above the knee, and disclosed the condition preserved in the preparation.

Donor—Dr. Bushe, Asst.-Surg., Staff.

363. Surfaces of the left iliac vein united by adhesion, with the exception of two small apertures through which bristles are passed. MS. Cat. Vol. I, page 231, No. 38.

Private McLoughlin, aged 38, 89th Regiment, died of phthisis. Fibrinous concretion, more or less softened, were found in the larger vessels, in addition to the lesion shown in the preparation.

364. Coagulum in the vena cava.

365. Trunk of the vena portæ, with the coagulum which obstructed it. MS. Cat. Vol. I, page 226, No. 16.

From a man of 94th Regiment, who died of dysentery complicated with abscess of the liver. The vena portæ was found obstructed with a pultaceous substance of a light colour stained with blood, it was not unlike brain substance. In one or two places it was adherent to the vein. In the larger branches in the substance of the liver this substance was firm and very brittle; different looking from common coagulable lymph.

Donor—Dr. Dix, 94th Regiment.

366. A fibrinous clot in the longitudinal sinus. No history.

367. Portion of vein with a number of wart-like excrescences attached to its lining membrane, the effect of inflammation. No history.

Donor—Dr. Knox, Edinburgh.

368. Femoral vein exhibiting a large clot of fibrine, filling the entire calibre of the vessel and firmly adhering to its inner surface; the clot has undergone a process of softening.

From Charles Buckley, who died of phthisis. *Necrological Register*, vol. v, fol. 107. See preparation 360.

369. External iliac vein completely obstructed by fibrinous coagula which adhere to its sides. MS. Cat. Vol. I, page 227, No. 19.

From Robert Foster, aged 21, who died of phthisis.

Donor --Dr. Burrill, Asst.-Surg., Staff.

370. Portion of the femoral vein, after the removal of a coagulum. It is recorded of this preparation that it was originally preserved as showing that coagula do not depend on any morbid condition of the lining membrane of the vessel. No history.

371. A coagulum in the longitudinal sinus, partly clot and partly fibrine, the latter of a semifluid consistence resembling pus. No history.

372. Femoral vein plugged up by fibrinous coagula which adhere to its sides; the fibrine does not extend beyond the entrance of the saphena vein, but there is a small portion of coagulum in the external iliac vein, which, however, does not adhere to the sides of the vessel nor fill its calibre. At the entrance of the saphena the femoral

is very much contracted, having assumed a cord-like appearance.

From a man who died of phlebitis, beri beri, and phlegmasia dolens.

Donor—Dr. Mouat, Surgeon, 13th Light Dragoons.

373. Femoral vein, for the space of about three inches completely plugged up by fibrinous coagula which adheres to its lining membrane. A short distance above this the vein is partially obstructed by adhesion of its opposite sides.

From a patient who died of anasarca, phlebitis, and beri beri.

Donor—Dr. Mouat, Surgeon, 13th Light Dragoons.

374. Lower portion of the right internal jugular vein near its junction with the subclavian, containing a clot of fibrine softened in the centre.

From N. Jenkins, who died of phthisis pulmonalis. *Necrological Register*, vol. v. page 346.

375. Right lateral sinus filled with yellow lymph, which adheres to the lining membrane; in the recent state this membrane was vascular, and the lymph was intermixed with pus.

James Smith, aged 21, 28th Regiment. Admitted on the 19th of February, 1844, with symptoms of fever accompanied with a discharge from right ear, and headache chiefly referred to that neighbourhood. The symptoms on the 25th began to assume a sthenic character, there was marked prostration of strength, a degree of listlessness, much drowsiness, slowness of speech, &c., pupils sensible. On the 28th he complained of severe pain in the right shoulder joint with inability to move the limb; 7th March, the left hip joint was painful and tender, and he also complained of a sense of constriction about the throat and painful deglutition, no swelling could be anywhere observed, there was also an abscess in the gum. Prostration increased, the extremities became cold, skin clammy, pulse scarcely perceptible, and death on the 16th of March.

376. Laminated fibrinous clot softened in the centre, occupying the vena cava and iliac veins. The iliac and femoral veins of the left side are irregularly contracted. MS. Cat. Vol. I, page 231.

Ann Hartley, aged 51 years 4 months, was for several years an inmate of the Military Lunatic Asylum, Fort Clarence. She generally enjoyed good health until 1837, after which time she became sickly. After suffering from extreme irritability of stomach the left inferior extremity was observed to be swollen, and somewhat increased in temperature, there was "pitting" but without any other febrile symptom. The swelling of the limb gradually diminished, but her health did not improve, the irritability of stomach, with occasional vomiting of blood, and weakness gradually increased, and she died on the 13th March, 1839. On the morning of her death, the whole of the right inferior extremity was observed to be much swollen, red, rather hot, and "pitted" on pressure at every point. The left leg was also similarly affected, although in a less degree. On examination after death the stomach was found contracted and in a state of cancer. Fibrinous coagula were found occupying the lower portion of the vena cava, as well as the iliac and femoral veins. They were composed externally of loosely laminated structure, but softened towards the centre. The iliac and femoral veins of the left side were found to be irregularly contracted.

377. Coagulum in the femoral vein exhibiting internal softening.

From Patrick Long, aged 35, who died of chronic dysentery. *Necrological Register*, vol. v, fol. 58. See also next preparation 378.

378. Lower end of the vena cava and iliac veins occupied with a firm coagulum, partly fibrine, partly cruor, internally softened, and at some points villous looking, and presenting a trace of puriform matter. *Necrological Register* vol. v, fol. 58. See above preparation 377.

379. Vein exhibiting a softened fibrinous clot adhering to its inner surface. No history.

380. Lower portion of the right external iliac and femoral veins, the vessels laid open to display the presence in the interior of a firm thrombus separable from the internal coat of the vessel and indented by the valves of the vein.

From Private Patrick Dugan, 52nd Regiment. Phthisis pulmonalis. During the last few days of life, the right lower extremity was very œdematous with pains in the hypogastric region and great vesical derangement. After death a mass of extravasated blood was found in the folds of the pelvic fascia between the bladder and rectum with a vascular abraded spot in the mucous membrane of the former at the fundus. The thrombus occupied the lower portion of the external iliac vein and extended through the femoral to the apex of Scarpa's triangle at which spot it became soft, the right pelvic veins displayed a like state. Great vascularity existed in the femoral sheath and enlarged lymphatics ascended along the course of the iliac vessels.

No. 9, Vol. IV, *Post Mortem Records.* Netley Hospital

Obliteration of Veins.

381. Obliteration of the iliac vein by adhesion. MS. Cat., page 228, No. 24.

From Thos. Hersey, who died of hydrothorax and general anasarca and perhaps from thrombosis.

382. Portion of the inferior vena cava containing a coagulum which descends into the iliac veins, completely closing the right canal. Print. Cat., page 68, No. 9.

From George Darlington, 80th Regiment. His right lower extremity became much swollen and cold previous to death. A tumour was found after death to have produced such pressure on the vena cava as to obstruct its channel. See also Preparation 384.

Donor—Mr. Lightbody, Surgeon, 80th Regiment.

383. Large coagulum surrounding the aorta and vena cava, caused by ulceration of the latter vessel, which also has lymph poured out on its inner surface.

Donor—Dr. Murray, Staff Surgeon.

384. Superior mesenteric veins opening into a large sac. The vein is indicated by a piece of bougie.

From George Darlington, described under 382.

385. A portion of inferior vena cava, the external iliac vein and portion of femoral veins of both sides. The right external iliac and upper part of the right femoral vein are occluded. Received July 7, 1862.

From Private James Bagnel, H.M. King's Dragoon Guards, whose right leg and thigh became œdematous occasionally about two years before admission to hospital. The swelling usually appeared after much exercise and disappeared after a few days' rest. This occurred occasionally without much inconvenience until 4 or 5 months before death, when he had to seek admission to hospital. No cause for the œdema could be discovered. It was still confined to the right lower limb, excepting that in the groin of that side there was a firm, deeply adherent cicatrix, said to be the result of some deep ulcers, similar to others which had appeared on the calf of leg and ankle. The leg continued to become more œdematous up to the groin and thence to lower part of the abdomen, the scrotum, the left leg and thigh, and finally over the whole of the abdomen and lower part of the chest. At the time of his arrival at the Poonamallee depôt, October 16th, 1861, the whole body below the arm-pits was extremely œdematous, but otherwise he was in good health and spirits. About a fortnight after admission, diarrhœa set in, anasarca increased, the breathing became difficult and pulse exceedingly rapid. He died in extreme prostration. After death the viscera of thorax were found healthy, but heart was pale and flabby. The peritoneum contained much fluid. The liver enlarged and showed nut-meg like congestion. A puckering of capsule was found extending into the substance of the liver, like the cicatrix of an old wound (syphilis or healed abscess ?); on the lower surface of the right line there was a small yellowish white spot which on section disclosed a deposit of a thickish purulent-looking fluid of small amount. The kidneys were enlarged, and the spleen enlarged and softened. The common iliac arteries on either side appeared to be of normal size and appearance, but corresponding veins of the right external iliac were seen to be much smaller than the left and had the appearance of a ligamentous cord as it neared Poupart's ligament. A number of hardened enlarged glands surrounded the femoral vein of the right side imbedded in condensed ligamentous tissue and the vein itself resembled a ligamentous cord from the profunda vein upwards. The femoral vein and its tributaries from below the profunda were distended with thick coagula. The femoral vein of left side was healthy and appeared larger. See *Abstract of Cases*, July 11th, 1862, *Receipt Book*, No. 29 and *Guard book*, No. 35.

Donor—J. Watts, Asst.-Surg. King's Dragoon Guards. Depôt Surgeon, Poonamallee.

Calcification of Thrombi (Phlebolithes).

386. Dry preparations showing cartilaginous and bony concretions from the pudic veins of a man who died of amentia. MS. Cat. Vol. I, page 230, No. 36.

From William Bert, aged 59, 7th Vol. Bat., in Fort Clarence Lunatic Asylum.

387. Phlebolites from the uterine veins of a maniac. *Necrological Register*, vol. v. fol. 284.

Anatomical Irregularity.

388. Vena cava abdominalis, situated on the left side of the aorta; the right common iliac vein passes behind the origin of the left common iliac artery, and unites with its

fellow on the left side at the bifurcation of the aorta. The vena cava thus formed, ascends along the left side of the aorta until opposite the origin of the superior mesenteric artery, where, crossing from left to right in front of the latter vessel, it perforated the right lobe of the liver and preserved its natural course.

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SERIES IV.

DISEASES AND INJURIES OF THE LARYNX, TRACHEA, BRONCHI, AND BRONCHIAL LYMPHATIC GLANDS.

WOUNDS AND INJURIES.

389. A dry preparation, showing the thyroid cartilage generally bony, with partial necrosis of the posterior part of the inner surface of the left ala, also of the anterior part of both alæ. The sequestrum is at the bottom of the bottle. MS. Cat., Vol. I, page 3, No. 55.

From a man who had wounded the part some time previously in an attempt at suicide.

Donor—Dr. Stephenson, Rochester.

390. Larynx, with a portion of the trachea showing a comminuted fracture of the cricoid cartilage, in consequence of the kick of a horse. MS. Cat., Vol. I, page 2, No. 43.

From James White, aged 19, 2nd Dragoon Guards. When leading his horse, the animal suddenly started forward, and kicked him in the throat. General emphysema, with great difficulty of breathing, and a sensation of suffocation immediately ensued; and he died four hours after he received the injury.

Donor—Dr. Annesley, Surgeon, 2nd Dragoon Guards.

391. Larynx, with a portion of the trachea, showing an extensive wound of the thyroid cartilage, extending from its lower and anterior part obliquely upwards and backwards nearly to the larger cornua, completely separating the epiglottis from its attachment; there was considerable œdema of the glottis. Print. Cat., page 6, No. 28.

From a Private of the East India Company's Infantry. He was admitted into hospital with a slight attack of cholera, and the same evening began to evince symptoms of insanity. During the night he effected several irregular wounds in the thyroid cartilage with a blunt razor, through which fluids issued when attempts were made to swallow any. Life was sustained for some days by means of feeding with a stomach pump. Post-mortem examination disclosed the state of parts above described.

Donor—Dr. Davies, E.I.C. Service.

392. Shows the result of an operation for the cure of a fistulous opening, following an attempt at suicide. The cut made by the patient was situated above the os hyoides, between the epiglottis and base of the tongue. On the external surface there is a triangular portion of skin, which was removed from below the chin, adapted to the opening, and secured by means of sutures to the adjacent parts which are puckered and contracted; on the inner surface at the root of the tongue is an oval depression which is thin and transparent on the right side. Print. Cat., page 5, No. 26.

Thomas Holland, aged 25, 36th Regiment, had attempted suicide by cutting his throat seventeen months previous to admission into the General Hospital; at this period a circular opening about an inch in diameter, with callous edges, through which the epiglottis was discernible, existed between the thyroid cartilage and the os hyoides, by which, when the patient attempted to swallow fluids, a great part escaped. Four days after his admission a portion of integument was removed from below the chin, and adapted to the opening above described, to which it was secured by means of sutures; this operation succeeded, as may be seen in the preparation. The man subsequently died of phthisis pulmonalis.

Fort Pitt, Chatham.

393. The os hyoides separated from the thyroid cartilage, by a suicide. The wound divided the whole of the thyro-hyoid membrane from one cornu of the thyroid cartilage to the other, separated the epiglottis from its attachments, and entered the back of the pharynx, cutting the thyroid arteries; neither of the carotids however were wounded, the right is preserved in the preparation, showing that it is untouched. Print. Cat., page 3, No. 11.

From an Officer, aged 31, a maniac, with a well-marked suicidal tendency. Having eluded the vigilance of his attendants, he obtained possession of a razor, with which he divided all the parts from the integuments of the neck to the vertebræ except the carotids, but the thyroid arteries were cut through, and the wound proved fatal in a short time.

Fort Pitt, Chatham.

394. Larynx and portion of trachea, showing fracture of the thyroid cartilage, the result of direct violence, caused by falling forward with neck against the edge of a common wooden bucket, the head being in the bucket. Death followed in 9½ hours.

From Private J. Andrews, 30th Regiment.

Donor—Surgeon Raphael W. Reid, 30th Regiment.

FOREIGN BODIES.

395. A kidney bean impacted in the trachea of a child, causing suffocation. Halifax Museum.

395A. Portions of root of tongue, epiglottis and larynx with œsophagus, through which a glass rod is passed. A piece of meat is shown impacted in the larynx.

From George Robertson, 79th Highlanders, whose death from suffocation took place while insensible from alcoholic intoxication.

Donor—Surgeon Munro, 93rd Highlanders.

395B. Epiglottis, larynx and pharynx of two men showing morsels of meat impacted.

The one from Private Griffin, aged 27; the other from Private Bradley, aged 23, both men of 59th Regiment, who were found dead.

CASTS.

396. Two portions of coagulable lymph, hollow in their centres, and dividing into numerous prolongations, which are likewise tubular, resembling the subdivisions of the bronchial tubes. MS. Cat., Vol. I, page 55, No. 142.

From a young lady who for a long time had been subject to chronic (plastic?) bronchitis. At different times she coughed up pieces similar to those seen in the preparation. She ultimately recovered.

Donor—Dr. Gahan, Asst.-Surg., Staff.

397. Coagulable lymph deposited on the lining membrane of the larynx and trachea, with destruction of the mucous membrane of the epiglottis. Print. Cat., page 8, No. 37.

Taken from an infant who died from this disease.

Donor—Dr. Connell, Asst.-Surg., Rifle Brigade.

398. Trachea of a fowl almost closed by a false membrane.

The bird died of a disease resembling croup or diphtheria.—MS. Cat., Vol. I, page 28, No. 14.

Donor—Mr. Shower.

399. Larynx, trachea and portion of thoracic aorta. The larynx is opened anteriorly to display a dark blood coagulum moulded to the cavity, and to the folds. The descending portion of the thoracic aorta shows the presence of atheromatous degeneration in subserous elevations, depressions, and puckerings; the central portion of each patch is depressed, and of a deep yellow colour.

From Private William Westwood, 59th Regiment, who died at Fort Pitt, Nov. 21st, 1861, with symptoms of phthisis. During the last ten days he had intermitting attacks of hæmoptysis, which terminated life in a sudden gush of blood. The pulmonary vessels in the left lung were dilated into numerous aneurismal pouches, whence the blood spitting had originated; the bronchi throughout both lungs were filled with blood-coagulum of the same nature as that shown in the preparation; right lung preserved. [See Nos. 666 and 667.]

Post Mortem Records, Netley, No. 10, Vol. II.

CROUP AND DIPHTHERIA.

400. Larynx and trachea, showing the membrane formed in croup; the layer of lymph is of considerable thickness, effused principally on the posterior surface of the tube, and extending from the larynx to within a quarter of an inch of the bifurcation of the trachea.

Fasciculus II, Plate I, Fig. 4.

401. Larynx and a portion of the trachea lined by the membrane formed in croup; the lymph is of a dark colour, with several small elevations on its surface, the largest of which (situated at the lower part of the thyroid cartilage) is laid open and shows a cavity in its substance; below this point the lymph is of great thickness, and formed of several layers. MS. Cat., Vol. I, page 28, No. 15.

From a boy, aged 6 years, who, after exposure to cold, had been seized with what seemed a common catarrh, on June 6th, 1832; symptoms of croup appeared on the following day, and, living in the country, timely medical aid was not procurable. The patient expired two days after the symptoms of croup appeared on evening of 8th.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

402. Mucous membrane of the larynx and a portion of the trachea coated with a thick layer of lymph; the tonsils and pharynx are also covered with a layer a quarter of an inch in thickness, which hangs down on each side over the epiglottis. MS. Cat., Vol. I, page 2, No. 44.

Donor—Dr. Kinnis, Asst.-Surg., Staff.

403. Larynx, trachea, and its bifurcations into bronchial tubes, lined throughout by a firm layer of lymph—covering also the epiglottis in its under aspect.

From a case described as croup in a soldier who died at Scutari.

VARIOLOUS AND OTHER SPECIFIC INFLAMMATIONS.

404. Larynx and a portion of the trachea, showing the remains of numerous varioloid pustules, and a granular deposit of lymph on the lining membrane. Print. Cat., page 8, No. 35.

From a patient who died of small-pox.

Fasciculus II, Plate I, Fig. 6.

Donor—Dr. Tuthill, Asst.-Surg., 52nd Regiment.

405. Two ulcers on the posterior surface of the larynx, œdema of the glottis, and effusion of lymph in the larynx and upper part of the trachea, caused by small-pox.

Donor—Dr. Lightbody, Surgeon, 80th Regiment.

406. Larynx with thyroid gland showing slight ulceration of the mucous membrane of the epiglottis and chordæ vocales.

From Alexander Allan, aged 20, 71st Regiment, of ten months' service. Soon after enlistment he was attacked with small-pox, and during recovery he had inflammation of the lungs, and continued to suffer from troublesome cough, hoarseness of voice, and symptoms of serious pulmonary disease. Two days before death he could not breathe except in a sitting posture; his countenance was livid, and his breathing loud and extremely laborious, the larynx and trachea moving up and down the neck during each act of respiration; the epiglottis when felt with the finger was erect and swollen, and the voice reduced to a whisper. On examination after death, the edges of the glottis were found œdematous; a small portion of its right margin laid bare by ulceration, and also the mesial aspect of the vocal chords; both lungs, but especially the right, presented several portions of hepatization, and contained tubercular cavities with tubercles in all stages of progress. The right lung weighed 3 lbs., the left 2 lbs. 3 ozs.

407. Lower portion of the trachea with its bifurcation laid open to show its mucous membrane thickened and coated with lymph, the effect of small-pox.

From Thomas Crowley, 1st Regiment, aged 30, who died in the secondary fever of small-pox.

408. Larynx and trachea laid open posteriorly to show the mucous membrane coated with lymph. In the recent state the membrane was highly inflamed. Print. Cat., page 6, No. 31.

From Michael Gollory, aged 23, 54th Regiment, a man of plethoric habit, who was admitted into hospital with premonitory symptoms of rubeola, which terminated at a late period of that disease. During the recession of the eruption, his symptoms were those of pulmonic and cerebral complication, and he died on the 17th day. On dissection, the bronchial membrane was found extremely inflamed, the traces of inflammation becoming more intense in its minute sub-divisions; the posterior part of the left lung was in a state of hepatization, as well as that of the right, though less extensively.

CALCIFICATION OR OSSIFICATION OF CARTILAGES.

409. Thyroid and cricoid cartilages (a dry preparation) showing almost complete ossification of them.

410. Epiglottis, hyoid bone, thyroid and cricoid cartilages, to show almost complete ossification. There are a few parts of bony matter at the root of the epiglottis.

From the body of an old man.

Donor—Mr. Alexander, Asst.-Surg., Staff.

ABSCESS, CYST, ULCERATION AND NECROSIS.

411. Epiglottis, thyroid cartilage and portion of trachea showing the larynx and trachea coated with lymph and mucous membrane in a state of ulceration.

412. Tongue, hyoid bone, and larynx, showing the epiglottis almost entirely destroyed by ulceration, effusion of lymph with ulceration over mucous membrane of larynx, which has a granulated appearance.

413. Epiglottis with larynx spread open to show extensive ulceration of a portion of its posterior aspect.

From James Harris, aged 38, 2nd Regiment, 14 years in the service, 13 years and 5 months of which he passed in India; about two years before admission to hospital in this country, being then in India, he took mercury for sores (probably syphilitic) on his head, legs, &c. About that time necrosis of the palate commenced. On his arrival at Fort Pitt, on the 13th of June, 1839, his appearance was unhealthy, and constitution considerably impaired, body emaciated, hearing almost gone, palate deficient, especially on the right side, his articulation for the most part, unintelligible, deglutition was extremely difficult, and his food passed through the nares. A portion of bone about the size of a sixpence, came away from his palate soon after his admission. His general health improved, but breathing became difficult, his lips livid, swollen, and slightly ulcerated on their inner surface; he suffered much from hiccup and dyspnœa, attended with a quick short cough, extreme anxiety of countenance, and death soon followed. After he expired an extensive cicatrix situated on the outer side of the superior third of the right arm, and another on the inner side of left knee was noticed. The pia mater was found thin and easily torn, with a serous fluid effused in its tissue; both lateral ventricles were distended with about 2 ozs. of fluid, the posterior-cornu of the left particularly so, and its walls very vascular; a considerable effusion was present also at the base of the brain; there was slight œdema of the parts in the neighbourhood of the cervical vessels; lymphatic glands under the right angle of the lower jaw enlarged and indurated; pharynx was deeply and extensively ulcerated; left tonsil in a great measure destroyed; epiglottis rigid, thickened and ulcerated.

414. Ulceration of the larynx; situated immediately above the vocal chords are two small elevations, with an aperture on their summits which leads each into a cavity in their substance; a deep ulcer at the posterior angle of the vocal chords on either side; that on the left has laid bare the base of the arytenoid cartilage; the mucous membrane covering the superior vocal chords and epiglottis has a peculiar granulated appearance. Glottis thickened and œdematous. No history.

415. Tongue with larynx and epiglottis, showing fungoid ulceration of mucous membrane and inferior vocal chords, more especially on the right side.

Donor—Mr. Power, Asst.-Surg., Staff.

416. The cavity of the larynx very much diminished in size, in consequence of the enlargement of the mucous follicles, which, with the lining membrane of the larynx, upper and posterior part of the trachea, are in a state of ulceration. Glottis much thickened.

Fasciculus II, Plate I, Fig. 3.

Donor—Dr. Burke, Inspr.-Genl. of Hospitals.

417. Ulceration of the mucous membrane of the epiglottis and larynx, thickening of the mucous membrane of the upper part of the trachea; with œdema of the glottis. Print. Cat., page 3, No. 9. See also Preparation No. 731.

From Cornelius Conway, aged 28, 8th Light Dragoons, who had served 11 years in India, where he had been a frequent sufferer from attacks of dysentery and remittent fever, for which he had taken much mercury. On his voyage homewards, about a month previous to its termination, he had a relapse of dysentery, which continued on admission into hospital, attended with singultus, distressing cough, and latterly vomiting. He died after 16 days. On dissection, the larynx was found ossified, and in a state of ulceration internally, with a small piece of bone separated and lying in the ulcer on the right side. The lining membrane of the œsophagus was also abraded and contracted in its centre; and the mucous tunic of the intestines ulcerated.

418. Larynx opened anteriorly, showing fungoid ulceration of the posterior aspect of the larynx, also immediately below the right chordæ vocales, with œdema and thickening of the glottis.

419. Pharynx opened posteriorly and trachea opened anteriorly, and thyroid cartilage divided to show great thickening of the glottis and epiglottis, and extensive ulcers on both of the thyroid cartilages, that on the right side communicating by a sinus situated between the thyroid cartilage and os hyoides, with the integuments of the neck. Print. Cat., page 8, No. 41.

From Daniel Boyle, aged 20, 10th Regiment, who had laboured under difficult deglutition for two years, and was repeatedly near losing his life from the detention of morsels of food in the passages. He had been four years in the service, the greater part of that time in the Mediterranean.

Donor—Dr. McMunn, Asst.-Surg., 10th Regiment.

420. Tongue, with larynx opened posteriorly, showing extensive ulceration of the mucous membrane of the posterior surface of the epiglottis and chordæ vocales which are entirely destroyed, and in their site on either side are two round elevations, that on the right side has a circular aperture on its summit.

421. Tongue with uvula, epiglottis, and larynx, showing ulceration of the mucous membrane on right side of the epiglottis, as well as the upper margins of the chordæ vocales and velum pendulum palati and uvula. Œdema of the glottis and enlargement of the tonsils are present.

Donor—Dr. Kinnis, Asst.-Surg., Staff.

422. Tongue, with epiglottis and the larynx opened posteriorly to show ulceration of inferior vocal chords and upper portion of trachea.

423. Tongue, with epiglottis, larynx and trachea; right and left bronchi laid open posteriorly to show two large excavated ulcers in the larynx: one situated opposite to the Pomum Adami, which has almost entirely destroyed the left inferior vocal chords; the other at the posterior angle of the right vocal chords; there is also an ulcer on the right side of the trachea which has perforated the fifth and sixth rings of that tube.

424. Epiglottis with larynx opened posteriorly to show posterior surface of the epiglottis rough and irregular, presenting the appearance of cicatrization. Glottis œdematous. MS. Cat., Vol. I, page 3, No. 53.

From Andrew Cunningham, aged 30, 20th Regiment. This man had served in the Mediterranean, and while there had been the subject of repeated attacks of remittent fever. On the 6th of April, 1836, he suddenly became the subject of general anasarca and difficulty of breathing, for which he was profusely salivated; on the 15th violent vomiting and continued irritability of the stomach succeeded, at the same time, much tenderness in the right hypochondriac and epigastric regions came on; these symptoms continued with very little intermission until his death on the 17th.

425. A deep excavated ulcer at the posterior part of the cricoid cartilage on the left side; body of the cricoid cartilage quite denuded of soft parts. Glottis œdematous and the diameter of the larynx much contracted.

426. An ulcer with everted callous edges on the upper and inner surface of the cricoid cartilage on each side, immediately below the inferior vocal chords. MS. Cat., Vol. I, page 5, No. 61.

From Roderick Forbes, 59th Regiment, suffering from chronic catarrh, who had suffered from frequent attacks of laryngitis. He was by business a flute-player. On dissection, the lungs were found tuberculous.

427. Larynx and portion of trachea laid open from behind to show the mucous membrane from the epiglottis downwards to cricoid cartilage, congested and thrown into folds by interstitial growth; the vocal chords are thickened, and lymph in pin-head like points studded the larynx generally, and extended into the trachea, where adherent films may be seen. The condition is secondary to necrosis of cricoid cartilage, which is eroded and occupies the centre of an extensive patch of ulceration. No further history.

Donor—Dr. Best.

428. Larynx from epiglottis downwards laid open posteriorly to show a large oval opening situated between the thyroid cartilage and first ring of the trachea, which communi-

cated with the empty cavity of an abscess in front of this tube; immediately below which there are two or three enlarged glands filled with cheesy matter. There are also two small ulcers on the posterior part of the inferior vocal chords. MS. Cat., Vol. I, page 31, No. 28.

From Charles McDonnell, aged 21, who died of phthisis pulmonalis; both lungs were found in a state of tubercular hepatization, with many small vomicæ filled with pus, and surrounded by miliary tubercles, disseminated throughout, and in a softened state. Several abscesses were found in different parts of the neck filled with scrofulous pus.

429. Larynx, with trachea down to, and including bifurcation into right and left bronchi, with the œsophagus, and portion of aorta with arteries from its arch, showing an ulcerated opening situated on the posterior surface of the trachea, about an inch and a half below the cricoid cartilage, capable of admitting a large bougie, which communicated with the œsophagus. Print. Cat., page 9, No. 2.

From Luke Luxwell, aged 25, 4th Regiment, who died sixteen days after his return from the West Indies. After death an ulcerated opening, about half-an-inch in diameter, was discovered between the trachea and œsophagus; the lungs were consolidated, and contained vomicæ in their substance; about a pint of fluid was effused into the cavity of the chest; and the mucous tunic of the small intestines was extensively ulcerated.

430. Tongue, with larynx, trachea and œsophagus, divided and exposing interior of larynx and trachea down to, and including, its bifurcation, to show the mucous membrane of the larynx, but more particularly that of the trachea and bronchi, extensively ulcerated. Conglobate glands at the bifurcation of the trachea greatly enlarged.

431. Tongue, with larynx laid open from behind, to show extensive ulceration of the mucous membrane of the larynx, probably tubercular, commencing immediately below the vocal chords, also of the upper part of the trachea; the base of the left arytenoid cartilage is laid bare by a small deep excavated ulcer of an oval shape.

Fasciculus II, Plate I, Fig. 1.

432. Tongue, larynx and trachea, opened from behind to show ulceration of the right sacculus laryngis, destruction of the right vocal chords, œdema of the glottis, and a number of small oval ulcers, some of them coalescing, in the larynx and upper part of the trachea. MS. Cat., Vol. I, page 7, No. 67.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

433. Hyoid bone, with larynx opened from behind, to show mucous membrane of the larynx and upper part of the trachea thickened, and presenting a peculiar cribriform appearance, caused by a number of small minute ulcers. Body of the cricoid cartilage denuded of soft parts, and its surface rough and granular.

SIMPLE INFLAMMATION.

434. Tongue, with larynx and trachea, with right and left bronchi laid open from behind to show lining membrane in a state of great vascularity.

435. Hyoid bone, root of tongue, epiglottis, larynx, and portion of trachea laid open from behind to show the mucous membrane, thickened from simple inflammation.

TUBERCLE OF LARYNX OR LARYNGEAL PHTHISIS.

436. Epiglottis, larynx and trachea with its bifurcation into right and left bronchi laid open from behind. A post-mortem incision has been made anteriorly through cricoid and thyroid cartilages. The preparation shows the mucous membrane of the trachea and bronchial tubes thickly studded with oblong transverse ulcers, also eight or ten of a smaller size and round shape on the lower surface of the epiglottis, and another on the right inferior vocal chord. The whole mucous membrane in the recent state was of a dark livid colour (cyanotic congestion). MS. Cat., Vol. I, page 32, No. 29.

From William Burke, aged 21, 40th Regiment, who died of phthisis pulmonalis. The lungs were studded with tubercles and large tubercular cavities. Ulcers were found also in the small intestines.

437. Epiglottis, larynx and trachea, including bifurcation into right and left bronchi, laid open from behind to show extensive ulceration of the trachea and larynx, with partial destruction of many of the cartilages of the former. MS. Cat., Vol. I, page 31, No. 26.

438. Tongue and larynx laid open from behind to show epiglottis entirely destroyed by ulceration, with thickening and ulceration of the mucous membrane of the larynx. MS. Cat., Vol. I, page 2, No. 48.

From a man of the 82nd Regiment, who died of phthisis pulmonalis. He had complete loss of voice, and severe fits of coughing were produced on every attempt at swallowing.

Donor—Dr. Stewart, Asst.-Inspr. of Hospitals.

439. Tongue, epiglottis (partially destroyed), larynx and portion of trachea laid open from behind to show extensive ulceration of epiglottis and right chordæ vocales, also several ulcerated patches in the trachea, with œdema of the glottis. Print. Cat., page 2, No. 3.

From Jeremiah Barley, aged 32, 36th Regiment, who was admitted into hospital, on his arrival from Malta, moribund, with phthisis of eleven months' duration. On dissection the larynx was found as shown in the preparation; the lungs contained tubercles and vomicæ.

440. Tongue, epiglottis and larynx, with portion of trachea laid open from behind to show a large irregular ulcer immediately above the left vocal chords which has

partially destroyed them; and another of a smaller size and circular form in the same situation on the right side; the right chordæ vocales are much thickened, and there are numerous minute ulcers in other parts of the larynx, and two of a large size on the posterior surface of the trachea.

441. Larynx with thyroid gland. The larynx is opened from behind to show a large deep excavated ulcer at the posterior angle of the right vocal chords, with numerous small ulcers in the larynx and upper part of the trachea. MS. Cat., Vol. I, page 3, No. 54.

From William Wood, aged 24, 32nd Regiment, who died of phthisis pulmonalis. Two weeks previous to death there was complete aphonia.

442. Tongue with epiglottis and larynx laid open from behind to show a large deep excavated ulcer at the posterior angle of the right vocal chords, and several others of a smaller size in different parts of the larynx. Print. Cat., page 3, No. 10.

From Sergeant G. McKenzie, aged 32, 72nd Regiment, who died five months after admission into the General Hospital from phthisis; the lungs were found to be extensively ulcerated, as was also the whole of intestinal canal; hydatids were also discovered in one of the kidneys.

443. Tongue with epiglottis, larynx and part of trachea laid open from behind to show extensive ulceration of the mucous membrane of the larynx, with destruction of nearly one-half of the epiglottis. Print. Cat., page 1, No. 1.

From Peter Meade, 71st Regiment, a patient with phthisis, who complained of pain in the larynx, and inability to swallow solids. He had previously suffered from scrofulous ulcers in various parts. Having died, the lungs were found much tuberculated and ulcerated.

Donor—Dr. Stewart, Surgeon, 71st Regiment.

444. Larynx with epiglottis, opened from behind to show mucous membrane of the epiglottis and larynx thickened and extensively ulcerated. Print. Cat., page 8, No. 39.

From Corporal David Murphy, who, having been long affected with scrofulous ulceration in the neck, ultimately died of pulmonary consumption.

Donor—Mr. Whyte, Surgeon, 69th Regiment.

445. Epiglottis, larynx, and portion of trachea opened from behind to show extensive ulceration and thickening of the mucous membrane of the larynx and trachea, and the body of the cricoid cartilage denuded of soft parts. Glottis is œdematous.

From John Hazlewood, aged 31, 15th Regiment, who was admitted into the General Hospital with phthisis pulmonalis, which commenced twenty months previously. On dissection, the lungs were found tuberculated, and seven quarts of serous fluid effused into the cavity of the abdomen.

446. Tongue, epiglottis, larynx and portion of trachea laid open from behind to show extensive ulceration of the mucous membrane of these parts. Print. Cat., page 3, No. 8.

From Corporal William Adams, aged 30, 10th Regiment, who was admitted for phthisis pulmonalis of six months' duration. After death the lungs were found extensively diseased; and the ileum, cæcum, and colon, studded with ulcers on their inner surface.

447. Epiglottis and larynx opened from behind to show the arytenoid cartilages completely denuded of soft parts, and nearly separated from their attachments; mucous tunic of the larynx thickened, rough and irregular. MS. Cat., Vol. I, page 4, No. 57.

From William Edwards, aged 26, who died of phthisis. Aphonia was a marked symptom. There was ulceration of the terminations of the ileum and of the colon.

448. Epiglottis with larynx opened from behind to show ulceration of the chordæ vocales on both sides, and œdema of the rima glottidis. MS. Cat., Vol. I, page 3, No. 51.

From Newry Brien, aged 26, of 60th Rifles. He died of phthisis, and for eight weeks before death had aphonia, but no pain.

449. Epiglottis, larynx and upper rings of trachea laid open from behind to show several well-defined ulcers on the mucous tunic of the larynx and upper part of the trachea. Print. Cat., page 7, No. 32.

From William Pitts, aged 31, 84th Regiment. Tubercular phthisis of four years' duration.

450. Epiglottis, larynx and upper part of trachea to show a large deep ulcer of the mucous membrane at the angle of the thyroid cartilage, extending outwards on each side beneath the chordæ vocales. There are also some small ulcers at the upper part of the trachea. MS. Cat., Vol. I, page 4, No. 56.

From William McBeath, aged 36, 68th Regiment. He died of ascites following chronic dysentery. There were miliary tubercles in both lungs, but no cavities. His voice was good to the last.

451. Epiglottis, larynx and greater part of trachea to show small superficial ulcers of the mucous membrane of these parts. MS. Cat., Vol. I, page 5, No. 62.

From Charles Lewis, 15th Foot, admitted into Fort Clarence in 1826, suffering from mania. He appeared in good health until the 10th of August, sixteen days before his death, when he was admitted into hospital labouring under feverish symptoms with oppressed breathing; the stethoscope indicating loud sonorous râles over the chest. The left lower extremity became swollen and œdematous, and he sunk under his pulmonary disease. On inspection, the lateral ventricles were found partly filled with reddish serum, with half an ounce at base of brain. Strong adhesions existed between the pleuræ, and tubercles in various stages, with the lining membrane of larynx, trachea, and epiglottis studded with minute ulcers of a superficial character. The left femoral vein with a portion of the common iliac obstructed by coagulated blood and fibrinous concretions, the latter in some places softening.

452. Hyoid bone, epiglottis, larynx and upper part of trachea to show ulceration of the mucous membrane of the epiglottis and larynx; also a large ulcerated surface at the posterior part of the cricoid cartilage and upper part of the trachea; a portion of the cricoid cartilage, and several rings of the trachea are bare and quite denuded of soft parts. Vocal chords on either sides thickened but more particularly the right. Glottis œdematous. Print. Cat., page 7, No. 34.

From William Trayner, aged 27, Royal Staff Corps, who was admitted in August, 1829, with cough, difficult expectoration, severe pain in the larynx and trachea, and dyspnœa. Under these symptoms, in various degrees of aggravation, he lingered until the following February. On inspection after death, the state of parts described above was discovered; the lungs, with the exception of one or two hard tubercular deposits on the left side, were unaffected by disease. The case appears to have been one of laryngeal phthisis.

453. Larynx and portion of trachea to show the mucous membrane of the larynx and trachea studded with an immense number of oval-shaped ulcers, some of them having coalesced. Print. Cat., page 2, No. 6.

From Alexander Duff, aged 32, 71st Regiment, who died of phthisis with tubercles in lungs.

454. Epiglottis, larynx, trachea, inclusive of its bifurcation, also the thymus and several lymphatic glands, the larynx and trachea are laid open from behind to show extensive ulceration of the trachea; many of its cartilages are denuded of soft parts and partially destroyed. MS. Cat., Vol. I, page 31, No. 25.

From William Cunningham, 18th Regiment, who died of phthisis pulmonalis.

455. Tongue, epiglottis, larynx, and trachea to its bifurcation. The parts are laid open from behind to show extensive ulceration of the trachea and larynx extending so deeply in some places as to destroy the cartilaginous rings of the trachea. MS. Cat., Vol. I, page 28, No. 17.

From Alexander Maitland, aged 22, 92nd Regiment, who died of phthisis pulmonalis.

456. Epiglottis, larynx and upper part of trachea, opened from behind to show a large irregular ulcerated opening on the anterior and upper part of the trachea; several rings of this tube are destroyed, and others of them quite denuded of soft parts. MS. Cat., Vol. I, page 29, No. 21.

From William Pavin, aged 30, 22nd Regiment, who died of phthisis pulmonalis. His lungs were found studded with tubercle.

EFFECTS OF SYPHILIS AND MERCURY, OR OF SYPHILIS ONLY.

457. Epiglottis, hyoid bone, and larynx, opened from behind to show left half of the cricoid cartilage ossified and denuded of soft parts, lying loose in a triangular-shaped ulcerated cavity, having its base posteriorly and apex anteriorly;

this cavity also contains a portion of the cricoid cartilage in a cartilaginous state about an inch in length, attached anteriorly to the opposite ala of the cricoid cartilage, the remainder of it is loose and bare. The piece of detached bone is of a triangular form, resembling in shape and size one-half of the cricoid cartilage, ossified and necrosed, the laryngeal aspect and superior border of which are smooth and polished, the external and remaining margins are rough and irregular. The right half of the cricoid cartilage is also partially ossified. Print. Cat., page 8, No. 42.

From John Price, aged 34, 10th Hussars. He was admitted into hospital with ulcers on the penis and tonsil, for which he underwent a three weeks' course of mercury, when the sore on the penis being healed, and that in the throat becoming worse, the medicine was omitted. At this time he was hoarse, and had stridulous, and subsequently sonorous expectoration. He died about a month after admission, somewhat unexpectedly. On dissection, the surfaces of the cervical vertebræ were found in a carious state.

Donor—Mr. Rogers, Surgeon, 10th Hussars, Brighton.

458. Hyoid bone, epiglottis, and larynx opened posteriorly to show a very deep excavated ulcer which has destroyed almost the whole of the right chordæ vocales; mucous membrane of the glottis and epiglottis thickened and œdematous. Print. Cat., page 1, No. 2.

From John Ashworth, aged 38, 12th Regiment, admitted to Fort Pitt Hospital, Chatham, on arrival from India, where he had served many years. He had gone through twelve courses of mercury; but stated that he had not been affected with any venereal complaint for nine years past; and that he suffered about that time from a chancre and a bubo. Two months after admission he died from exhaustion. No other morbid appearances beyond those in larynx, were found after death.

Fort Pitt, Chatham.

459. Tongue, uvula, fauces, epiglottis and larynx (unopened) and all placed upside down in jar to show extensive loss of substance of the mucous membrane posterior to the tonsils, extending round posterior wall of pharynx. Excavation with loss of substance of tonsils; nodular hardening of dorsum of tongue; loss of substance with cicatricial adhesion of epiglottis by its (left) edge to adjacent mucous membrane; and œdematous swelling of mucous membrane reflected from base of epiglottis and into larynx. There was also hardening of lymphatic glands along the trachea.

From Private James Hodgkinson, aged 33, 2/15th Regiment, admitted to Netley Hospital, May 2nd, 1871, for secondary syphilis. He had served 13 $\frac{9}{12}$ years at Home mainly, also Gibraltar and Malta. At Dublin, in February, 1870, he had a hard sore, and on admission to Netley he had a papular eruption with other symptoms of secondary syphilis. He had been salivated in June, 1870. There was induration of submaxillary glands, ulceration at the bend of left elbow, right elbow and left cheek, with enlargement of the testicles and induration of the inguinal glands. Abscess of right tonsil ensued, with general emaciation and progressive weakness. Voice was lost; the liver became

enlarged, and the urine albuminous; pneumonic consolidation and death by coma followed about eight months after admission to hospital at Netley. After death, a node was found on right tibia, and general hardening of lymphatic glands when felt under the skin. There was also increased density of calvarium by irregular nodular thickening, most marked towards the centres of parietals and over supra-orbital part of frontal on left side; a nodular enlargement of internal table at anterior sup. angle of right parietal, and increased vascularity of skull generally, with extensive minute grooving and roughening of its external table, thickening of dura mater, with purulent-like exudation on anterior surface of medulla oblongata, the basilar portion of sphenoid and occipital being in a state of superficial necrosis. Purulent infiltration extended over Pons Vardlii between arachnoid and pia mater, forward as far as optic commissure, with increased vascularity generally over base of brain. There was flattening of convolutions over vertex, with much turbid fluid in lateral ventricles. There was plugging of the vertebral arteries and much softening of cerebral substance at the base; also evidence of endarteritis of aorta about 1½ inches above semilunar valves, with cicatricial loss of substance of the vessel; with well marked lardaceous degeneration of stomach and ileum and colon, with atrophy of the gut. There was catarrhal congestion and commencing ulceration of mucous membrane of colon; and symmetrical nodular growths existed in both testicles.

Pathological Reports, Netley, No. 29, Vol. XII.

460. Hyoid bone with epiglottis, larynx, and upper portion of trachea opened from behind to show ulceration of the glottis, and partial exposure of the left arytenoid cartilage; thickening of the mucous membrane of the larynx, with numerous small ulcers in the upper part of the trachea. MS. Cat., Vol. I, page 6, No. 66.

From Charles Kitchins, aged 23 years, 7th Fusiliers, who had been several times salivated, under treatment with mercury for primary and secondary syphilis. There had been ulceration of posterior part of fauces which had healed. He died from an acute attack of pleurisy.

Donor—Dr. Shean, Surgeon, 7th Fusiliers.

461. Tongue and larynx (the latter opened from behind) showing deep excavated ulcers in the tonsils of each side; hæmorrhagic clots on the walls of the ulcers which are of a grey colour and foul appearance (syphilitic). Marked hypertrophy of villi over tongue.

From Private Andrew Joyce, aged 25, who died 25.10.62, at Fort Pitt. He had $7\frac{9}{12}$ years of service, having enlisted at the age of 17, and served in Ireland, the West Indies, Malta, and the Crimea. He contracted syphilis at Aldershot in 1860, and was treated there for primary and secondary symptoms, mainly pulmonary and laryngeal.

Pathological Reports, Fort Pitt, Case 1, Vol. 3.

462. Hyoid bone, epiglottis and larynx; the latter laid open from behind to show syphilitic ulceration of larynx, with necrosis of right half of hyoid bone.

From a man, aged 30 years, who died in the Lock Hospital, 1822.

Donor—S. Lawrence, Surgeon.

463. Tongue, epiglottis and larynx, opened from behind to show extensive ulceration and thickening of the mucous membrane of the epiglottis and larynx, one large oval ulcer laying bare a portion of the thyroid cartilage on

the right side, which is partially ossified, and its inner layer appears as if about to exfoliate. The whole of the cricoid cartilage on the same side, and the posterior half of that of the left is also quite denuded of soft parts. The mucous membrane is thickened even to *dorsum linguæ*, the fungi-form papillæ of which are enlarged; and the epiglottis so destroyed as to be inadequate for its office. Print. Cat., page 4, No. 14.

From Matthew Carrol, aged 29, 29th Regiment, who died of phthisis laryngea, subsequent to secondary syphilis.

Fort Pitt, Chatham.

464. The tongue with the pharynx and œsophagus, the latter laid open posteriorly to display the interior. The tongue displays in the centre and on the left side cicatrices and loss of substance; on each side of the epiglottis and extending to the posterior wall of the pharynx is an extensive mass of ulceration which on the left has perforated the larynx; numerous vertical linear superficial ulcers are seen also along the whole course of the œsophagus.

From Gunner Robert Gillan, aged 25, of eight years' service, partly at Home, and at Gibraltar, Cape of Good Hope, and India. At Belgaum, in India, he contracted syphilis in 1864; and he was admitted to Netley from shipboard 14th May, suffering from phagedenic ulceration of the throat, severe headache, and rigors in the evening, with several well-marked attacks of ague. His spleen was enlarged, he had much pain on swallowing. He died from exhaustion; and it is noted that he had taken much mercury, especially on the voyage home, when he became salivated. Small livid cicatrices existed over the left shin, and also on the penis. The right testicle was indurated. There was hæmatoma of the dura mater, with blood effusion over brain surface. Enlargement of lymphatic glands in the neck, cicatricial loss of substance in the lining membrane of the aorta. The liver was found contracted into a globular mass, with cicatricial contraction of lower margin with a portion of omentum embedded in it. A circular depression with cicatricial loss of substance was seen about the middle of the anterior surface of right lobe; and several smaller sized on surface of left lobe. Sections through these parts showed remains of deposits (like nodes). Nodular deposits were found in both testicles.

Pathological Records, Netley, Vol. IV, No. 19.

CICATRICES.

465. Bronchial tubes entering a portion of lung showing obliteration of one of the bronchi, and the cicatrix of an ulcer.

466. Hyoid bone, epiglottis, larynx, and trachea, with bronchial ramifications into lungs to show the orifice of left bronchus very much contracted and only capable of admitting a common quill. The mucous membrane surrounding the opening on the tracheal side and lower margin is puckered and corrugated presenting the appearance of old cicatrization. A little above its superior margin there is a dilatation of the rings of the

trachea forming a cavity capable of holding a bean. The contraction is about half an inch in extent and the bronchus and its sub-divisions immediately below this contraction are of the usual calibre; no marks of previous ulceration in any part of the tube. Parts external to the contraction are thickened and condensed. The bronchial tubes of the right lung are perceptibly dilated and their ramifications could be traced much further into the pulmonary tissue than usual. Mucous membrane of the trachea and bronchial tubes of both lungs were of a dark red colour. Thyroid body much enlarged, the lateral lobes extending upwards along the side of the thyroid bone, and a small serous vesicle on the surface to the right of the isthmus, enlarged to the size of a walnut, but not posteriorly and the gland does not seem to compress the trachea to any extent. Its structure is very firm, it is laid open; and the granulations, of which it is composed, are very much enlarged and the arteries proceeding to it are also greatly enlarged.

Private Thomas James, aged 24, 24th Regiment. A brushmaker by trade, total service, 4 $\frac{9}{12}$ years, all at home. Was three times in regimental hospital for disease of the chest—once in 1845, and twice in 1846. On admission into Fort Pitt General Hospital, 10th June, 1846, he complained of cough, pain in the chest, with dyspnœa, expectoration abundant, and muco purulent; pulse full and soft, loud sonorous râles were heard over the whole chest. On the second day after admission he complained of severe pain over the region of the liver, tongue dry and yellow, his skin was constantly bathed in perspiration, bowels inclined to costiveness. These symptoms were considerably relieved, and he seemed to be gaining ground, but on the evening of the 16th cough became much more severe and the dyspnœa greatly increased, little expectoration attended the cough. 17th. Breathing laborious, attended with mucous râles over the whole chest, no expectoration, pulse 150 and weak, face pale and bloodless, body covered with a profuse cold, clammy perspiration. These symptoms became aggravated, and he died on the 17th June, 1846, seven days after admission.

Sectio Cadaveris.—Body stout and muscular, veins of pia mater and arachnoid much congested. Section of brain presented a number of bloody points, structure soft, weight 3 lb. 7 ozs. Heart, slightly enlarged, cavities dilated, weight of heart, 13½ ozs. Trachea and bronchial tubes contained a considerable quantity of muco-purulent matter. Right lung, structure healthy, posterior part congested, bronchial tubes of the lung perceptibly dilated and their ramifications could be traced much further into the pulmonary tissue than usual. Left lung, upper half and anterior margin of the superior lobe healthy; a portion of its lower margin, about the size of an orange, was condensed and in a state of hepatization, as was also a portion of the inferior lobe at its upper and lateral part contiguous to the disease in the superior lobes, this portion was of larger size and in the same stage of red carnification. The remainder of the lung was healthy with the exception of being engorged with blood, weight of larynx, trachea, and thyroid body and lungs, 4 lb. 2½ ozs.

Fort Pitt, Chatham.

MORBID GROWTHS.

467. Epiglottis and larynx opened from behind to show a round polypus excrescence attached to the left inferior

vocal chord so as nearly to close the opening of the glottis.

468. Portion of trachea from cricoid cartilage downwards and opened irregularly. The preparation is upside down. It shows a tumour the size of a walnut, which contained a fluid resembling whey attached to the fore part of the trachea. MS. Cat., Vol. I, page 28, No. 10.

Donor—Dr. Scott, Surgeon, 2nd Battalion, Rifles.

469. Hyoid bone, epiglottis, larynx and trachea to its bifurcation opened behind to show great enlargement of the thyroid gland, more especially of the left lobe which descended as low as the bifurcation of the trachea, with osseous deposit and several small empty cysts in its substance.

Donor—Sir A. West.

470. Hyoid bone, epiglottis and larynx, laid open from behind. A section is made through the right lobe of the thyroid gland. The preparation shows an enlarged and hardened condition of the thyroid gland, with inflammation of the lining membrane of the larynx and trachea. MS. Cat., Vol. I, page 28, No. 16.

The patient died of bronchitis. No pain attended the condition of the thyroid.

Donor—Mr. Burton, Asst.-Surg., 68th Regiment.

471. Portion of root of tongue attached to hyoid bone, with epiglottis and larynx laid open from behind. The preparation shows enlargement of the thyroid gland.

472. Hyoid bone, epiglottis and larynx opened from behind and inverted in jar. The preparation shows the thyroid gland somewhat smaller than usual. In its right lobe there is a small cyst which contained a cheesy substance. The glandulæ Morgagni of the larynx are well developed, the left is laid open and appears to be of a conglomerate nature. MS. Cat., Vol. III, page 228, No. 110.

From Richard Winkworth, aged 38, 2nd Garrison Battalion, was transferred from the Hexton Asylum to Fort Clarence in 1819. He had been a patient from the year 1805, after having been brought to trial for murder, and acquitted on the plea of mental imbecility, which was congenital. In person he was diminutive, his voice effeminate. The organs of generation were imperfectly developed, he was beardless, the signs of manhood were wanting, and the mammæ were of considerable size. He acknowledged that he never had any sexual desire. He ultimately died of phthisis pulmonalis after six months' illness.

473. The left lobe of thyroid gland to show a coagulum of blood of a circular form and somewhat larger than a hazel nut, encysted in the lower part of the left lobe of the thyroid gland.

Necrological Register, Fort Pitt, Vol. IV, page 35.

474. Epiglottis and larynx opened posteriorly to show left lobe of the thyroid gland deficient; close to the trachea and attached to it on this side is a vesicle filled with a transparent fluid.

From Richard Earnes, aged 33, 52nd Regiment, who died from general debility with ulceration over sternum of eight months' duration.

Necrological Register, Fort Pitt, Vol. VI, page 128.

475. Thymus gland with a tubercle the size of a garden pea, situated in its left lobe. MS. Cat., Vol. I, page 56, No. 150.

From the body of a female child, aged 3 years, who died suddenly of scarlet fever on the seventh day following retrocession of the rash. She had suffered from measles a month previously.

Donor—Mr. Calder, Asst.-Surg., Staff.

476. Epiglottis with portion of root and dorsum of tongue in which there was epithelial cancer followed by secondary formations in the lung and spleen.

From Private A. Riley, aged 36, of 15 years' service 12 years of which were spent in India, the remainder in England to April, 1872. He was admitted to hospital at Portsmouth on 31st August, 1871, with a fluctuating swelling under left side of tongue, resembling Ranula. It had been punctured several times, pain and swelling followed, with difficulty in swallowing; then ulceration ensued with induration until the anterior third of tongue on left side was destroyed. The tissues at base of tongue, tonsils, and floor of the mouth anteriorly became painful, swollen, and indurated; and hæmorrhage from the ulcerated surface occasionally occurred with excruciating pain. He was sent to Netley in February, 1872, but the disease had then extended beyond the reach of operative interference. On April 13th, Pyrexia became severe with epigastric pain, and death followed on 16th.

The epithelial structures were thickened, and foci projected into the muscular substance, the lymphatic glands at the left angle of the jaw were enlarged and indurated. Section showed commencing softening, with spots of purulent formation in tissue between œsophagus and trachea, with enlargement of the glands down the left side. There was enlargement of the bronchial glands at roots of lungs, and extending along bronchi into lung substance; both lungs were interspersed with nodular deposits, generally firm, but some were softened and breaking up (secondary formations of an encephaloid appearance); the apices were full of disease; in the spleen on section small white deposits were seen very irregular in size, and similar in structure to those in lung.

Pathological Reports, Netley, No. 38, Vol. XII.

477. Larynx and portion of trachea opened from behind to shew a tumour about the size of an almond situated on left side of larynx. It contained cheesy-like matter, and closed up the *rima glotidis*. The growth probably commenced by enlargement of some of the glands.

The patient was a female, aged 26, who had disease of the lungs with symptoms of croup.

Donor—Dr. Russell, Surgeon, 36th Regiment.

ŒDEMA OF GLOTTIS, TRACHEOTOMY AND LARYNGOTOMY.

478. Root of tongue with epiglottis and larynx inverted in jar. The larynx is opened from behind, and the preparation

shows œdema of the glottis and epiglottis;—thickening of the mucous membrane of the larynx;—the cavity of an abscess in the substance of the tongue;—and an opening between the third and fourth rings of the trachea made in tracheotomy.

Donor—Dr. Kemlo.

479. Root of tongue attached to hyoid bone, with epiglottis, larynx, œsophagus, and trachea, laid open to ramifications of bronchi to show diseased larynx, which required the operation of laryngotomy. A large black slough about the size of a cherry is situated in the angle of the larynx anteriorly and extending laterally; the vocal chords are destroyed on each side; the slough was firm and completely obstructed the tube. On inserting a probe through the slough it is found to communicate with a large sloughing sac to the left of the larynx, in the left wing of the thyroid cartilage, the whole of which is destroyed, only a small portion of cartilage was found loose in the cavity. The anterior half of the right wing of the thyroid cartilage is denuded of covering, and forms part of the walls of the sac, the interior of the cavity is in a black and sloughing state, the soft parts surrounding it are much thickened and condensed. The aryteno-epiglotidean fold is very much enlarged, it nearly closes the glottis, and is greatly thickened from the effusion of lymph into the submucous tissue. The epiglottis is also thickened, and there is a cicatrix of a large ulcer at its base. On the left aryteno-epiglotidean fold, several cicatrices were also observed on the surface of the pharynx. The fibrous covering of the left half of the cricoid cartilage is detached. It was red and inflamed. The opening made to relieve the breathing is seen a quarter of an inch below the black slough, situated a little to the right side; the cricoid cartilage, and first ring of the trachea are divided. The mucous membrane between the opening and the slough was of a deep red colour, and highly vascular; as was also that of the trachea and bronchial tubes, which contained a quantity of muco-purulent matter. The mucous follicles at the base of the tongue are enlarged. The thyroid body is of its usual size, but its structure is firmer and more granular than natural; the isthmus had not been cut during the operation, the incision being immediately above it. Several of the lymphatic glands along the side of the larynx are enlarged, and of a white appearance. The lungs were healthy, as were also the abdominal viscera.

Corporal George Tilbury, aged 28 years, 50th Regiment, total service, $7\frac{5}{12}$ years. Was attacked with syphilis primitiva in November, 1843, and cynanche tonsillaris in November, 1844. On admission into Fort Pitt Hospital, 12th May, 1846, he had slight cold and ulcerated sore throat, lungs healthy, both ankles were swollen and

painful; syphilis first appeared about the time of embarkation from India, and he was treated with mercury on board ship, but it was not pushed to salivation. With a slight cough, he expectorated a quantity of frothy mucous, and experienced difficulty in swallowing, but these symptoms were daily improving, when on the 26th May, he caught a fresh cold, with inflammation of the fauces, which did not yield to local applications; his voice became impaired, and on the 9th June, 1846, he complained of stiffness and uneasiness in the larynx, and after paroxysm of coughing, he felt as if something gave way in his throat and he expectorated a quantity of purulent matter of a very offensive odour. The symptoms remained stationary until the 17th, when he was found breathing laboriously with violent movement of the larynx at each inspiration. Respiration became increasingly more difficult, and on the 18th laryngotomy was performed, the patient being pulseless, and respiration in abeyance, and so remained until by means of artificial inflation and stimulants, respiration was again restored. He continued to respire through the opening, but with very great difficulty in consequence of an excessive secretion of viscid tenacious mucous, which appeared almost completely to block up the air passages; extreme difficulty of respiration ensued, and he died 19th June, 43 hours after the operation.

Donor—Dr. Williamson, Staff Asst.-Surg.

480. Posterior half of tongue with epiglottis, larynx and portion of trachea laid open from behind, to show extensive thickening of the epiglottis and surrounding parts from œdema. An opening is present in the trachea which appears to have been made to relieve the breathing.

Donor—Dr. Dawson, D.I.G.

481. Larynx suspended by the epiglottis. Death was caused by œdema of glottis and laryngitis.

From Private James Dyas, aged 37, 58th Regiment, who died on board H.M.S. "Crocodile," 1st April, 1871, two days after tracheotomy. He had 18 years' service, and had been attending hospital nearly throughout the voyage for enlargement and ulceration of right tonsil. On March 31st, he was seized with sudden dyspnœa, which prevented him lying down, on following day tracheotomy was performed with immediate relief, which continued for 3½ to 4 hours. Death was ascribed to lung hepatization. See Medical History in *Abstract of Cases*, Netley, Vol. II, Contrib. 138, April, 1871.

Donor—Staff Asst.-Surg. E. Hopkins.

482. Tongue with epiglottis, and larynx laid open to show œdema with abrasion of epiglottis.

From William Barnes, aged 18, 2nd Regiment, admitted with phthisis pulmonalis. He died in 3½ months, and on dissection the mucous membrane lining the larynx, trachea and bronchi, was found abraded throughout, the lungs contained many vomicæ, and the intestines were extensively ulcerated.

483. Hyoid bone, thyroid and larynx unopened. Death ensued from œdema glottidis and rima.

From John Walsh, aged 26, 87th Regiment, who had for a twelve-month laboured under scrofulous ulcerations in the neck, and for three months previous to death, enlargement of the conglobate glands of all the superficial parts of the body; this condition was attended by atrophy, extreme debility, purulent expectoration, night sweats, diarrhœa, and other signs of disorganization of the lungs. Post-mortem examination exhibited tubercular and ulcerated lungs, the intestines were studded with innumerable tubercles, many clusters of which had run into ulceration; the liver had a marbled appearance, and was of highly granular texture; and the mesenteric glands were much enlarged.

484. Epiglottis with larynx laid open from behind, to show œdema of glottis, epiglottis and surrounding cellular tissue; and a deep excavated ulcer at the posterior part of the right vocal chords.

Donor—Dr. Logan, Asst.-Surg., 53rd Regiment.

485 Epiglottis with larynx laid open from behind, to show the larynx œdematous, and the sacs of two small abscesses situated immediately behind and beneath the left inferior chordæ vocales. MS. Cat., Vol. I, page 3, No. 52.

From George Sweeny, aged 37, 68th Regiment, who died of phthisis pulmonalis, and who suffered from œdema of lower extremities for two or three weeks previous to death.

486. Root of the tongue with pharynx, epiglottis and larynx (unopened) to show œdema of the glottis and epiglottis, with effusion of lymph on the mucous membrane of the parts visible of pharynx and larynx.

487 Tongue, uvula with tonsils, epiglottis and larynx laid open from behind to show œdema of larynx with enlargement of tonsils.

488. Tongue with tonsils, pharynx and larynx laid open to show œdema of the glottis and epiglottis, with great thickening, and slight ulceration of the mucous membrane of the larynx. Print. Cat., page 4, No. 12.

See *Fasciculus II*, Plate I, Fig. 2.
See also preparation 643.

From Simon Woodstock, aged 40, 69th Regiment, a worn-out soldier from India, where he had been a long time, and had suffered from hepatic disease (for the cure of which he had taken much mercury), and latterly from dyspnœa and cough. On arrival at Fort Pitt he laboured under symptoms of chronic laryngitis and pulmonary consumption from which he gradually sunk. On post-mortem examination, the papillæ of the tongue were seen to be enlarged, and the lungs extensively indurated, tuberculated, and ulcerated.

ENLARGEMENT OF BRONCHIAL GLANDS.

489. Portion of trachea laid open with its bifurcation enclosing bronchial glands showing a large irregular opening situated in the lower part of the trachea, and another in the right bronchus; below this the parts are puckered and contracted. The two ulcerated openings communicate with a cavity in one of the bronchial glands, which is filled with calcareous matter, situated in front of the trachea and bronchi. Bronchial glands enlarged, and of a dark colour. MS. Cat., Vol. I, page 31, No. 27.

From William Chattis, aged 31, 4th Regiment, who died of chronic catarrh, liver disease and bowel complaint. After death both lungs were found filled with tubercle and hepatized, the liver much enlarged, weighing 5 lbs. 11 ozs. 2 drs.

490. Bifurcation of trachea laid open, and enclosing bronchial glands. It shows a small ulcerated opening at the lower

part of the trachea, through which the contents of a diseased bronchial gland was being discharged. Glands enlarged and of a dark colour, and the margin of the ulcerated opening has the same appearance.

491. Lower portion of trachea laid open to show extensive ulceration of the right bronchus at its commencement. An ulcerated opening communicates with the excavation left by the breaking up of tuberculated bronchial glands. MS. Cat., Vol. I, page 55, No. 144.

From George Donegan, aged 30, 4th Dragoon Guards, who died of phthisis pulmonalis.

492. Epiglottis with larynx and trachea to bifurcation laid open from behind to show a cyst, with thick parietes attached to the lower part of the right side of the trachea, which contained an albuminous-looking substance. The bronchial glands are likewise somewhat enlarged, and one which contains a yellow cheesy-looking substance communicates by a small ulcerated opening with the right bronchus. MS. Cat., Vol. I, page 56, No. 151.

See under 475, from female child of three years who died suddenly from scarlet fever after measles.

Donor—Mr. Calder, Asst.-Surg., Staff.

493. The albuminous-like substance contained in the cyst, referred to in No. 492.

494. Bifurcation of trachea laid open, with which is also the heart, aorta, and pulmonary artery, to show a mass of enlarged bronchial glands situated at the bifurcation and along the right side of the trachea, immediately behind the arch of the aorta. Print. Cat., page 18, No. 43.

From Morris Lanegan, aged 25, 67th Regiment. On admission he had cough, dyspnœa, and pain in the chest, also diarrhœa. After death, effusion into the right side of the chest was discovered, the right lung was collapsed, the left healthy.

From Albany Hospital, Isle of Wight.

495. Œsophagus (unopened) with larynx and trachea opened from before, to show bronchial glands on the right side and posterior part of the trachea at its bifurcation, and along the course of the bronchi for a considerable distance, much enlarged from tubercular deposit in them, which has in many places begun to soften and break down. MS. Cat., Vol. I, page 52, No. 131.

From a man who died of typhus fever, but whose lungs were thickly studded with tubercles.

Donor—Mr. Logan, Asst.-Surg., 53rd Regiment.

496. Bronchial glands attached to thoracic aorta, showing enlargement, and filled with scrofulous deposit, one of

them situated along the course of the descending aorta is partially empty. MS. Cat., Vol. I, page 53, No. 134.

From the same case as 495.

Donor—Mr. Logan, Asst.-Surg., 53rd Regiment.

497. Bifurcation of trachea, with small bit of œsophagus to show a dark coloured spot about a quarter of an inch in diameter, situated at the lower part of the trachea which is nearly perforated by the softened tuberculous matter of a bronchial gland. MS. Cat., Vol. I, page 30, No. 22.

From a case of amentia and death from pulmonary phthisis. The softened bronchial gland opened into the œsophagus and nearly into the trachea.

498. Bifurcation of trachea, to show great enlargement of the conglobate lymphatic bronchial glands.

499. An enlarged lymphatic gland, filled with cheesy matter, situated over the bifurcation of the trachea. MS. Cat., Vol. I, page 28, No. 13.

From Charles Whistler, 2nd Rifle Brigade, who died of phthisis pulmonalis.

Donor—Dr. Scott, Surgeon, 2nd Battalion, Rifles.

500. Bronchial glands much enlarged, and showing the empty cyst of an abscess.

Donor—Mr. Henderson, Asst.-Surg., 78th Regiment.

501. Bifurcation of trachea laid open. It shows an enlarged bronchial gland, filled with scrofulous matter, occupying the angle of bifurcation of the trachea, and several others of a smaller size surrounding it. MS. Cat., Vol. I, page 30, No. 24.

From James McDonald, aged 20, 6th Foot, who died of phthisis pulmonalis after 127 days' illness, following an attack of measles with symptoms of pneumonia. The bronchial glands generally were much enlarged and the right bronchus was pushed aside and somewhat flattened as shown in the preparation. Extensive cavities existed in both lungs.

502. Lower portion of trachea with its bifurcation to show bronchial glands at the bifurcation and along the anterior surface of the trachea enlarged, some of them containing a yellow cheesy-looking substance, and others of them partially empty. MS. Cat., Vol I, page 57, No. 153.

From William McDonald, aged 22, 15th Foot, who died of ascites. The lungs were healthy.

503. Bronchial glands enlarged with some ossific-like deposit in them.

From Edward Monks, aged 38, 7th Dragoon Guards, who died November 6th, 1839. He had been frequently in hospital for asthma. After death the lungs were found adhering to the pleura costalis and to the diaphragm. They were hepatized in every part, several bony substances were found about the branching of bronchi, some the size of a musket ball, the heart weighed fourteen ounces, and the left

ventricle when cut open was an inch in thickness. The liver was much enlarged and the membrane on the convex surface very much thickened from chronic perihepatitis.

504. Lower portion of trachea with bifurcation (unopened). The bronchial glands are enlarged and studded with a copious earthy deposit. Print. Cat., page 10, No. 10.

From John Rutledge, aged 26, 1st Dragoon Guards, who was admitted into the General Hospital, Fort Pitt, with symptoms of tubercular phthisis, and who died in a paroxysm of dyspnœa. On inspection, the lungs presented tubercular deposition and vomicæ; the ventricles of the heart were in a state of active aneurism, and on the lining membrane of the left ventricle were two distinct cartilaginous patches. On adding an acid to a portion of the earthy substance, carbonic acid gas was freely evolved.

505. A dry preparation in turpentine to show bronchial glands with an abundant deposit of osseous matter. Print. Cat., page 10, No. 9.

From William Burkin, aged 35, 4th Dragoon Guards, who died of phthisis pulmonalis. On dissection the lungs were found studded with tubercles in every stage of maturation, the intervening tissue being inflamed.

506. Hyoid bone with epiglottis, pharynx and part of œsophagus (opened); the larynx is unopened; but a portion of membranous part of trachea above bifurcation has been removed. A portion of the right lung remains attached to right bronchus. The anterior part of the preparation shows the thyroid cartilage with thymus gland, the arch of the aorta in front of trachea, giving of the large vessels to neck. A very large fibrous tumour is shown which occupied the region from the mastoid process on the right side downwards to beneath the clavicle; and it is firmly attached to upper lobe of right lung, enveloping the large vessels of the neck. It occupied the greater part of the upper opening of the thorax. Posteriorly it was intimately connected with the bodies of the vertebræ, and enclosed the cervical plexus of nerves. It adhered firmly to the right side of the trachea from the cricoid cartilage to the bifurcation, pushing it to the left and diminishing its calibre and curving it considerably. The thyroid body had no connection with the tumour. The right sub-clavian and carotid arteries passed through the centre of the tumour. It seems to have originated from among the bronchial glands and to have grown from below upwards.

From Corporal Thomas Warren, aged 40, 77th Regiment, who was admitted into the General Hospital, Fort Pitt, September 19th, 1855, with a large tumour on the right side of the neck, which extended from beneath the clavicle upwards to the angle of the jaw—the tumour was hard and circumscribed without pulsation, and having deep and firm attachments, the larynx and trachea were pushed to the left side and being pressed on, produced hoarseness, loss of voice, and difficulty of deglutition. At the time of his admission the disease had been three months in existence, and from that period it continued gradually to increase, attended with pain in the shoulder and head, congestion of the veins, and blueness of the face and lips. The case was brought before the notice of Professor Ferguson of London, who considered

that nothing could be done for it. The difficulty of respiration and deglutition became rapidly more apparent and distressing, the lips and face more livid, purple spots appeared on the chest and different parts of the body, and the symptoms were those of gradual asphyxia. He died comatose on the 19th October, one month after his admission.

Donor—Dr. Wm. Johnstone Fyffe, Asst.-Surg.

SERIES V.

DISEASES AND INJURIES OF THE PLEURA AND LUNG.

SUB-SERIES 1.—INJURIES AND DISEASES OF THE PLEURA.

WOUNDS AND INJURIES.

507. Gunshot wound of chest showing wound of entrance of a bullet through the intercostal space between the 2nd and 3rd ribs and costal pleura.

Surgeon-General Sir Thomas Longmore, C.B., Professor of Military Surgery in the Army Medical School, gives the following account of this injury :—

"Trooper A. Peacocke, No. 1,016, aged 25, of the 1st Life Guards, was wounded at Kassassin on the 28th August, 1882. He was mounted at the time the bullet struck him. He did not fall immediately, but was able to ride on for some distance, when he felt himself become giddy, and he fell. He was subsequently carried to the field hospital at Kassassin. He remained there for two days and was then transferred to Ismailia, whence he was transferred to the "Carthage" for voyage to England.

"According to his own statement no blood came into the mouth at the time he was hit, nor was there any hæmoptysis while he was under treatment at Kassassin or Ismailia. Once only during the voyage home he spat out a clot of blood, but he had no cough at the time,

and the blood might have come from the throat. There was no escape of air from the bullet openings, nor emphysematous swelling over the chest wall; but his breathing was rather difficult and accompanied with pain, especially at the back part of the chest near the spot where the bullet escaped. He says that he lost a good deal of blood locally from both wounds.

"Whilst he was in Egypt and during the voyage home on board the "Carthage" he suffered greatly from continued diarrhœa, and became very weak and exhausted in consequence.

"The wound of entrance was healed at the time of his admission to Netley on September the 30th, 1882; the wound of exit was still open and discharging. The former was situated in front of the left side of the chest above the nipple, 2¼ inches from the sternum and between the second and third ribs; the latter in the back of the chest, 2¼ inches below the inferior angle of the scapula, and 5 inches from the spine, between the eighth and ninth ribs. A straight line drawn so as to connect the entrance opening between the second and third ribs with the exit opening between the eighth and ninth would completely traverse the chest and its contents from before to behind, with an inclination downwards.

"At the wound of entrance the pulmonary pleura and the costal pleura appeared to be in close connexion by adhesions, for the lung constantly protruded into the opening left by the bullet, forming a somewhat prominent swelling at the part. This tumour was only covered by the common integument. Under pressure by the finger, it gave the elastic impression common to normal lung substance. There was not much change in the amount of protrusion when efforts were made by the patient either to take a full inspiration or to empty the chest fully. At the lower boundary of the opening a hard crescentic margin was perceptible, which appeared to the finger like an edge of bone, as if a portion of the upper border of the third rib had been scooped out by the bullet in this situation.

"The patient's constitutional condition was very unfavourable at the time he reached Netley. He was greatly reduced in strength; pulse weak and rapid about 120; temperature varying from 100° to 102° F.; cough very troublesome on slight movement or exertion; respirations frequent and oppressed, generally about 24 in the morning and 36 in the evening; decubitus on the back only, the chest requiring to be raised by pillows; perspirations generally profuse; and he was only able to obtain sleep with the aid of a hypodermic injection of morphia. He was, however, free from diarrhœa at this time. A purulent discharge escaped from the posterior opening. A pad of boracic lint was applied over the site of the wound of entrance where the lung was protruding, and also to the posterior wound; the ribs were strapped by broad bands of plaister; and such nourishing support given as the patient could take.

"No improvement in the man's general condition occurred, and on October 17th, in addition to the other symptoms, soreness of the mouth and throat were complained of. The tonsils were found to be enlarged, and both they and the fauces generally were covered by what at first appeared to be a white slough; but the surface quickly presented a diphtheritic character, and, notwithstanding the use of creosote spray and other remedies, the local symptoms showed no amendment, the prostration increased, the breathing became more oppressed, and the patient died exhausted on the evening of October the 19th.

"The inspection after death revealed many particulars of interest in connection with the case. In the first place it was shown that notwithstanding the apparent path of the bullet lay directly through the lung, this organ had really escaped from penetration. The bullet had evidently coursed round the costal pleura, pursuing a spiral direction between the lining surface of the cavity and the surface of the lung from the wound of entrance to that of exit. I had come to the conclusion while the patient was under treatment that the lung in all probability had not been penetrated, owing to the absence of hæmorrhage into the mouth at the time the wound had been inflicted, as well as of traumatopnœa, emphysema, and hæmoptysis subsequently; and also from the fact, shown by the pulmonic protrusion at the

wound of entrance, that the lung had not collapsed after the wound was inflicted. The pleura throughout the left cavity (both the costal and visceral reflexions), was greatly thickened from the effects of pleuritis; and, notwithstanding the escape of a certain amount of discharge from the posterior opening made by the bullet, there was still a considerable amount of purulent effusion, about a pint of thick yellow pus, mixed with masses of material resembling partially decomposed blood clots, found in the cavity at the post-mortem inspection. There was no consolidation of the left lung, but its substance was congested and œdematous, and its lower and lateral portions had been compressed against the vertebral column by the empyema. It was, however, everywhere pervious to air. The right lung was also congested and œdematous, but otherwise in a normal state.

"The hard crescentic lower border of the opening through which the bullet had entered in the front part of the chest, which, during life, had appeared to me on feeling it subcutaneously to be the result of an excavation made by the bullet in the upper margin of the third rib, turned out to be entirely pleural. It was really the lower border of the opening in the pleura made by the bullet on entering the chest, very greatly thickened, and at the same time so tightly stretched as to be quite unyielding on pressure by the finger. The bullet had entered between the two ribs without touching either. I could hardly have believed unless I had seen it that I could have been so deceived by the impression conveyed to the finger respecting the nature of the lower boundary of the opening just referred to.

"The diphtheritic membrane formed in the fauces was found to have extended far into the air passages and to be remarkably thick and leathery. The exudation covered the fauces, palatine arches, and passing on through the larynx, was found covering the epiglottis and rima glottidis, and lining in the form of a membranous tube, the larynx, trachea, and the bronchi into the centres of both lungs. It admitted of being detached and drawn away as one continuous branching tube. Considering the apparent rapidity of its formation, its dense and substantial character was very remarkable. The œsophagus was quite free from a similar exudation. There was no other instance of the formation of a diphtheritic membrane among all the other wounded patients from Egypt, either local as regards the wounds under treatment, or of a general character." (Appendix to *Army Medical Report* for 1881, page 305.)

508. Pleura pulmonalis and costalis of left side, more particularly the latter, coated with a thick layer of lymph. The left lung is compressed, and there are three openings in it by which the air had escaped into the pleural cavity. Print. Cat., page 15, No. 32.

From Patrick Culnon, aged 28, 50th Regiment. Admitted to hospital on arrival from Jamaica, May 9th, 1823, labouring under pectoral disease, the result of an injury received eighteen months before, which had produced hæmoptysis. On the 13th, after a violent fit of coughing, he was seized with a sense of constriction in the chest and abdomen, and rapid and difficult respiration; pulse small, 130; heart pulsating under the right mamma, and great mental agitation. On measurement, the left thorax proved to be larger than the right, and a hollow, tympanitic sound was elicited from it on percussion, affording presumption that air was contained in the left pleural sac. On the 21st, the operation for empyema was performed between the eighth and ninth ribs, when only five cubic inches of air were collected, and the relief to the symptoms was inconsiderable; on the following morning, therefore, the operation was repeated immediately below the nipple, and upwards of twenty-five cubic inches of air (containing 93 parts of azotic gas, and 7 of carbonic acid), were collected. The relief afforded was great and immediate, and the patient for some time improved in health, but on the 5th of June, he was again attacked with dyspnœa, and other urgent symptoms. By the 15th, fluctuation could be discerned in the same cavity; the symptoms becoming more

aggravated; on the 25th, the operation of Paracentesis Thoracis was again performed, by passing a trocar and canula through the substance of the 5th rib, when twenty-four ounces of serous fluid were obtained, the canula, furnished with a stopper, being allowed to remain, fluid was constantly discharged to the amount of several pounds, which daily became more puriform; and gas (nearly in the same proportions as already stated), was collected in large quantities at different periods. Hectic fever followed, and the patient sunk gradually; his feet became œdematous; and on the 29th of July he suddenly expired. Life was prolonged about three months with comparatively little suffering. On examination after death, the heart was seen thrust over towards the right side of the chest; the pericardium contained three ounces of fluid; the right lung was slightly compressed by the heart, and adhered to the sternum by a band of lymph; which crossed the pericardium; and the substance of the lung contained miliary tubercles; on the left side was a cavity nearly empty, the lung was much compressed when inflated, three different openings were discovered in it, by which air had escaped into the pleural cavity; the pleura was thickened, and coated with lymph; the liver was of a dark colour; the gall-bladder large, and contained a small quantity of pale bile; the small and large intestines exhibited signs of former inflammation; and the areolar tissue of the extremities was loaded with serum. [A detailed account of the case is given in the *Philosophical Transactions* for 1824.]

Fasciculus III, Plate III, Fig. 1.

EFFECTS OF INFLAMMATION, ECCHYMOSIS, &c.

509. Pleura costalis greatly ecchymosed and lined in many parts by thin layers of coagulated blood. Print. Cat., page 28, No. 87.

From Edward M'Cabe, aged 23, 89th Regiment, who was landed from India, and admitted into hospital dying from scorbutus, the prominent symptom being orthopnœa. He died in twelve hours after admission. On examination, about three pints of sanguinolent fluid were found in both pleural bags, with loose coagula at the back part. The pleura pulmonalis was at many parts covered with coagulable lymph, and the pleura costalis presented the appearance seen in the preparation. The lungs were much compressed. Both the small and large intestines exhibited petechiæ on their external surface, and there were also numerous petechial spots on the legs and thighs.

LYMPHY EXUDATIONS.

510. Portion of the pleura costalis, covered with an extensive deposition of coagulable lymph, having a slightly lace-like and flocculent appearance. Print. Cat., page 30, No. 93.

From a soldier of the 7th Fusiliers. A considerable amount of fluid was effused into the right pleural cavity.

Donor—Mr. O'Brien, Asst.-Surg., 7th Fusiliers, Malta.

511. Portion of diaphragmatic pleura covered with an extensive deposition of coagulable lymph in a tuberculated and slightly granulated form. Print. Cat., page 30, No. 94.

From the same case as 510, and same donor.

Donor—Mr. O'Brien, Asst.-Surg., 7th Regiment.

512. Pleura pulmonalis, covered with a deposition of coagulable lymph, having a well-marked lace-like appearance. Lung consolidated. Print. Cat., page 21, No. 50.

From Thomas Jones, aged 30, 46th Regiment, who was admitted with common continued fever of two days' standing. The following day symptoms of thoracic congestion set in, which did not yield to anti-phlogistic remedies, and the course of the fever continuing, accompanied by increase of cough and dyspnœa, the sensorium became affected, and he sunk on the tenth day of the disease. Post-mortem examination exhibited a highly inflamed state of the bronchial lining, and tubercular deposits in many parts of the lungs. The cavity of the right pleura contained about a quart of serous fluid.

513. A similar (but larger) preparation showing a similar condition from the same case as 512. At the incision in the upper part of the preparation, the delicacy of the lace-like deposit is seen.

Fort Pitt, Chatham.

Fasciculus II, Plate I, Fig. 7.

514. Portion of pleura covering diaphragm coated with a layer of newly-formed granular lymph. Print. Cat., page 22, No. 58.

Fort Pitt, Chatham.

From John Hurlikey, 87th Regiment, who was admitted with the usual symptoms of phthisis pulmonalis, accompanied by acute pain in the right hypochondrium. He soon sunk under the attending hectic fever. On dissection, the lungs were found to be studded with crude tubercular matter and vomicæ, the interposed tissue being œdematous. The right pleural bag contained about a quart of turbid serum, and the membrane was coated with a soft pseudo-membranous deposit, as represented in the preparation. The whole tract of intestine was more or less affected with ulceration. The liver was granular, of a brown colour, and much diminished in size. The gall-bladder contained a calculus about half-an-inch in diameter.

515. Portion of diaphragmatic pleura, coated with coagulable lymph, having attached to it a large loose pear-shaped portion of lymph which only adheres by a slender peduncle. Print. Cat., page 26, No. 75. See also Preparation No. 765.

From Michael Stapleton, aged 21, 14th Regiment, who had been treated for a pulmonic affection about eight months previous to his death. Five months before that event he was admitted into the General Hospital with epilepsy, and paralysis of the right arm. He had also diarrhœa. Coma supervened, the pupils were dilated and insensible to the stimulus of light, and strabismus succeeded; after which he soon died. On dissection, the dura and pia mater were adherent. The lateral ventricles contained four ounces of limpid fluid. The cerebral substance was softer than usual, and in dividing the left hemisphere, several deposits of a yellowish tinge, and moderately firm texture, presented in the middle lobe. Similar substances, but of smaller size, were discovered in the right hemisphere, and in the cerebellum. In the chest, the upper and posterior part of both lungs was agglutinated to the contiguous ribs by a firm adventitious membrane coated with lymph, as seen in the preparation. The substance of the lungs contained a few miliary and crude tubercles, and the bronchial glands presented tubercular deposit. The whole of the abdominal viscera were matted together by adhesion. The peritoneum presented many tubercular accretions. The kidneys also contained tubercular deposits.

516. A large mass of flocculent coagulated lymph which was found in the left cavity of the thorax. M.S. Cat., Vol. I, page 55, No. 141.

From George Bell, aged 30, 60th Rifles, died of hydrothorax. After death, the left cavity of the pleura was found to contain eight pints of a greenish sero-purulent fluid. The pleura, both parietal and visceral was covered with much flocculent lymph, and the mass seen in the preparation was found loose and unattached.

517. Long loose adhesions between a portion of left lung and the anterior part of second rib.

Donor—Dr. Bradford, Asst.-Surg., 56th Regiment.

518. A number of long loose thread-like adhesions between the pleura covering the pericardium and lung, also between the latter and costal pleura.

Donor—Mr. Lightbody, Surgeon, 80th Regiment.

519. Pleura costalis, thickened and covered with organized coagulable lymph, having a lace-like appearance. Print. Cat., page 29, No. 61.

From same patient as No. 515.

520. Portion of pleura, thickened and covered with lymph, deposited in a lace-like form. Print. Cat., page 31, No. 99.

From Neil Cameron, aged 38, Newfoundland Veteran Company. He was admitted into hospital suffering from a low form of pneumonia; he complained of dyspnœa, cough, and pain in the chest, particularly the right side, the respiration hurried, and the pulse rapid. Latterly, symptoms of effusion into the thoracic cavity manifested themselves, after which he sunk rapidly. On dissection, the left lung and pleura were found as above described; the right contained some tubercular deposition in a miliary form.

(*a*) FIBROID THICKENING OF THE PLEURA.

521. A portion of three ribs with the pleura costalis thickened from deposition of lymph on its serous surface; the adventitious membrane has acquired very considerable toughness. Print. Cat., page 24, No. 62.

From the same case as No. 515.

522. Costal and diaphragmatic pleura, coated with a very abundant deposition of lymph, having a flocculent appearance, and at some parts nearly an inch in thickness. Print. Cat., page 26, No. 74.

From Henry Humphries, aged 23, 1st Regiment, a phthisical patient. On admission into the General Hospital, he was affected with cough, dyspnœa, and mucous expectoration, accompanied by frequent palpitations, and spasmodic pains of the chest, all of which symptoms became aggravated up to the period of his dissolution. On dissection, the left lung was found agglutinated to the surrounding parts by a very thick semi-cartilaginous, adventitious mass. The right was collapsed, and the pleural cavity of that side contained two quarts of well-formed pus.

Fasciculus II, Plate I, Fig. 9.

523. Pleura pulmonalis and costalis adhering together by means of a layer of lymph, at some parts one inch in thickness. A portion of left lung is shown with deposit of yellow cheesy matter at its base. Print. Cat., page 28, No. 85.

From Joseph Price, aged 27, 19th Regiment, who was sent home from the West Indies for pulmonary disease, having previously suffered from dysentery and hepatitis; he lingered upwards of six months in hospital before he died. On post-mortem examination, cheesy tubercles were found in the lungs, but only one vomica. The left lung was much carnified, and the bronchial ramifications very red.

From Fort Pitt, Chatham.

524. Pleura covering left lung thickened and coated with a layer of flocculent lymph; lung compressed and a free communication existing between a large sized bronchus and its surface through the medium of a small tubercular excavation. MS. Cat., Vol. I, page 55, No. 143.

From George Bell, aged 30, 60th Rifles, who died of hydrothorax. The left cavity of the chest contained 8 pints of a greenish sero-purulent fluid. The pleura (parietal and visceral), was covered with much flocculent lymph, and the mass preserved in preparation 516 was found in this case.

Fasciculus III, Plate III, Fig. 5*a*.

525. Pleura pulmonalis and costalis thickened, covered with thick lymph and adherent. MS. Cat., Vol. I, page 53, No. 132.

526. Pleura costalis thickened and adherent, with portion of lung attached. Print. Cat., page 12, No. 10.

From James Conolly, aged 38, 67th Regiment, who was invalided from India on account of chronic pulmonary disease. He died the day of admission to hospital, and examination after death showed the lungs extensively diseased.

Fort Pitt, Chatham.

526A. Pleura reflected from left lung and much thickened, having the density and appearance of leather. A delicate layer of lymph covers its external surface. The left lung is much reduced in size 5×3 inches thick. The bronchi are reduced in calibre, and the lung collapsed—the result of pressure from pleuritic effusion.

From Private J. Bell, aged 29, 2nd Battalion, 23rd Regiment. He had been ill 16 months, and pleurisy followed Maltese fever. Paracentesis thoracis was performed on four occasions, and 166 ounces of purulent fluid was withdrawn. He died of exhaustion, and 120 ounces of fœtid fluid were found in left cavity. "Pointing" was visible towards space between third and fourth ribs, where alteration in lung substance communicated with pleural cavity.

Post Mortem Records, Netley, Vol. IV, No. 16.

(*b*) Cartilaginous thickening of the Pleura.

527. A portion of the left lung and its pleura covered with two distinct layers of adventitious membrane; one is of a firm cartilaginous structure; the second is of recent formation and deposited in a lace-like form. MS. Cat., Vol. I, page 54, No. 140.

From Alexander Crop, aged 27, 72nd Regiment, who had been an epileptic for a long time, and who died suddenly, with difficulty of breathing. Examination after death disclosed 8 pints of serum in the right pleural cavity, with the lung very much compressed, and containing many scrofulous tubercles in its substance. The left lung was similarly affected.

528. Fibro-cartilage developed on the surface of the pleura and containing between its layers some bony matter.

529. Portion of pleura costalis considerably thickened, of a cartilaginous consistence and having a peculiar smooth and glistening surface. MS. Cat., Vol. I, page 53 No. 137.

From William Barry, aged 31, 30th Regiment, who died on the 2nd day after arrival from Bermuda. He had complained of his chest during the whole of the voyage home, and was moribund on admission to hospital. Examination after death showed the lungs extensively studded with tubercles, with much pleural adhesions on both sides of the chest. The portion of pleura in the preparation adhered firmly to the ribs to the right of the spine, posteriorly.

530. Portion of lung with the pleura pulmonalis attached, the latter is an inch thick and converted into a substance of a fibro-cartilaginou nature. MS. Cat., Vol. I, page 58, No. 160.

From Archibald Shanks, aged 44, 86th Regiment, who died after seven days' illness from inflammation and gangrene of the right lung, having suffered for two years from ague and dysentery.

531. Pleura pulmonalis and costalis adherent, of a fibro-cartilaginous structure and about half an inch in thickness, with portion of compressed lung attached. Print. Cat., page 26, No. 73.

From a man who had suffered from pleuritis and pneumonia, accompanied with pulmonary phthisis.

Fort Pitt, Chatham.

532. Portion of diaphragmatic pleura thickened from a deposition of a cartilaginous substance, about the sixth of an inch in thickness, a portion of which is raised.

533. Part of the diaphragmatic pleura of an oval form about five inches in length and two in width converted into cartilage. MS. Cat., Vol. I, page 30, No. 104.

From James Hadacre, aged 27, 12th Regiment, admitted into the General Hospital from Gibraltar, on account of impaired health from fever and catarrh. He died of phthisis pulmonalis. Pleural adhesions pervaded the right side, and the left lung was adherent throughout.

(*c*) Bony thickening of the Pleura.

534. Pleura pulmonalis, with a number of large ossific deposits in it—a dried preparation preserved in turpentine.

Donor—Dr. Stewart, Asst.-Inspr. of Hospitals.

535. Part of the pleura costalis, with ossific deposit of large size and irregular shape. The bony matter is deposited in sharp accuminating points—a dried preparation preserved in turpentine. MS. Cat., Vol. I, page 58, No. 158.

From George Baxter, aged 37, 1st Foot, a patient affected with amentia, who died at Fort Clarence.

536. A large ossific deposition on the external surface of the pleura costalis; lung consolidated and adhering to it. Print. Cat., page 12, No. 11.

From Richard Burbridge, aged 55, 30th Regiment, who died two hours after admission to Fort Pitt in a state of insensibility, from effusion of blood between the brain and the dura mater.

Fort Pitt, Chatham.

537. A large osseous deposit in a portion of the pleura.

538. Extensive ossific-like deposit between costal and pulmonary pleura of right side; the deposits are in large plates, with transparent membrane between them — a dry preparation.

From John Freeman, aged 42, 12th Regiment, who died of acute dysentery, 22nd July, 1847. The right lung was found to be adherent to this mass of ossific matter, and to the ribs. There were small vomicæ in the upper lobe of the right lung; the left lung and its pleura were normal; there were many ulcers on the mucous membrane of the large intestine; the left lobe of the liver was enlarged; and the cardiac end of the stomach congested.

Donor—Staff-Surgeon R. Allen.

539. Osseous deposit in the pleura pulmonalis; lung consolidated.

EFFECTS OF SUPPURATION AND OF OTHER FLUIDS EFFUSED INTO THE PLEURAL CAVITIES.

540. Pleura pulmonalis, covered with flocculent lymph and the lung compressed, the result of purulent fluid in the pleural cavity, from an hepatic abscess with which it communicated through an opening in the diaphragm. MS. Cat., Vol. I, page 52, No. 129.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

541. Left cavity of the chest enlarged; lung compressed; pleura pulmonalis and costalis thickened and covered with coagulable lymph, having a lace-like appearance and in the form of shreds. Print. Cat., page 31, No. 98.

From Neil Cameron, whose case is described under No. 520.

542. Pleura pulmonalis and costalis of the left lung covered with flocculent lymph. Lung compressed. Print. Cat., page 21, No. 57.

From Sergeant Logan, aged 35, 85th Regiment, who had served in the West Indies, and Malta. He was admitted into the General Hospital, Fort Pitt, with peritoneal dropsy, and chronic hepatitis. After death, the left thoracic cavity was found to contain about two quarts of fluid, the lung was compressed against the mediastinum, and the whole surface of the pleura was coated with the cartilaginous adventitious membrane seen in the preparation. The peritoneal cavity contained a large quantity of fluid; the mucous tunic of the intestines was inflamed, and covered with copious deposits of lymph.

543. Lung coated with a thick layer of granulated lymph and compressed. Print. Cat., page 11, No. 4.

From John Wilson, aged 39, 84th Regiment, who died after five weeks' treatment in Fort Pitt Hospital, Chatham. He was admitted for dyspnœa, and on examination after death, effusion had taken place into both pleural cavities; and both lungs were hepatised, the heart was enlarged, with thickening of the mitral and semilunar valves.

Fort Pitt, Chatham.

544. Right lung covered with a thin layer of lymph and compressed. Print. Cat., page 30, No. 92.

From a soldier of 7th Fusiliers. A considerable quantity of fluid was found in the cavity of the right pleura.

Donor—Mr. O'Brien, Asst.-Surg., 7th Regiment.

545. Section through the 12 dorsal vertebræ in middle line with ribs attached, showing left cavity of thorax very much enlarged; lung compressed and condensed in consequence of empyema; both the pleura pulmonalis and costalis are much thickened and their surface covered with a quantity of coagulable lymph. At the lower part of the lung the lymph has assumed the form of long shreds which seems to be partly organized. Print. Cat., page 30, No. 95.

From James Stewart, aged 26, 25th Regiment, who died in a state of extreme exhaustion from severe dyspnœa, cough and expectoration; he was in a state of extreme emaciation. After death the pleural cavity was found to contain three pints of sero-purulent fluid. The heart, small and flaccid, was pushed over towards the right side.

Fort Pitt, Chatham.

546. A similar preparation to 545, in which the right side is affected, but there is no history.

Pneumo-Thorax.

547. Left half of thorax, with a portion of the ribs excised so as to illustrate the pathology of pneumo-thorax. The diaphragmatic and a portion of the pulmonary pleura are covered with a thick layer of granulated lymph. Two small openings at external margin of inferior lobe of lung communicate with the pleural cavity; lung compressed is pushed upwards and adheres to the parietes of the chest, leaving a large empty sac between the inferior border of the lung and diaphragm. MS. Cat., Vol. I, page 54, No. 538.

William Pierce, aged 33, 46th Regiment, six years in the service, the greater part of which was passed in hospital. He died of phthisis of about a year's duration. He complained shortly after admission of acute pains in the left side of his chest, preventing him lying on that side; there was complete absence of respiration on that side, and signs of cavities in the superior lobe of the left lung; his ankles also began to be œdematous, and he suffered from a harrassing cough, at first unaccompanied by expectoration, but which afterwards was so free that it came away in a continuous purulent stream. On the 4th of September, the pain of the left side returned, and along with it a change in the resonance so that percussion on the lower part of that side exhibited great clearness. This clear percussion disappeared in front during the erect position, and returned on reclining. On the application of the stethoscope, amphoric resonance was heard, accompanied occasionally by slight metallic tinkling; on the 10th these sounds disappeared, but ever afterwards the cough had a peculiar clearness almost metallic, and during the coughing the splashing within the chest was distinguished, and the presence of fluid was sensible to the patient from the fluctuation felt on changing his position. He continued to emaciate, and died exhausted on the 4th. During his whole illness he was troubled with a fistulous opening through which his urine exuded. After death a fistulous opening large enough to admit the point of the little finger was discovered opposite that part of the 4th rib, which is about two inches from its cartilage; the lung itself was very much compressed and condensed in consequence of the pressure of the air which had escaped through the fistulous opening, and also owing to about three pints of sero-purulent fluid mixed with coagulable lymph contained in

a cavity bounded above by the lung, and firm adhesions which it had contracted to the costal pleura externally by the ribs, internally by that part of the pleura pulmonalis reflected on the side of the pericardium, and inferiorly by the diaphragm. The whole inner surface of this cavity was covered by coagulable lymph under which the pleura costalis presented very generally, and in some places an abraded surface. On the inner aspect of the epiglottis, and in the ventricles of the larynx were many small ulcers; similar ulcers were noticed on the mucous membrane of the trachea, which, with the larger bronchial tubes had acquired a greenish hue; groups of tubercle in their second stage of development were seen here and there in right lung; the whole of the lung structure had become so softened as to be easily torn by the slightest pressure of the finger.

548. Lung covered with lymph, having a fistulous opening which communicates with the pleural cavity.

549. Pleura pulmonalis and costalis thickened; the cavity contained a collection of air. Print. Cat., page 28, No. 83.

Death from phthisis. The cavity was not found to communicate with the bronchi.

Donor—Dr. White, Asst.-Surg. Staff, Malta.

Tubercular Deposits in the Pleura.

550. Diaphragmatic pleura and that covering the pericardium thickened and adhering to the right lung by means of a soft yellow cheesy-looking deposit. Lung studded with tubercles. Print. Cat., page 28, No. 86.

From Joseph Price, aged 27, 19th Regiment, sent home from West Indies for pulmonary disease, having previously suffered from dysentery and hepatitis. He lingered for six months in hospital before death, after which, cheesy tubercles were found in the lungs, but only one cavity. The left lung was carnified and the bronchial ramifications red.

551. A part of the diaphragmatic pleura studded with numerous granular tubercles. MS. Cat., Vol. I, page 40, No. 106.

From William Harrison, aged 24, 35th Regiment. Admitted into the General Hospital, Fort Pitt, on the 15th September, 1833, affected with an obstinate bowel complaint, of which he died on the 6th of November. There were no symptoms of thoracic disease. At the post-mortem examination strong adhesions were seen both in the left and right sides between their pleuræ. Those of the right were firm, transparent, and so numerous as to resemble network, while on the left they were opaque, and of more recent formation, fixing together the surfaces throughout the whole extent of the cavity. These were easily detached from each other; and this being done, the pleura lining the ribs and diaphragm was found studded with small tubercular bodies, and numerous red patches, most considerable at the posterior-inferior part of the left cavity, where a small deposit of recently-effused coagulable lymph was found. The internal structure of the lungs generally presented few marks of disease; at the lower part of the left was the hypertrophied portion seen in the preparation. It had a grey colour, and when cut into, appeared studded with minute granules, but with no appearance of pus.

552. Two small tubercular deposits in an adhesive band which extends between the superior and middle lobes of the right lung. MS. Cat., Vol. I, page 55, No. 145.

From John May, aged 24, 2nd Battalion Rifle Brigade, who died of phthisis pulmonalis.

553. Numerous small tubercles in a strong band of adhesion which connected the upper lobe of right lung to the parietes of the chest. MS. Cat., Vol. I, page 54, No. 139.

From the same case as No. 527, which see.

554. Numerous tubercles in the pleura costalis, also in a strong band of adhesion between the lung and pleura with several loose flakes of lymph adhering to both. MS. Cat., Vol. I., page 47, No. 110. See Preparation 756.

From a Maltese woman, aged 23, who died after an illness of two months. After death, tubercles were found in her lungs; and also under the peritoneum and between the muscular and mucous coats of the intestines. In the report it is further stated that there was a large quantity of serum in the right pleural sac, and that the intestines were agglutinated through the medium of tubercles and coagulable lymph.

Donor—Dr. Davy, Assist.-Inspr. of Hospitals.

555. A large mass of tubercular matter occupying the space between the edge of right lung and front of diaphragm.

Fatty Growths attached to the Pleura.

556. Portion of pleura, with several fatty appendages attached to it.

From a man 74 years of age, who was by no means generally fat.

Donor—Dr. Stephenson, Rochester.

Abscesses in or connected with Pleural Cavity.

557. Sac of an abscess situated between the inferior lobe of the lung and the diaphragm. Pulmonary and diaphragmatic pleura coated with lymph.

558. Portions of 7th, 8th, 9th and 10th ribs, with sac of a circumscribed abscess in the left cavity of the thorax, with a fistula opening externally between the 8th and 9th ribs; pleura thickened. Print. Cat., page 32, No. 102.

From Patrick Kane, aged 30, 87th Regiment, who had long suffered from scrofulous ulcerations and sinuses about the sternum and ribs, fistulous openings existed in various parts of the thoracic parietes. On coughing, a rush of air externally and crepitus took place from the abscess shown in the preparation. He ultimately died, wasted and exhausted by the discharges, after having been under treatment in the General Hospital three hundred and seven days.

559. Section through bodies of 4 dorsal vertebræ, with portions of left ribs attached. A swelling about the size of a billiard-ball (stated in the MS. Catalogue to be an abscess) situated beneath the pleura costalis of the left side and protruding into the thoracic cavity. MS. Cat., Vol. I, page 68, No. 201.

From Stephen Pendergrast, aged 23, 31st Regiment, who was admitted into the General Hospital, Fort Pitt, in September, 1846, with caries of the left tarsal bones and alveolar extremity of the tibia.

The disease was of 14 months' duration; when admitted into hospital there were several ulcers over the os calcis emitting a copious discharge of thin offensive sanies; a probe could be passed deeply through them into the bone. An extensive ulcer occupied the belly of gastronemious muscle, having deep sinuses in the direction of the popliteal space. Staff-Surgeon Dr. Lawson amputated the limb above the knee by anterior and posterior flaps ten days after admission. The stump went on favourably, and his general health was improving until the middle of November, when he began to complain of pain in the right side of chest, which increased on taking a full inspiration, and on coughing; at this period the stump inflamed and two or three spiculæ of bone came away; the chest symptoms were mitigated. On 21st December the pain in the chest returned, and he began to spit blood, night perspirations came on and the stump again became troublesome, painfully inflamed and irritable. The glands in the left groin swelled and suppurated. Abcesses formed about the scapula and right shoulder joint which discharged a great quantity of pus. On the 11th of February a small abcess made its appearance over the third rib into which an incision was made and a considerable quantity of pus evacuated. In a few days he had a fresh attack of pain in the chest; on examination respiration was found to be puerile at the upper part of the left lung, whilst at the inferior part of both lungs there existed a slight râle with dulness on percussion, but more marked on the right side. At a later period respiratory murmur became quite extinct anteriorly from the 6th rib downwards, when the abcess continued to discharge profusely, the cough and pain were diminished and *vice versâ*. In the beginning of July he was attacked with pain in the left side of the chest. The abdomen also began to swell and fluctuation was perceptible. The urine was discharged with difficulty and in very small quantities. From this period he sank rapidly and died on the 26th of August.

Donor—Dr. Williamson, Staff Asst.-Surg.

Parasitic Lesions affecting the Pleura.

560. Portions of three ribs with a large cyst attached to the costal pleura, and filled with cysts of the Echinococcus (hydatids) enclosed in their adventitious covering sac. There is some evidence of its protrusion on external aspect of ribs.

561. A conical cyst about the size of a pigeon's egg projecting from the diaphragm into the left pleural cavity. Print. Cat., page 27, No. 76.

From a man of the 60th Regiment, who died from the bursting of an aortic aneurism into the right lung. The cyst has the appearance of a diaphragmatic hernia. Its serous surface was vascular. The parts weighed an ounce and a half. When punctured, about an ounce of an extremely tenacious fluid of a muddy colour escaped. Probably a hydatid Echinococcus cyst.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

562. A loose filamentous tissue, which connected the left lung to the walls of the chest, containing many vesicles varying in size from a pea to a marble, and containing a clear serous-looking fluid, probably hydatid cysts. MS. Cat., Vol. I, page 58, No. 159.

From same case as No. 450, which see.

[N.B.—Many specimens of diseases of the Pleura are still to be found in the next sub-series.]

SUB-SERIES 2.—INJURIES AND DISEASES OF THE LUNG.

WOUNDS.

563 The left lung reduced to about one-third its natural size. Its lobes are stitched together, and the whole held upon a rod of glass. Dark spots are on the pleura covering apex and upper edge of lower lobe. The pleural covering is coated with a layer of lymph. Anteriorly near its base a deep gap about three inches in length and depth leads to a wide circular perforation through the posterior portion of the lobe. The surface of the anterior opening is very irregular, jagged and infiltrated with

purulent matter; and in the recent condition numerous minute splinters of bone were lodged in the pulmonary tissue.

From Ensign Bowen, aged 25, who was wounded on the afternoon of the 29th December, 1857, on the walls of Canton. A jagged Gingall ball of about one inch in diameter entered the left side of the chest behind the nipple, about the centre of the fifth rib, and passed out close to the left side of the spine, about two inches below the level of the wound of entry. The ball fell out from the back on removal of his tunic. During the night of the 29th he did not suffer from dyspnœa or expectoration; he lay quietly on his back, did not speak unless addressed, and then only in whispers. When asked if he suffered much pain, he nodded, and said "yes, a good deal." He was, however, hopeful of recovery. On the morning of the 30th he was removed to the "Lancashire Witch" hospital ship. During his conveyance there, he complained of pain and uneasiness in the wound. On arrival at the hospital ship he was put into bed, and on removal of the bandages, which were covered with blood from the wounds, it was found to be very difficult to restrain the hæmorrhage from the anterior wound. This, however, was effected by means of compresses of lint and of bandages. There was no dyspnœa, but he complained of pain in the wound, and was restless and anxious during that day and the night following. The pulse was quiet. The report by Staff-Surgeon Powell states: "There was no dulness over the chest, no dyspnœa, no cough, no expectoration." During the three following days a large quantity of bloody discharge mixed with purulent matter, and of an offensive nature, came from the wound; there was pain at this situation. The discharge for the next two days lost its bloody appearance, became dark coloured and very offensive, afterwards it assumed a more healthy character. His tongue was clean and skin cool, occasionally he was thirsty. He took arrowroot, jelly, and animal broths, also some aperient medicines which acted gently on the bowels. On the sixth day following his admission into hospital ship (and seventh after injury), both openings of the wound appearing dark and sloughy, a poultice was applied with good effect; afterwards tepid water dressings were used. On the seventh and eighth days he became more cheerful and ate his food. The discharge from wound was thicker and of a lighter colour. Towards the evening of the ninth he looked paler, and his breathing became oppressed; he slept until 11.0 p.m. when he became restless and talked incoherently at intervals. About 5.0 a.m. on the following (10th) morning he appeared suddenly to sink, his extremities grew cold, his countenance shrunken, and his respiration hurried. He rallied after taking some brandy and ammonia, but about 11.0 a.m. again showed symptoms of sinking. The fæces passed involuntarily, the breathing became more difficult, and pulse imperceptible. He sank and died at 12.0 p.m. on January 10th, the eleventh day after receipt of the wound.

Five hours after death the circumference of the left side of thorax was reduced, the left mamma was lower than the right. Three inches outwards and downwards from the left mamma was a circular wound of nearly two inches in diameter, perforating the integuments, edges thin, livid and undermined. A corresponding opening, somewhat larger, is situated one inch to the left of the spinous process of the ninth dorsal vertebra. The thoracic walls were perforated anteriorly and posteriorly; the sixth and tenth ribs were completely crushed to the extent of one and a half-inch near either opening of wound, but one inch below. On removal of the sternum the left pleural cavity was found distended with thin, fetid, purulent matter. The left lung reduced to less than one-third of its natural size, was void of air, and its pleural lining was coated with a layer of coagulable lymph. The lung was wounded in the way described above. The pericardium externally exhibited increased vascularity, its internal surface and the cardiac layer were covered by a copious and recent effusion of lymph; its cavity contained a copious effusion of sero-purulent fluid, and there was general hyperæmia of its structure.

Donor—Asst.-Surg. E. Becher.

564. Gunshot wound of left lung. The inner surface of both lobes is covered with a thick layer of lymph, the result of pleurisy. It extends over the whole surface of lower lobe. On the outer surface of the upper lobe, just above interlobar fissure, is seen a wound about half an inch in depth caused by a fragment of broken rib which had been driven into the lung. Anterior to this is an entrance wound (marked A) of a revolver bullet. The surrounding pulmonary tissue, being here infiltrated with blood. Glass rods have been introduced to keep open a section through the lung, which has been made to expose the track of the bullet, which passed backwards and slightly downwards immediately over the root of the lung. It came out about half-way down the posterior surface of the lower lobe. The pulmonary tissue round the wound of exit (which is marked B) is firm to the touch, and showed under the microscope the existence of catarrhal pneumonia. A glass case (3823) in Surgical Museum, contains part of woollen jersey perforated by bullet.

Colour-Sergeant Darter, aged 29, 51st Regiment (1st K.O., Y.L.I.), shot himself at the New Barracks, Gosport, January 12th, 1888. He was found lying face downwards on the floor, in such a position that it appeared probable he had been standing close to the bed with his left side towards it. A six-chambered revolver (bore No. ·450) with one chamber discharged, was lying on the bed. He was much collapsed but conscious, and made one or two short remarks such as:—"Oh! Why did I do it?" There was very little hæmorrhage, and he showed no expression of pain. A lint dressing was applied to the wound in the chest; he was wrapped in his blanket and immediately conveyed to the station hospital. On admission at 11 a.m., his face and surface generally was cold, eyes closed, face slightly drawn, and lips blue. Pulse small and undulating, about 80. Respiration shallow, but not apparently increased in frequency (not timed). He lay on his back, not speaking, nor moving, but conscious. He was wearing a small, thick woollen jersey and drawers; and in the former on the left front was a round, charred hole corresponding with the wound of entrance. It was noticed that the inner surface (next skin) of woollen jersey was much more scorched than the outer (see the portion preserved in the Surgical Museum, 3823). This wound was in the 2nd intercostal space, three-quarters of an inch internal to the nipple line, about a quarter of an inch in diameter, and well defined, with a thin blue margin, which was somewhat charred. A little blood oozed from this wound, with, occasionally, a few bubbles of air. There was no extensive bleeding neither was there hæmorrhage from the mouth; nor on admission was there any apparent traumatopnœa. The wound of exit was about one inch to the left of the middle line behind, and, as nearly as possible, opposite the 8th dorsal spine. It was irregularly slit-like, somewhat jagged, valvular, and about a quarter of an inch long. There was no hæmorrhage from it. The bullet was found in the (hospital) bed on turning the man over. There was no second hole in the jersey, and no marked lumbar ecchymosis was noted.

Listerian dressings were applied; the patient being kept as much as possible on his left side, hot bottles to feet, and 3 grs. of tincture of opium every three hours. At 4 p.m. blood welled rather freely from anterior wound. The side was strapped, the wound redressed, and 3 grs. of *Extract Ergoti liquidi*, with 20 grs. of *Acid Gallici* in *aq. menth pip.* were given, to be repeated in an hour. The bleeding ceased. Evening temp., 100·4° Fahr., pulse 124, resp. 40.

13th January.—He had passed a good night. Morning temp., 103° Fahr., pulse 124, resp. 48. Some dyspnœa; no recurrence of bleeding. Evening temp., 103° Fahr., pulse 130, resp. 46.

14th January.—No inflammation nor suppuration at either wound; dyspnœa less; lies comfortably on injured side, but did not sleep well. Morning temp., 101° Fahr., pulse 134, resp. 44. Evening temp., 102·6° Fah., resp. 44, pulse 160.

15th January.—Bleeding recurred last night at 8.15. Ergot given as before, and wound dressed. Bleeding again recurred at midnight, continuing till 2 p.m.; was somewhat delirious. Bleeding again recurred at 9 a.m. this morning; air and blood bubbling through the wound of entrance, which was redressed, the ergot repeated and ice bags applied to chest, with ice to suck. There was considerable dyspnœa and cyanosis. Morning temp., 100·4°, Fahr., resp. 66, pulse 168; very small oozing from wound recommenced in the afternoon, and again in the evening. Wound dressed and plugged with turpentine lint. Evening temp., 98·4° Fahr., resp. 66, pulse 164. Half-an-hour afterwards temperature rose to 100°. He died in the afternoon.

Examination after death showed that the bullet had passed through the third rib, fracturing it roughly. [About three inches of this rib is preserved in the Museum.—See under Fractures.] The left lung was found completely collapsed, and the pleural cavity occupied by 35 to 40 ounces of blood clot and serum; the pleural surfaces being covered with thick layers of flocculent lymph with tolerably firm adhesions about the upper and back part of the lung, where the two layers were alone in contact. A small fragment of bone was found lying about 1½ inch to the right of the wound of entrance of bullet into the lung, lying in a small superficial wound in the lung, which it had made for itself. A portion of the 8th rib removed together with the lung, was seen to have been grooved by the bullet in its passage out of the chest.

The bullet track through the lung commenced a little outside the anterior margin, about its middle, the bullet passing backwards, and downwards towards the middle line, emerging at the posterior border about the junction of the upper two-thirds with lower third; and just passing over the root of the lung (narrowly avoiding the pulmonary artery) and to the inner side of the bottom of the fissure dividing the two lobes. The man was usually a *right* handed man, but he had been seen to shoot with the *left* hand. In the track may be seen great laceration and ploughing up of the lung structure; also the embedding in several places of small fragments of bone, and a few hairs from the jersey worn at the time of firing the shot. There was also considerable ecchymosis about the track of the bullet, especially at its posterior part. Suppuration appears to have commenced at one part of the track, where the majority of the bone fragments were embedded. The wound of exit was a valve-like slit. The patient died from hæmorrhage, which commenced seriously on the evening of the third day after injury; the lung gradually contracting (the respiratory rate at same time increasing); the pleural cavity becoming more and more capacious, accomodated the steady flow of blood which was taking place into it.—[*Abstract of Cases*, Netley, Vol. III, No. 227.]

Donor—Surgeon W. P. Gore Graham.

564A. Gunshot wound of right lung. Dorsal vertebræ with ribs attached. The track of a bullet is shown through the inferior lobe of the right lung. The aperture of entrance is shown by a cicatrix in the skin, situated 4 inches below and to the outer side of the right nipple about 2 inches under right axilla, where it entered the thorax between the 6th and 7th ribs. Fracturing the 7th rib, it passed backwards and made its exit between the 10th and 11th ribs, where the ball was cut down upon and extracted from its lodgment underneath the skin. On introducing a probe through the aperture of exit it was found to pass for an inch into the muscular

substance outside the thorax, and then to enter the pleural cavity and to a superficial wound of lung, from which a sinus extended for 3 inches forward through the lung to the entrance aperture, which had closed. The sinus was larger than a common quill, and lined by a distinct membrane which has been dissected off. Several bronchial tubes are seen to open into it. There were also two pieces of fractured rib, each about an inch long, lying in the sinus close to the aperture of exit, and a portion of 10th rib is also bare and necrosed. The right lung was perfectly healthy except in the inferior lobe for about two inches surrounding the track of the ball, where the pulmonary tissue was condensed, sinking in water, and in a state of grey induration. Besides the direct track of the ball, there is another sinus branching upwards and outwards from the posterior part of the sinus in the condensed portion of lung, which is also lined by a distinct membrane with bronchial tubes opening into it. The lung seems to have recovered from the original injury, except along the track of the ball, and where the bone had become necrosed which kept the posterior wound opened and discharging. The fractured ribs have united and are not much displaced. The fractured portion at the entrance of bullet projects somewhat inwards, and must have produced considerable irritation of the pleura of the lung. The exit aperture penetrates the 10th rib about 1½ inches from its tubercle, through which a probe is inserted and passed through the whole track of the ball through the lung. The inner surface of the rib is denuded of periosteum.

From Private Owen Doyle, aged 24, of 4$\frac{5}{12}$ years' service, partly in Malta, the Crimea, and India. He was wounded on 26th November, 1857, at Cawnpore, by a musket shot. He stated that he brought up a large quantity of florid blood immediately after the injury, and that he was bled freely from the arm. A number of exfoliations (of bone) came away through the wound of exit, and on admission into the Kidderpore Hospital, Calcutta, under the care of Surgeon F. de Chaumont, M.D., of Rifle Brigade, he still continued to expectorate purulent matter, and occasionaly small fragments of bone. Beyond a little puerile breathing, and a few coarse moist sounds about the anterior wound, there were no abnormal sounds on physical examination. About three weeks after his admission to the Calcutta Hospital, he was seized with pyrexia, œdema of the feet, vomiting, and diarrhœa. By-and-by he began to complain of pain in the chest, and to have hæmoptysis. On examination, the wound (of exit) was found to communicate with the air-passages, as both pus and air were expelled on coughing. There was no pneumo-thorax. He lost his appetite entirely, sweated profusely, and his urine was alkaline and highly phosphatic. The chest was blistered, calomel and opium were administered, and a liberal diet with malt liquor was allowed him. Under this treatment he rapidly improved, and was soon able to embark for England.—(Surgeon de Chaumont).

On the 16th August, 1858, he was admitted to Fort Pitt Hospital from India. The wounds were then reported to be healed 263 days after injury; but he complained of cough and shortness of breath; there was nothing abnormal to be detected in the right lung; and on the 18th August he was discharged to barracks to await invaliding documents. He was re-admitted on 31st August,

complaining of pain in the chest generally; but more especially over the *left* side, and also slightly over the site of the old wound. The respiration was hurried, the expectoration abundant, and muco-purulent; percussion clear over right side of chest; vocal resonance in the inferior lobe of the right lung and along the track of the ball. There was dulness on percussion in the left subclavicular region; respiratory murmur diminished, and crepitation audible; pulse 86 strong; respiration 44; cough severe. 8th September.—The exit wound re-opened, and several small pieces of bone were taken away. He complained of great pain, especially in left side of chest; pulse 80; respiration 28; wound discharging freely, healthy pus and air escaping on expiration and on coughing. 9th September.—Felt very weak; and a fœtid smell exhaled with the breath. Expectoration was profuse, purulent and of a disagreeable odour. These symptoms continued up to the 20th, when he began to improve, and was able to get out of bed and go about, although still troubled with cough and purulent expectoration, and the discharge from the wound of exit had almost ceased. 27th September.—Was feverish; pulse high; tongue coated; with persistent pain in left subclavicular region, and he could not expectorate so freely as before. Fœtor of breath and sputa returned and the expectoration was of a dark stringy character. There was dulness over the whole of left side of chest; on the right side percussion was clear, with only a few mucous râles. He gradually became weaker, and died 15th October, 1848, eleven months after receiving his wound. After death the right lung was found firmly adherent to chest walls; and its structure perfectly healthy and crepitant, except just the portion implicated in track of bullet. The lung expanded perfectly from bellows blowing, and the air rushed out at the wound of exit, showing free communication between trachea and chest wound. Numerous pieces of necrosed bone were found in a paper under the patient's pillow after his death, which were supposed to have come from the ribs. The upper half of *left lung* adhered to the chest wall and its inferior lobe by recent lymph. The structure of the upper half of the superior lobe was broken up into an irregular cavity, filled with a dark fœtid fluid, having several of the larger bronchial tubes intersecting it, the whole being in a state of gangrene. The inferior half of the upper lobe of left lung was in a state of grey hepatization. The upper half of the inferior lobe was similarly condensed, and the remainder œdematous. These later lesions are said to have resulted after a debauch and exposure to cold.

[See Notes of Cases from Kidderpur Hospital, Calcutta, by Dr. Francis de Chaument, Surgeon 1st Battalion Rifle Brigade; also Dr. Williamson, Staff Surgeon, Fort Pitt, on "Gunshot injuries from the Mutiny in India," page 28. Also Holme's "System of Surgery," Vol. I, p. 523 "Gunshot wounds," by Sir Thomas Longmore, C.B., Professor of Military Surgery, Army Medical School, who has given drawings of the lesions and description of the case as an illustration of the process by which wounds of the lungs heal.]

565. A portion of protruded lung, detached by sloughing from Private Charles Hagan, 6th Battalion 60th Royal Rifles, who was stabbed at Meerut, East Indies, on 14th February, 1877. The portion fell off 22 days after the infliction of the injury.

Private C. Hagan, aged 28, had $9\frac{4}{12}$ years' service, was stabbed in fifteen different places on the night of the 14th February, 1877, by a drunken comrade, while he himself was lying helplessly drunk, so helpless as to be unable to escape or to defend himself from the would-be murderer. Is quite unable to wear his belts or to perform any military duties. He was stabbed between the sixth and seventh rib on the left side, and a portion of lung protruded. Also the following:—A wound over right patella—over abdomen, from which a portion of the omentum protruded; wound in the epigastrium, admitting a probe into the stomach; small wound in left chest; another across the right mammilla; another on the sternum; another over left wrist: another on posterior surface of left thumb; wound of right hand (penetrating)

and right fingers; wound of left jaw, from which seven pieces of bone have come away; a wound on left side of head. He recovered, and was recommended for discharge on account of permanent unfitness for the Service. He was invalided to Netley, leaving India on the 10th February, 1878. At the date of leaving India his general health was excellent. The cicatrices of the wounds are perfectly consolidated, and the only inconvenience he complains of is a tightness or "stitch" on drawing a deep breath, beneath the cicatrix on the left side, and a similar sensation at the diaphragm on wearing tight clothes or making any exertion. The respiratory sounds in the left lung seem perfectly free. The rib, at the site of injury, seems to have been sliced or notched at its upper surface, and this can be detected by running the finger along its edge.

[See *Medic. Chirurgal Transactions*, Vol. XX (1836), p. 378, for an account of a case of removal of a portion of lung which protruded through a wound caused by an assegai, which transfixed the right side, entering opposite to the eleventh rib, three inches from the spine, and the same distance from crest of ilium, and making its exit in right hypochondrium, midway between umbilicus and cartilage of ninth rib.]

Donor—Surgeon Major F. A. Surton, M.D.

566. Rupture of left lung, extending horizontally through the pulmonic structure to near the bronchus, and resulting in a gangrenous eschar of the injured portion of lung. The injury was the result of an explosion in the Crimea on 15th November, 1855. There was no rupture of the costal pleura that could be determined; old band-like adhesions were found at the corresponding part of the thoracic wall.

EMPHYSEMA.

567. Two large cul-de-sac dilatations, of the extremities of the bronchial tubes, communicating freely with each other. No history obtainable. Print. Cat., page 28, No. 84.
Fasciculus II, Plate II, Fig. 2.

568. Portion of lung with an emphysematous vesicle the size of a cherry attached to it. Disease of 8 months standing. M.S. Cat., Vol. I, page 65, No. 188.

569. External appearance of a portion of lung in interlobular emphysema; the effused air has separated the pleura from the parenchyma and produced a number of fissures between its lobes. Print. Cat., page 31, No. 97, also *Fasciculus II*, Plate II, Fig. 1.

From James Nicholls, aged 20, 97th Regiment, who died of icterus.

Donor—Mr. Cavet, Asst.-Surg., 97th Regiment.

570. Portion of pleura pulmonalis raised by an effusion of air underneath. No history.

571. Shows the condition of the lung in interlobular emphysema when the pleura covering it is dissected off; the enlarged and ruptured bronchial cells and the fissures between the lobules, are very distinctly seen. A bottle-stopper is attached to the preparation. Print. Cat., page 22, No. 59.

From John McCann, aged 28, 95th Regiment, affected for two years with pectoral symptoms, especially distressing dyspnœa with purulent expectoration and progressive debility. On opening the thorax after death, the lungs did not collapse because of the emphysema; and a great number of dilated pulmonary vesicles presented beneath the pleura. In the apex of right lung there was a vast cyst, lined with a tough cartilaginous membrane. The pulmonary parenchyma in the vicinity appeared to be healthy. In the posterior parts of the lungs there were crude tubercular deposits, surrounded by inflamed and engorged pulmonary tissue. The heart's chambers were dilated.

Fasciculus II, Plate II, Fig. 5.

Fort Pitt.

572. Two small portions of emphysematous lung dried and divided so as to show the distended nature of the air cells. MS. Cat., Vol. I, page 56, No. 148.

From John Sharland, aged 27, 9th Foot, who died of phthisis Both lungs appeared to be free from tubercle; but had a downy feel and did not crepitate on pressure.

573. Two small portions of emphysematous lung dried and divided so as to show the distended nature of the air cells. MS. Cat., Vol. I, page 56, No. 149, similar to No. 572.

574. Interlobular emphysema of a portion of the lung. MS. Cat., Vol. I, page 65, No. 189.

From Private Wilson, aged 21, who died of typhus fever, complicated with pneumonia on the 6th day of the disease. The posterior part of the inferior lobe of right lung was found in a state of red hepatization. Some points of left lung were in a similar condition, with œdema of its texture. Effusion into the corresponding pleura, with adhesion to diaphragm. The anterior surface of both lungs were emphysematous. In this right lung (from which the preparation was taken) the lesions were more fully marked than in the left.

575. A large emphysematous vesicle in the anterior and inferior part of the edge of the upper lobe of left lung. MS. Cat., Vol. I, page 65, No. 187.

From James Daly, aged 34, 16th Foot, who had been 19½ years in India where he suffered from various diseases during the last ten years of his life, and especially from asthma. He was admitted to Fort Pitt Hospital, Chatham, with urgent dyspnœa. Percussion anteriorly nearly normal, copious expectoration of serous fluid mingled with masses of yellowish green viscid mucus. The expectoration ceasing, the dyspnœa became more intense and he died seven days after admission. After death, numerous old adhesions were found on both sides of the chest. On opening into the chest cavity the lungs did not collapse from general emphysema; and the parenchyma of both was œdematous.

576. A dried specimen illustrative of emphysema of the lungs.

577. Right lung attached to trachea having at the lower part of the inferior lobe a large bladder-like inflation of the pleura, of considerable capacity filled with air.

From a married sergeant of 15 years' service, of intemperate habits, and who for a week previous to death had been desponding and morose. He committed suicide by swallowing two ounces of strong nitric acid. He died in ten hours, sensible up to the last. The œsophagus and stomach were denuded of their mucous membrane, having a uniform blackened appearance, soft and easily broken up by handling. The stomach was perforated at its cardiac end and the duodenum charred.

EFFECTS OF INFLAMMATION.

Pneumonia, Gangrene, Abscess, and Fibroid Induration.

578. Portion of lung showing consolidation. Print. Cat., page 13, No. 12.

From Samuel Bishop, aged 38, Royal African Corps, admitted to hospital with symptoms of pneumonia. He died on the day following. After death the lungs were found extremely hepatized and the bronchi inflamed.

Fort Pitt.

579. Complete consolidation of a portion of lung in consequence of repeated attacks of sub-acute inflammation. MS. Cat., Vol. I, page 45, No. 115.

From John Hague, aged 38, 19th Regiment, who died from pneumo-thorax, consequent on hypertrophy of left ventricle of heart. He was admitted from West Indies with disease of semilunar valves and pulmonary symptoms. He had several attacks of sub-acute pneumonia, followed by consolidation and hydrothorax.

580. Consolidation of a portion of lung described as carnification. Print. Cat., page 11, No. 1.

From Corporal James Wilkinson, aged 38, 12th Regiment, who was unable from amentia, to give any account of himself. He gradually sank from pulmonic disease.

Fort Pitt.

581. Portion of lung showing "Hepatization rouge." MS. Cat., Vol. I, page 45, No. 114.

Francis Gaspell, aged 48, 60th Rifles, had suffered from amentia for several years, and unable to give any account of himself. He was received into the General Hospital in a comatose condition. After death the left lung was found to be firmly adherent to the ribs; the right was free. In both lungs there was great congestion of the bronchial tubes; and the vesicular structure of the right lung had become so consolidated as to sink in water. Some portions were of a deep red colour, and filled with fatty sanguineous fluid (œdema). The left lung was also hepatized.

582. Section of a portion of lung dried to show complete obliteration of the pulmonary tissue, which takes place in "Hepatization rouge." MS. Cat., Vol. I, page 46, No. 114.

From the same case as above, preparation 581.

583. Portion of lung consolidated, described as carnification. Print. Cat., page 12, No. 7.

Robert Hall, aged 24, 24th Regiment, who was received into hospital on arrival from India, suffering from general disease of the osseous system, induced by mercury and syphilis. After death both lungs were found extensively consolidated; the os frontis, and the bones of the upper and lower extremities were found more or less in a state of caries.

Fort Pitt.

584. Consolidation of a portion of left lung. Print. Cat., page 14, No. 22.

From John Chrystal, aged 40, 66th Regiment, who died of fever on the ninth day. After death the right lung was found consolidated, and there was effusion into the cavities of the brain.

Fort Pitt.

585. Section of lung showing consolidation. Print. Cat., page 13, No. 16.

From John Fox, aged 37, 8th Regiment, who was admitted into hospital for severe pneumonia, and died on the 5th day. After death, the left lung had formed adhesions to chest walls, and was completely consolidated; the right lung was sound.

Fort Pitt.

586. Consolidation of a portion of lung. Print. Cat., page 14, No. 21.

From Jeremiah Hodge, aged 40, 9th Regiment, who had been four months in hospital for symptoms of phthisis pulmonalis, and had been discharged, improved as to general health. He was afterwards admitted for fever and died on 5th day. After death the left lung was found to be hepatized; the right lung was sound.

Fort Pitt.

587. Portion of lung which showed red hepatization passing into grey, purulent softening. MS. Cat., Vol. I, page 49, No. 123.

588. Shows the greater part of a lung in progress of passing from the condition of red to grey hepatization. MS. Cat., Vol. I, page 50, No. 125.

From John Duckheart, aged 44, 16th Regiment, who died of pneumonia, complicated with delirium tremens. He arrived from Bengal on 14th January, and from that date till he came into hospital, had been almost constantly in a state of intoxication; he caught cold on 25th, and did not report himself sick, but treated himself with ale and gin. He came into hospital on 31st with pain in right side of chest, and inability to lie on that side; there was great difficulty of breathing, and cough with expectoration of viscid mucus; his face was pale and anxious; tongue white; pulse bounding but easily compressed. He had been purged during the previous night, delirium commenced on 1st February, and he died on the 3rd. After death the membranes of the spinal cord were found to be highly vascular, and serum was effused between the pia mater and arachnoid; upper lobe of right lung was adherent to ribs; the pleura covering the lower and posterior portion was abundantly vascular and coated with a thin layer of lymph; the two lower thirds of right lung were completely consolidated, passing into purulent (grey) consolidation; left lung was congested.

See also preparations of grey hepatization, Numbers 647, 648, &c.

589. Section through left lung which is in a state of grey hepatization with no vestige whatever of cellular structure, texture smooth and solid, with one or two patches which appear to have a tendency to softening and forming a remarkable contrast in colour and density to the upper portion, which is otherwise healthy with the exception of being œdematous. The pleura has been stripped off the posterior portion, exposing the pulmonary lobules consolidated. MS. Cat., Vol. I, page 70, No. 205.

From George Dibble, aged 20, of a scrofulous aspect, who was admitted to hospital for cough, muco-purulent expectoration, and other symptoms of acute catarrh. Four days after admission he had intense pain in the lower half of left chest, increased by coughing and the acts of respiration, but he could lie on either side; percussion was dull over lower half of chest, and respiratory murmur obscure.

superiorly, bronchial râles were heard on both sides, and respiration was feeble in middle portion of right lung; expectoration was profuse, frothy, muco-purulent, and slightly tinged with blood. By the 10th, pain in side had disappeared under the influence of cupping and blisters; but symptoms of obstruction in left lung continued with bronchitis; dyspnœa increased, and he died eight days after admission. After death 3 ozs. of serum were found in right pleural cavity, with vascularity of pleura on left side, and lymph covering lower lobe; the right lung was œdematous.

590. Section of lung showing grey hepatization. MS. Cat., Vol. I, page 67, No. 195.

From a man, aged 35, who died of another affection, and was never suspected during life to have had anything the matter with his lungs. After death the left lung was found to be perfectly sound; the right one was consolidated.

Donor—Mr. Howe, Surgeon, 2nd Life Guards.

591. Section of lung showing grey hepatization. The *Hepatisation grise* of Laennec. Print. Cat., page 12, No. 6.

From Joseph Langdon, a maniac, who died from pneumonia.

Fasciculus II, Plate III, Fig. 3.

Fort Pitt.

592. Grey hepatization of a portion of lung; pleura costalis thickened and adherent. Print. Cat., page 14, No. 23.

From John Hammond, aged 43, 73rd Regiment. Admitted to hospital with symptoms of acute catarrh, and died on the eighth day from pneumonia.

Fort Pitt.

593. Portion of the inferior lobe of left lung exhibiting grey hepatization.

594. A phlegmonoid abscess, about the size of a pigeon's egg, in a portion of the lung, which burst into the pleural cavity, which contained about 8 pints of puriform fluid. Print. Cat., page 29, No. 88.

From a youth, aged 18, who died while on a journey, having complained of dyspnœa some time before; left lung was healthy, and there was no evidence of tubercle.

Donor—Mr. Ore, Asst.-Surg., 8th Light Dragoons.

595. Section of right lung showing phlegmonoid purulent cyst. Print. Cat., Page 21, No. 54.

From John Landrigan, aged 22, 54th Regiment, admitted to hospital with slight febrile symptoms, on which chest symptoms supervened. He was attacked suddenly with rigors, followed by faintings and cold perspirations; he improved somewhat, but in a few days was again attacked by the same train of symptoms, recurring many times with different degrees of violence until death, two months after the accession of symptoms. After death two small abscesses were found in his liver, besides those in the lung.

Fort Pitt.

596. Gangrene of a portion of lung with a partially separated slough adhering to it. Print. Cat., page 27, No. 79.

From James Bevan, aged 27, 10th Regiment, an invalid from Portugal, in the last stage of phthisis. He arrived moribund, and

died on the evening of admission. After death, the upper lobe of the left lung was found converted into a large cavity, filled with black fœtid matter, and containing a large black semi-solid slough, adherent at one part to the wall of the cavity; the right lung contained many crude tubercles.

Fasciculus II, Plate III, Fig. 8.

Fort Pitt.

597. Gangrene of a portion of lower lobe of left lung about two inches in length and an inch and a-half in breadth, of a dirty brown greenish colour in the recent state, exhaling a putrid odour and easily torn. MS. Cat., Vol. I, page 49, No. 124.

From John Connelly, aged 21, 88th Regiment, who died of phthisis pulmonalis, 2nd December. After death, tubercular cavities were found in both lungs; both lungs were infiltrated with serum, and in a state of partial softening.

598. Portion of lung with a vomica having its walls firm and cartilaginous, and the remaining portion consolidated with fibroid thickening; pleura thickened and covered with lymph. Print. Cat., page 13, No. 19.

From John Coulter, aged 48, 4th Veteran Battalion, who had long suffered from chest symptoms, and was admitted to hospital with symptoms of phthisis pulmonalis, of which he died; the lungs contained tubercles and vomicæ.

Fort Pitt.

599. Portion of lung showing hepatization and cicatrization, with fibroid thickening of the pleura.

SYPHILITIC LESIONS OF THE LUNG.

600. Portion of left lung with two large (gummatous) deposits quite isolated; the surrounding pulmonary tissue is healthy. Print. Cat., page 29, No. 89.

From a Medical Officer, aged 27, who suffered for several years from syphilitic cachexy. A carbuncle finally commenced in the centre of right arm, and ultimately involved the large blood vessels of the arm in its sloughing course, from which hæmorrhage took place. A ligature on brachial artery was temporarily successful, but recurrence of hæmorrhage necessitated amputation of the arm. At the end of a few weeks he died in a state of extreme emaciation, when the stump was nearly healed.

Fort Pitt.

INHALATION OF IRRITATING SUBSTANCES.

601. Portion of right lung containing extensive melanotic deposit, spurious melanosis or carbonaceous phthisis.

602. Section of lung showing spurious melanosis or carbonaceous phthisis.

Donor—Dr. Munro, Asst.-Surg., Coldstream Guards.

603. Portion of lung loaded with black carbonaceous matter, probably taken from the body of a coal miner.

In the *Medico Chirurgical Transactions* for 1836, Vol. XX, page 230, Professor Wm. Thomson gives an account of cases of "black expectoration with the deposition of black matter in the lungs, particularly as occurring in coal miners," in persons who from their occupations are particularly exposed to the inhalation of carbonaceous powders or gases,

such as coal miners and moulders in iron works. Many cases are related with references to others, and one case he dissected (Drysdale, aged 43), furnished portions of lungs, some of which were deposited in the Museum of the Royal College of Surgeons of Edinburgh (No. 1438), and of which the above preparation (603) is most probably another portion. [See also *Transactions of Pathological Society of London*, 1869, Vol. XX, page 42, by Dr. Greenhow.]

Donor—Dr. Wm. Thompson, late Professor of Practice of Medicine, Glasgow University.

TUBERCULOSIS OF THE LUNGS.*

604. A portion of lung originally described as showing a number of small tubercles situated close to the minute blood-vessels, some of them adhering to the coats of the vessels. MS. Cat., Vol. I, page 64, No. 181.

On careful examination these appear to be the truncated extremities of numerous bronchial tubes, thickened, softened, and dilated, which have been very commonly mistaken for small miliary tubercles, softening in their centres. See on this point Dr. Addison's works—Sydenham Society's publications, 1868, Plate V, Figs. 1 and 3.

605. A portion of right lung, studded with minute miliary tubercles. MS. Cat., Vol. I, page 70, No. 204.

From John Sately, 38 years of age, who had been treated for acute and chronic catarrh in the Mauritius. On admission into hospital, his symptoms were cough and dyspnœa, expectoration scanty and containing blood with mucus of an iron-rust colour and tenacious. There was no pain in chest; there was some low delirium; the chest sounds were clear on percussion all over the chest, but mucous râles prevailed all over; the whole of both lungs were in the condition shown in the preparation, also the spleen as shown in section under that head.

606. A portion of lung, studded with miliary tubercles.

607. A portion of lung, studded with granular tubercles. Pleura pulmonalis thickened, and agglutinated by intervening lymph to that covering the pericardium.

608. A portion of lung, studded with miliary tubercles, and its parenchyma highly vascular. MS. Cat., Vol. I, page 44, No. 113.

From David Patterson, aged 20, 93rd Regiment, who died of chronic tubercular peritonitis. He was attacked with sub-acute pneumonia, with sub-crepitant râles; the lungs were engorged with bloody serum, but with little consolidation.

609. Section of lung, showing condensation from miliary tubercles.

610. Portion of lung, its substance condensed by the existence of numerous crude tubercles.

York Hospital, Chelsea.

611. Portion of lung consolidated and filled with miliary tubercles. Print. Cat., page 14, No. 25.

From Thomas Davies, aged 36, 59th Regiment, an invalid from India, who was admitted with symptoms of dysentery, and who died

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* 603A. As the size of deposits in the lungs is often compared to the size of various seeds—such as poppy, millet, mustard and hemp—samples of these seeds are here fixed on a card, placed in a jar, and numbered 603A.

3 weeks after admission. The mucous surface of the colon was seen after death to be extensively ulcerated; and effusion had taken place into the left pleural cavity, the lung being as shown in the preparation.

Fort Pitt.

612. Tubercles of the lungs in their first and second stages of development, with the parts surrounding them in a state of inflammation. MS. Cat., Vol. I, page 44, No. 112.

613. Portion of lung showing inflammation of its parenchyma from tubercles. MS. Cat., Vol. I, page 42, No. 111.

This and the previous preparation are from the same case—that of John Bulger, aged 25, 21st Regiment, who died of phthisis, with pleurisy, and sub-acute pneumonia—a case of ordinary phthisis.

614. Small isolated circular tubercles about the size of mustard seeds, each of them surrounded by a ring of pigment. They were found in a case with a history of syphilis.

615. Portion of lung consolidated and filled with miliary tubercles, and a small quantity of lymph on pleura. There is a great deal of pigmentary deposit throughout the lung. Print Cat., page 11, No. 3.

From John Buchan, aged 42, 15th Regiment, who was admitted for intermittent fever, and began to suffer from cough, pain of chest, difficult respiration and scanty expectoration. Effusion (to the extent of twenty ounces) was found in the pleural cavity.

Fort Pitt.

616. The whole of left lung converted into a mass of yellow cheesy matter, without the slightest vestige of its original structure remaining. Pleura thickened. Print. Cat., page 19, No. 47. See also Preparation 749.

From John Conlands, aged 19, 51st Regiment, who died of phthisis. After death, the right lung was seen to be studded with scrofulous deposits, and with tuberculosis of the pleura. The left lung was universally adherent, and in the condition shown in the preparation. There was tuberculosis of the peritoneum.

617. A portion of the middle and lower lobe of right lung, showing numerous opaque spherical nodules beneath the pleura, in the lung substance, which at the lower portion of the specimen are agglutinated into one mass of infiltration. The more isolated deposits are circumscribed and separated by deeply pigmented emphysematous tissue. A few of them are softened. The section displays small ragged cavities, some of them encircling tubes. There is fibroid thickening of the bronchi, radiating into the surrounding lung tissue, with patches of pigment. These nodules appeared grey and translucent immediately after death, and occupied chiefly the lower half of each lung. The upper lobes were emphysematous.

From Private David Gunn, 106th Regiment, who died of phthisis.

618. Section of a portion of lung showing crude tubercular deposits in various stages with two tubercular cavities

after discharge of their softened contents. Print Cat., page 24, No. 63.

From a middle-aged man who died of phthisis. The most distressing symptom during life was constant dyspnœa, to such a degree that "roaring" was audible at a considerable distance. The lungs were more or less consolidated generally, and the bronchial tubes filled with muco-purulent matter.

Fasciculus II, Plate III, Fig. 5.

Donor—Mr. Gulliver, Asst.-Surg., Staff.

619. Portion of lung, in the substance of which are situated tubercles of a large size and firm consistence; in one of them there is a central cavity which communicates with a bronchial tube. MS. Cat., Vol. I, page 55, No. 146.

From John May, aged 24, 2nd Battalion Rifle Brigade, who died of phthisis.

620. Section of tubercular lung; arteries and veins injected with red size. Bronchial glands filled with tuberculous matter which does not admit of the injection.

Donor—Dr. Munro, Asst.-Surg., Coldstream Guards.

621. Section of tuberculous lung; arteries and veins filled with red size; the tubercles do not admit the injection.

Donor—Dr. Munro, Asst.-Surg., Coldstream Guards.

622. Portion of lung condensed, and presenting different stages of tubercular deposit. The bristle denotes the communication between a bronchial tube and a small vomica. In this preparation an attempt has been made to inject the tubercles; the false friable membrane, which lined the excavations, having been washed away, showing how highly vascular their parietes are. Print. Cat., page 25, No. 67.

From a middle-aged man who died of phthisis at Fort Pitt.

Fasciculus II, Plate III, Fig. 1.

623. Bronchial membrane highly inflamed, with grey hepatization of the pulmonic tissue, which is also studded with numerous tubercles. Print. Cat., page 10, No. 11.

From Sergeant M'Loughlin, aged 30, 50th Regiment, who died of phthisis, after arrival from West Indies. See Preparation No. 652.

Fort Pitt.

624. Portion of left lung studded with miliary tubercles some of which have coalesced, and in one situation a vomica is formed which is lined by highly vascular parietes. The preparation is minutely injected; but the tubercular matter exhibits no distinct trace of vascularity. Print. Cat., page 25, No. 68.

From a female, aged 17, who died of rapid phthisis.

Donor—Mr. Gulliver, Asst.-Surg., Staff.

625. Portion of lung thickly studded with tubercles in different stages of maturation, with a number of small vomicæ.

Donor—Dr. Burke, Surgeon, Rifle Brigade.

626. Portion of lung studded with tubercles, in process of softening, and vomicæ.

627. Portion of left lung hepatized and having a slight cerebriform appearance, with two small vomicæ in its substance.

From Charles Jally, aged 33, 41st Regiment, of 16 years' service, of which 14 were passed in India. Had inflammation of brain there in 1836, attributed to severe marches and bad accommodation; followed by tumours over different parts of the head, which burst and discharged a fœtid serous fluid, and the bones became necrosed. After being eight months in hospital, he was attacked with dysentery, which was attended with ascites and anasarca. He was tapped three times in the abdomen, and four ounces of fluid abstracted. The liver is stated to have felt "hard and like a foreign body." He recovered from the dropsy; he lost the use of his left leg by an injury received on board ship while on the passage from New South Wales to India. On admission into Fort Pitt Hospital, in May, 1839, he appeared very much emaciated, his complexion sallow and unhealthy, and his functions generally much impaired, he complained of pains in the loins, of internal hæmorrhage, and of great difficulty in passing water. On examining his head, there were found two ulcers, one about the middle of the sagittal suture with the bones exposed and of a black colour, and another on the middle of the forehead above the nose, from both of which purulent matter was discharged, as also from the inside of the nose; there was, also, a large soft tumour on the right parietal bone, and a large excoriation on right side near the hip joint, arising from his long confinement to bed. Since admission, there has been no material change, he has been several times attacked with diarrhœa, which was temporarily checked by astringent medicines; he gradually got weaker, and died on the evening of the 12th of June, 1839.

After death.—Both lungs contained tubercles and vomicæ. There were some small scrofulous masses in the substance of the liver, and small black biliary calculi in the gall-bladder and cystic duct.

Necrological Register, Fort Pitt, Vol. V, page 331.

628. A large rounded aperture in the pleura investing the upper part of the lung, continuous with a bronchial tube which traverses a tubercular cavity. MS. Cat., Vol. I, page 60, No. 166.

Fasciculus III, Plate III, Figs. 2*a* and 2*b*.

From James Lane, aged 25, who died of tubercular consumption after an illness of 15 months. The right side of chest was enlarged and distended with air; the right lung was condensed by compression. The air collected in right pleural cavity was analysed by the late Dr. Davy, who found it composed of 13 carbonic acid gas to 87 of azote. Both lungs contained tubercles and vomicæ. (Pneumo-thorax.)

629. Portion of the surface of the right lung, showing a small rounded aperture leading into a vomica into which an ulcerated bronchial tube terminated; the pleura is thickened and semi-cartilaginous. MS. Cat., Vol. I, page 59, No. 161.

Fasciculus III, Plate III, Figs. 3*a* and 3*b*.

From Samuel Black, aged 27, 3rd Light Dragoons. Fifteen months previous to his death, he contracted a pulmonary catarrh, and was never afterwards free from cough; but continued to do his duty. Of rather robust-like frame, he volunteered, at Manchester, to join the 3rd Light Dragoons, but after joining at Canterbury, was rejected there on account of obscure pulmonary affection. On the march from Canterbury to Chatham, he was attacked with severe cough and profuse expectoration, for which he was admitted into hospital at Fort Pitt, where symptoms remained stationary for a few days, when pneumo-thorax suddenly threatened to close his life. Paracentesis

was performed, and a large quantity of air escaped which gave immediate relief; and he continued in comparative ease until death, which took place a fortnight after the operation. After death, the lungs were found to be extensively pervaded by tubercles and vomicæ; and the mucous membrane of the large intestines was found to be ulcerated (tubercular?).

630. Two portions of right lung, each presenting an aperture leading from a vomica, which communicated with the pleural cavity causing pneumo-thorax.

From Jeremiah Keef, 46th Regiment, of 14 years' service, was first taken ill on the 12th of August, 1838, at Gibraltar, and ever since he has been confined to hospital. He was admitted into the General Hospital at Fort Pitt, on the 2nd of March, 1839, complaining of pain in the right hypochondrium, shooting up to the right shoulder between it and the backbone, with inability to lie on the right side. Mucous and sonorous râles were heard over the chest without the application of the stethoscope, finger nails were somewhat curved, he was troubled with severe cough, and purulent expectoration. On the 9th of same month, pectoriloquy of right lung was distinctly marked, and inability to lie on the right side increased; at this time copious perspiration occurred at night, and he died on the 27th of March.

Eleven hours after death, there were seen to be extensive adhesions of the pleura at the upper lobe of both lungs, particularly on the right side, inferiorly the right lung was adherent to the diaphragm, there was an effusion of four ounces and a half of turbid reddish serum in the cavity of right pleura. There was air also in the same cavity, on the left side inferiorly a number of filamentous bands, about 1½ inches long, connected the opposite surfaces of pleura. At the superior and anterior part of right lung, were found two circular openings, large enough to admit the end of the little finger, at a distance of two inches from each other, and communicated with small superficial cavities; in the upper lobe of same lung a large cavity capable of containing a small orange was found, tubercles were found in various stages of development scattered through the lung. The substance of lung was condensed in several parts. In the superior part of the inferior lobe of left lung, a cavity was found capable of containing a hazel nut, two other cavities about the same size were also found in same lung. One ounce and a half of serum was found in pericardium, there was a large quantity of blood, partly fluid, and partly coagulated in the right cavities of the heart, in the right ventricle were found several small round fibrinous bodies adherent to its walls softened interiorly, and containing in the centre puriform matter; the inner coat of the aorta was considerably thickened and its surface unequal, the right carotid and subclavian arteries took their origin from the arch of the aorta; at the origin of the vertebral artery a fold of the inner membrane projected in the form of a valve. A number of miliary tubercles were found towards the lower end of the ileum, and the mucous membrane softened. Numerous ulcerations existed at the caput coli; the spleen was enlarged and unusually firm, the liver weighed three and a half pounds, the left kidney was slightly granulated, a cavity was found in the prostate gland capable of containing a pea, there was softening and loss of substance of cartilages of both patellas, inferiorly but more particularly of left patella, and the latter presented a shreddy appearance.

Necrological Register, Fort Pitt, Vol. V, page 290.

631. A portion of the walls of a tubercular cavity lined by a deposit of false membrane. There is much pigmentation and also of the bronchial glands. MS. Cat., Vol. I, page 66, No. 191.

From a man, aged 26, who died of phthisis pulmonalis.

632. A portion of lung with two empty vomicæ; the surrounding pulmonary substance is studded with tubercles and consolidated, with thickening and opacity of pleura.

633. Portion of lung with two caverns communicating freely with each other, bounded externally by the thickened pleura and internally by the pulmonary tissue, which is studded with tubercles. One of the bronchial tubes is obliterated and others compressed.

634. Portion of the upper part of the lung, in which there is a large cavity lined by a firm smooth membraneous matter; surrounding pulmonic tissue shows iron-grey hepatization with very minute miliary tubercles. MS. Cat., Vol. I, page 59, No. 162.

635. An induration, larger than a pigeon's egg, situated in the upper lobe of the left lung, filled with small grey semi-transparent tubercles, in the centre of which there are two caverns (which were filled with dark coagula) communicating freely with each other, one capable of holding a walnut, the other about half its size: there are also several smaller vomicæ in the mass; the walls of the larger excavation had in the recent preparation a rough broken-down aspect as though recently lacerated and with no lining membrane, nor any appearance of purulent formation. The openings of the bronchial tubes, into these cavities, four or five in number, were filled with clotted blood, and there is a ruptured vessel presenting a gaping orifice, easily admitting a large probe and situated near the centre of the larger excavation. This vessel was larger than the temporal artery; and was distended with a firm clot.

From John Laidlaw, aged 22, a private in 79th Regiment, an active, muscular, and well-formed man, with a capacious well-formed chest, who, without any previous ailment, was suddenly seized while at light infantry drill in the Richmond barrack square, Dublin, in forenoon of 18th January, 1839, with vomiting of blood. When seen five minutes afterwards scarlet-coloured blood was then gushing from the mouth and nostrils. Suffocative dyspnœa with gurgling in trachea gave evidence that a large vessel had given way in the lungs. He died in eleven or twelve hours after the first seizure. There had been no previous cough, expectoration, or dyspnœa, or any other symptom referable to the state of the lungs.

After death firm adhesions of both pleura existed on both sides. Pressure on left lung forced bloody serum from the mouth, and a deep, puckered indentation was seen in the summit of the upper lobe, immediately below and about the centre of the clavicle, underneath which was a collection of small grey semi-transparent tubercles, together forming an induration larger than a pigeon's egg, in the centre of which were the two caverns shown in the preparation. There were more than two pints of blood in the stomach.—(See *Edinburgh Medical and Surgical Journal*, Vol. LII., page 144, 1839.)

Donor—Dr. Maclachlan, M.D., Asst.-Surg., 79th Regiment.

636. A large tubercular cavity, lined by a thick firm membrane, in a portion of lung the substance of which is studded with tubercles and the pleura thickened.

637. Portion of right lung with a large tubercular excavation, lined by a tough semi-cartilaginous membrane in which are several openings of bronchial tubes. Print. Cat., page 23, No. 60.

See case described under 571, page 164.

Fort Pitt.

638. Portion of the upper lobe of right lung, with a tubercular excavation, on the side of which is a fine band; and in the centre of this band there is a vessel of considerable magnitude, which at one part presents a ruptured opening communicating with the excavation. The cavity was filled with coagulated blood. MS. Cat., Vol. I, page 56, No. 147.

From William Wells, aged 24, 37th Regiment, who died of phthisis. About twenty-four hours before death he was suddenly seized with hæmoptysis, arrested by bleeding from the arm and internal use of acetate of lead; but while straining at stool he was again suddenly affected, and after expectorating (or rather, vomiting) up a pint of florid blood, he expired.

639. Portion of lung with several vomicæ, their walls firm and cartilaginous, and the intermediate pulmonic structure consolidated. Print. Cat., page 12, No. 8.

From Sergeant Plumer, aged 36, 60th Regiment, who was admitted into Fort Pitt Hospital from the West Indies, in the last stage of consumption, from which he had suffered for a year and a-half. He died eight days after admission. The lungs contained many vomicæ with cartilaginous-like cysts, amongst intermediate consolidation.

640. A large cavity intersected by several trabiculæ in a portion of the right lung, the anterior part of which is studded with tubercles and adheres to the parietes of the thorax. Print. Cat., page 20, No. 50. (See next preparation.)

641. One irregular tubercular excavation in the apex and another in the base of left lung, the latter traversed by numercus trabiculæ. A large mass of the pulmonary tissue in a state of grey hepatization. Pleura thickened and covered with lymph. Print. Cat., page 20, No. 51.

This and the previous preparation are both from the same patient. William Barry, aged 28, 77th Regiment, who became insane (melancholia) while serving in Jamaica. He was admitted into the General Hospital, Fort Pitt, on arrival in England, with advanced phthisis, ot which he soon died. The cæcum and colon were affected with tubercular ulceration.

642. A large irregular tubercular excavation, in the inferior lobe of left lung, with a number of fleshy bands intersecting it, and lined by a fine membrane. Several other cavities of a smaller size in the upper lobe. Pleura thickened and covered with lymph. Print. Cat., page 19, No. 46.

From John Rogers, aged 20, 54th Regiment, who had been freely bled at different times with temporary relief for cough and pectoral pain. Dyspnœa, cough, purulent expectoration and debility increased, and he died from the hectic fever of pulmonary phthisis.

Fort Pitt.

643. Several irregular tubercular cavities situated immediately beneath the pleura of left lung, pulmonary tissue studded with tubercles and hepatized; pleura much thickened. Print. Cat., page 17, No. 36.

From Simon Woodstock, aged 40, whose case is recorded under No. 488, page 140, *ante*.

644. A very large irregularly excavated tubercular cavity, immediately beneath the pleura of right lung, occupying nearly three-fifths of its anterior surface. Lung compressed and studded with tubercles. Print. Cat., page 13, No. 17.

From Sergeant Allan, aged 36, 84th Regiment, who had been phthisical for two years before admission, and who died seven weeks after admission to hospital. He had an open foramen ovale in the heart's septum. See Preparation 154, page 43.

645. A portion of lung, with numerous vomicæ, filled with tubercles and hepatized:—the mucous lining of the bronchi is extensively ulcerated. Print. Cat., page 15, No. 31.

From Corporal McAdams, aged 30, 10th Regiment, who had been six months in his regimental hospital, and who died five weeks after admission to the General Hospital, Fort Pitt, with symptoms of phthisis. There was found after death extensive ulceration of the mucous membrane of trachea and bronchiæ: and also of the large and small intestines. The lungs abounded in tubercles and vomicæ.

646. Root of lung with a large cavity lined by a false membrane at some parts semi-cartilaginous. Print. Cat., page 14, No. 24.

No history attainable.

Donor—Surgeon Burke, Rifle Brigade.

647. An immense irregular tubercular excavation, lined by a firm semi-cartilaginous membrane, occupying one-half of the upper lobe of left lung, a strong fleshy band divides it into two unequal parts; the remainder of this lung was condensed and tuberculated, with the exception of a small portion of margin of inferior lobe. MS. Cat., Vol. I, page 71, No. 207. (See also preparations 588, 589, and 590 of grey hepatization, &c., pages 167, 168.)

From Thomas Rodgers, aged 22, 82nd Regiment, who died of phthisis in General Hospital, Fort Pitt. Both lungs after death were found studded with tubercles and vomicæ, while some portions were in a state of grey hepatization. Ulcers (tuberculous) were also found in ileum and caput cæcum.

648. Section of lung showing several irregular excavations and consolidation of the contiguous tissue by abundant tubercular infiltration, forming a very good example of grey hepatization. Print. Cat., page 25, No. 69.

From Donald Grant, aged 26, who had served seven years in the West Indies, and thence invalided for phthisis to Fort Pitt Hospital, Chatham, where he died with the usual symptoms of destructive lung disease. Both lungs were found similarly affected, and the mesenteric glands enlarged.

Fort Pitt.

649. A tubercular excavation the size of a billiard ball intersected by several bands; lung studded with tubercles and compressed; pleura thickened. Print. Cat., page 13, No. 15.

From Joseph Benison, aged 28, 7th Regiment, who had been under treatment for a glandular tumour in left groin (bubo?), and who developed symptoms of pulmonary consumption, of which he died five months after admission.

Fort Pitt.

650. A large cavity in the middle lobe of the lung communicating with the pleural cavity by an opening in the fissure between inferior and middle lobes. Pleura thickened and covered by soft unorganized lymph. MS. Cat., Vol. I, page 61, No. 171.

From George Hicks, age 30, 90th Regiment, who had suffered from phthisis for upwards of ten months. The right side of the chest was enlarged, the lung compressed, and there was upwards of three pints of fluid in the pleural cavity and a quantity of air, so that the diaphragm showed a convexity towards the abdominal cavity.

Fasciculus III, Plate III, Fig 4.

651. A large tubercular cavity in the upper part of a lung, with several large bronchial tubes opening into it and lined by a thick semi-cartilaginous membrane.

652. Several large irregular tubercular excavations in the right lung, pulmonary tissue consolidated and studded with tubercles. Pleura much thickened and covered with shreds of lymph. Print. Cat., page 21, No. 56.

From Sergeant McLoughlin, aged 30, 50th Regiment. Admitted on arrival from West Indies into Fort Pitt, and who died of pulmonary phthisis. See Preparation No. 623.

653. Section of lung showing three tubercular cavities lined by firm semi-cartilaginous membranes. Pleura thickened.

No history.

Donor—Dr. Munro, Asst.-Surg., Coldstream Guards.

654. A large tubercular excavation in the apex of right lung and a moderate sized bronchial tube opening into it; pulmonary tissue loaded with tubercular matter, with great enlargement of the bronchial glands at root of lungs and much pigmentation of them. Pleura much thickened. Print. Cat., page 27, No. 80.

From John Arundel, aged 40, 62nd Regiment, who died of phthisis The lung was loaded with tubercles in an advanced stage; the left had a few miliary tubercles towards its apex.

655. A large tubercular cavity lined by a false membrane and traversed by many trabiculæ probably enclosing blood vessels; pleura thickened. Print. Cat., page 14, No. 20.

From John Tattersal, aged 36, 22nd Regiment, who was admitted in a state of hectic fever, and insane. He died of phthisis nine months after admission.

Fasciculus II, Plate III, Fig. 2.

656. Left lung containing numerous large and irregular vomicæ with firm semi-cartilaginous cysts, communicating freely with each otber and the bronchial tubes; pulmonary tissue consolidated; pleura thickened. Print. Cat., page 19, No. 44.

From William Regan, aged 23, 60th Regiment. While serving in the East Indies he had several attacks of pectoral disease, for which he was eventually invalided. On his arrival at home he complained of cough, attended with oppressed breathing, and pain under the left breast, where the stethoscope, together with percussion, indicated that the lung was impervious to air. He was subject to periodical attacks of urgent dyspnœa, and, latterly, hectic supervened, accompanied by a copious expectoration of fœtid puriform fluid, which, for some time previous to death, was coughed up in large quantities and commonly tinged with blood. The right lung after death was found adherent to the parietes of the chest, and its substance contained many miliary tubercles; the left adhered firmly, and universally, to the costal pleura, its bulk being diminished, its substance consolidated, and containing many irregular and considerable vomicæ which communicated freely with each other and with the bronchial tubes. The cysts of these cavities were of firm consistence, and their internal aspect presented a dark red appearance. The heart was somewhat enlarged and its parietes attenuated.

Fort Pitt.

656A. Portion of lower part of left lung which had been compressed against the vertebral column by pleuritic effusion. Its substance is tough throughout. Upper third riddled with small cavity-formation; with thickened fibrous masses interspersed. Also minute miliary tubercle.

From T. Richards, aged 28, R.A., of $9\frac{1}{2}$ years' service at home and in India. He had suffered from syphilis, ague, local venereal sores, phthisis and diarrhœa.

Pathological Reports, Netley, Vol. XIII., No. 64.

657. A small rounded opening, the size of the blunt extremity of a probe on the pleura, near the inner, anterior and lower margin of the inferior lobe of the left lung, leading into a tubercular cavity in its neighbourhood, also several small bulging points apparently about to burst on the surface of the lung. Pleura much thickened. MS. Cat., Vol. I, page 71, No. 206.

From Sylvester Glinden, aged 27, 88th Regiment, who died of phthisis pulmonalis. About a year before admission he had hæmoptysis, dyspnœa and cough with purulent expectoration, and although relieved by treatment he was never able to return to duty. On admission to hospital his pectoral symptoms continued, with acute pain in the left side of chest, increased on full inspiration. Cough, dyspnœa with profuse night sweats, with much crepitant rhonchi at the lower part of left lung. After death, the left cavity of the chest was distended with two pints and seven ounces of a reddish brown turbid fluid intermixed with flakes of lymph—a layer of which of a red colour was spread over the pulmonary and costal pleura. The right lung was closely adherent to the chest and contained several vomicæ and a few crude tubercles. The left lung contained several large cavities with condensation of intermediate textures and full of tubercles.

658. A portion of the left lung with a tubercular cavity in it, which communicated by a fistulous opening with the cavity of the chest, causing pneumo-thorax. Pleura covered by a thick layer of recently effused lymph. MS. Cat., Vol. I, page 38, No. 103.

From Michael Noon, aged 24, 21st Regiment, who was admitted into the General Hospital, Fort Pitt, on the 24th of November, 1832, having all the symptoms of phthisis pulmonalis. On the 15th December it was noticed that both sides of the chest emitted a dull sound on percussion, when suddenly, on the 27th, respiration became very labouring and frequent, with difficult expectoration. It was

found then that the left side had become very sonorous on percussion, and neither respiratory murmur nor râles could be detected by the stethoscope. Opposite the lower part of the right lung respiration had the puerile character, and between the fourth and fifth ribs of that side the action of the heart was strong. By the 29th all the symptoms had become aggravated; at each inspiration the intercostal spaces of the left side were bulged outwards and the metallic resonance, and occasionally metallic tinkling, distinctly heard between the second and third ribs near to the sternum. In addition to these the patient complained of severe pain between the last two ribs of the left side and inability to lie on the right. Pulse 120, very feeble. These symptoms continued and the man, having become gradually weaker, expired on the 2nd January, 1833.

After death it was seen that the left side projected more than the right. The abdomen being opened the diaphragm on the left side presented a convexity instead of a concavity on its abdominal aspect, and was so pushed down that its most convex part lay parallel with the lowest rib. Considerable displacement of the stomach was the consequence. On examining the chest it was ascertained that this appearance of the diaphragm was caused by the escape of the vast quantity of air into the pleural cavity, through the fistulous foramen in the lung—seen in the preparation. The lung itself was much condensed, the heart pushed over to the right side, and the foramen situated at the exact spot between the second and third ribs where the stethoscope had indicated its existence before the patient's death. There was little fluid in the cavity, but both the pleura pulmonalis and costalis were covered by a thick layer of recently effused coagulable lymph

659. Right lung with numerous irregularly-shaped cavities and condensation of its substance. Pleura thickened and opaque. Print. Cat., page 18, No. 42.

From Thomas Probert, aged 22, 38th Regiment, of scrofulous habit who was admitted for disease of the hip-joint, on which phthisical symptoms supervened. From the commencement of the pectoral affections, the progress of the original complaint appeared to be suspended, his suffering being derived altogether from the morbid condition of the chest, and latterly of the abdomen. He lingered in hospital twelve months before he died. After death the liver was seen to be enlarged, the spleen lobulated, and situated on the right side of the spinal column, the cæcum being lodged in the left iliac fossa (partial transposition); and the small and large intestines presented tubercular ulceration of their inner coats. A large scrofulous ulcer was found in the substance of the left internal iliac muscle, having no connection with the cavity of the hip-joint, the soft parts surrounding which were matted together by lymph. An abscess of moderate size was found in the gluteus maximus near its insertion, communicating with the inferior part of the hip joint, and the head of the femur, and the cavity of the acetabulum were extensively ulcerated, the cartilaginous covering of the bones being almost totally destroyed.

Fort Pitt.

660. A very large tubercular cavity, traversed by bands in the apex of the left lung, having destroyed the whole of the pulmonary tissue leaving nothing but the pleura for its walls; there are also two others of a smaller size in the lower part of the lung. Pleura costalis firmly adhering to the surface of the lung. Print. Cat., page 30, No. 96.

From Michael Glynn, aged 26, 73rd Regiment, who had been subject to hæmoptysis for some months previous to admission, at which time he suffered from cough with purulent expectoration and thoracic pain. Three months before death, after a paroxysm he discharged from the lungs five pounds of blood, after which the disease rapidly advanced. After death the right lung was found adherent to the apex, and contained tubercles with a small vomica at its upper part; the left had formed adhesions throughout its entire surface and in a state of destructive disorganisation.

661. Lung with two vomicæ traversed by trabiculæ and communicating with the bronchi; substance of the lung studded with tubercles. Pleura thickened and covered with lymph. Print. Cat., page 11, No. 5.

From Thomas Robinson, aged 23, 54th Regiment, who was admitted into hospital with phthisis pulmonalis, four weeks previous to death. After death the os frontis was found to be in a state of caries, and the cornea of one eye ulcerated.

Fort Pitt.

662. A small tubercular cavity in apex of left lung, having a bronchial tube leading into it, and communicating by a rounded opening as large as a common quill with the cavity of pleura, causing pneumo-thorax; surface of pleura covered with recently effused lymph. MS. Cat., Vol. I, page 52, No. 126.

From a man, aged 27, who died of phthisis pulmonalis.

Donor—Dr. Lea, Surgeon, 5th Foot.

663. Several very large irregular tubercular excavations communicating freely one with the other and intersected by bands; a large mass of chalky concretion in substance of lung, pleura very much thickened, with numerous points of ossific deposition on its surface. Print. Cat., page 11, No. 2.

From James Wells, 3rd Battalion German Legion, who was admitted into the General Hospital, Fort Pitt, with harrassing cough, difficult expectoration and dyspnœa, and who, some time previous to death, expectorated calcareous matter.

664. An immense cavity occupying four-fifths of the lung, the pulmonary tissue being entirely destroyed, leaving nothing but the pleura for its walls.

Donor—Dr. Jackson, H.E.I.C.

665. A large irregular tubercular excavation, in a portion of the lung, lined by a thick semi-cartilaginous membrane, with several bronchial tubes opening into it; pleura thickened.

ANEURISMS OF PULMONARY ARTERY IN LUNG CAVITIES.

666. Section of left lung. The pleura is densely thickened, and the pulmonary parenchyma infiltrated and consolidated throughout by a white material interspersed with pigment. Three globular aneurismal tumours of the pulmonary vessels were seen:—the larger $1\frac{5}{16}$ inch in diameter, the smaller, $\frac{5}{16}$ of an inch. Other lesser dilatations and pouches studded the lung substance. They were proved to be aneurisms continuous with the pulmonary artery—(1) by the injection of spirits (11 o.p.), and their distension thereby through the artery as it left the heart, and (2) by microscopic examination which showed a delicate epithelial lining to these tumours continuous with and similar to that in the artery. (See Preparation 399, page 122.)

From Private W. Westwood, aged 25, 59th Regiment, who died at Fort Pitt, November 21st, 1861, after eight years' service (mainly

in Hong Kong and Canton), with symptoms of phthisis, the immediate cause of death was severe hæmoptysis. The lung lesion commenced in August, 1861, with an attack of pneumonia. Subsequently stethoscopic signs of cavities were observed. The main symptom, however, being intermitting blood expectorations (on four occasions—5, 11, 15, and 21 November—to a very great extent and suddenly). After death a coagulum filled the bronchi of each viscus (also the larynx and trachea, No. 399), but the aneurismal dilatations were limited to the left; the parenchyma was consolidated by a deposit of pearly whiteness. Areolar excavations with trabiculæ crossing them were present throughout the whole organ and found to be dilatations of the vessels containing clotted blood, the walls were extremely thin, inner surface shining and lined by an extremely delicate layer of tesselated epithelium. Death by asphyxia and syncope.

Post Mortem Records, Netley, Vol. II, No. 10.*

667. Right lung in the above case, showing extensive consolidation from tuberculosis and numerous cavities; much thickening of the tubes, but no aneurisms.

668. Sections of left lung, showing tubercular cavities in the midst of iron-grey tuberculous consolidation, gelatinous and flesh-like in its recent condition. In one of the cavities is a small aneurismal dilatation. The glands throughout both lungs were enlarged, the bronchial tubes thickened and very vascular. There was much enlargement of the glands at the roots of the lungs.

From Sergeant D. Davies, aged 29, of 12 years' service, mostly in India, who had been previously invalided in 1867, and returned to duty. Severe hæmoptysis characterised his ailments throughout—to the extent of 12 ounces of blood daily at the commencement of his recent illness in 1873—copious muco-purulent expectoration and subsequent aphonia, with respiration at 40 per minute. There was found after death to be thickening of the mucous membrane of larynx and minute surface ulceration.

Pathological Records, Netley, Vol. XII, No. 103.(²)

668A. Bronchial tubes of right lung laid open and traced into pulmonary cavities which contain aneurisms of the pulmonary arteries as large as marbles.

From Private J. McQuillan, aged 40, of over 20 years' service, chiefly in India, China, Cape of Good Hope, British America, and Mediterranean. He was invalided for phthisis from Halifax, having suffered there from "hectic" and fœtid expectoration. He was admitted to Netley, 14th June, 1873, looking apparently well, but weak. Shortly after he had a fit of coughing, terminating in profuse hæmoptysis, following which was a return of hectic. The future course of the disease alternated between periods of improvement and periods of severe pulmonary hæmorrhage to the extent of two pints in 24 hours, during and following which the expectoration was fœtid. Over the base of right lung there was diminished movement, dulness and cavernous respiration; and the sputa contained "broken down lung tissue." On January 10th, 1874, a severe attack of hæmorrhage took place, followed on the 11th by a loss of 40 ounces on one occasion. On the 12th he again lost 15 ounces, succeeded by smaller losses in the 24 hours. He continued in a state of approaching syncope, and in the night he had another fit of coughing with blood-spitting, during which he expired.

After death, the body weighed only 7 stone 6 lbs., with 33 inches

* References to aneurisms of the pulmonary artery will be found at pages 662–4 of "Aitken's Science and Practice of Medicine," Vol. II, 7th edition, 1880.

chest girth. There was obliteration of pleural cavities, and adhesion to pericardium. A blood clot occupied the aperture of the glottis, and was continued in a coagulum moulded to the trachea and bronchi. The base of the right lung was firmly adherent to the diaphragm, and its lower lobe was covered by a dense thick layer of lymph, under which miliary nodules existed. The lower lobe was solidified. The texture of the upper and middle lobes was dotted over with blood extravasation into the air cells, varying in size from a pin's head to a pulmonary lobule. The bronchi were much thickened in their walls, and terminated abruptly in a series of cavities containing blood clots. The walls of the cavities were smooth, and the surrounding lung tissue dense and fibroid. A rugged opening, the size of a crow-quill, existed in one blood vessel, which was partially occupied by a clot, and by injecting water into pulmonary artery 3 or 4 small vessels were seen to open into the cavities. The nodules seen were aneurisms of the pulmonary artery, probably originating in lobar pneumonic phthisis.

Pathological Records, Netley, Vol. XII, No. 92.

669. Portion of hepatized lung with cavity very near the plural surface which is coated with lymph. The cavity has a distinct lining membrane, and is crossed by a large blood-vessel with a bristle inserted into a lacerated opening, beyond which is a small aneurismal dilatation.

From a man who died of hæmorrhage from the lacerated pulmonary vessel. The cavity is said to have resulted from an abscess following pneumonic consolidation.

Donor—Staff Asst.-Surg. Thompson.

670. Portion of left lung exhibiting the effect of pressure from aneurism; some of the substance of the lung appears to be absorbed. MS. Cat., Vol. I, page 62, No. 173.

From P. M., aged 41, 72nd Regiment, and 22 years' service, 15 of which were passed at Cape of Good Hope, where he suffered from rheumatic pains in shoulders, back and loins. He died nine hours after admission to Fort Pitt Hospital, from an aneurism of thoracic aorta, about the size of an orange, immediately below termination of the arch. It had produced superficial absorption of the bodies of two of the dorsal vertebræ. The opening in the aorta was large and circular, its edges rounded and covered by the lining membrane of the vessel, which extended for some distance on the inner surface of the sac. Posteriorly to the sac a large lacerated opening existed, through which blood to the amount of eight pints passed into the left plural cavity, and greatly compressed the lung.

The preparation of the aneurism has been missing since 1860; but a drawing of the aneurism is to be seen in *Fasciculus IV*, Plate VIII, Fig. 4.

671. Hepatization of a portion of the lung, and the bronchi filled with coagula—probably from hæmorrhage; but no history has been preserved.

COAGULA IN PULMONARY VESSELS AND BRANCHES.

672. Decolorised clot from pulmonary artery and a lesser one from aorta. The coagula of the former adhered to the walls of the heart, was continuous with similar coagula in the vena cava, and ramified far into the subdivisions of the pulmonary vessels. The texture of the heart was flabby and the aorta (thoracic and abdominal) was atheromatous.

From Private C. Rowe, aged 35, of 15 years' service, who had served in India from 1868 to 1875. During the latter year he had dysentery, followed by acute hepatitis and the formation of an hepatic abscess, at Bombay with a temperature of 102° Fahr. He suddenly expectorated a large quantity of pus. The abscess was aspirated (11.7.76). Diarrhœa continued with blood stools and pus, also urine albuminous, and he died after an illness of 11 months. His previous ailments had been rheumatism, syphilis (primary 61 days, secondary 32 days), gonorrhœa 100 days (3 several attacks), fever c.c., 12 days. After death the lower lobe of right lung was in a state of carnification; and contained an abscess cavity filled with pus and in communication through diaphragm with the liver. The left lung was crepitant and its lower lobe œdematous. The colon showed old and recent ulceration throughout. The liver was much enlarged; it occupied the whole transverse section of abdominal cavity, and reached within one inch of the axilla on the right side, and its surface was marked by several bulging swellings. Besides the larger abscess communicating with the lungs, numerous smaller abscesses, all perfectly distinct, were scattered throughout the liver, each containing pus. There were no nodular deposits. The liver displaced 184 cubic inches of water; and weighed 46850 grains. Purulent serum distended the lateral ventricles of the brain; the right hemisphere was in a state of red softening and its *corpus striatum* disorganised.

Post Mortem Records, Netley, Vol. XIII, No. 46, 1876.

673. Pulmonary artery obstructed by fibrinous clots.

674. The branches of the right pulmonary artery obstructed by fibrinous clots softened in the centre. MS. Cat., Vol. I, page 209, No. 208.

From William Fearns, aged 33, 44th Regiment, who died of chronic dysentery of long standing, having during its continuance also suffered from repeated attacks of fistula in ano. Similar clots were found in the right saphena, femoral and iliac veins, which together with those found in the pulmonary artery were more or less softened in the centre. The right inferior extremity was swollen and œdematous.

675. A fibrinous clot adhering to the mouth of one of the pulmonary veins.

MORBID GROWTHS.

676. Section from before backwards through the left lung showing an infiltrating carcinoma (scirrhus). The affected lung weighed 5 lbs. 8½ ozs. There is also melanotic infiltration in irregular circular patches.

From Private J. Hill, aged 27, of R. W. Kent Regiment, who died at Netley, October 26, 1887. He had suffered from secondary syphilis. In addition to the tumour in lung substance, the mesenteric glands were enlarged and infiltrated with new growth. The pancreas was infiltrated with new growth; while the right supra renal capsule and upper part of right kidney were occupied by a large white growth much softer than that in the lung. The dura mater was adherent along the margins of the longitudinal sinus with lymphy deposits, and there was a patch of softening in left frontal lobe. There was much emaciation, and death took place from exhaustion.

Pathological Reports, Netley, Vol. XV, No. 103.

677. Section through substance of the right lung, showing an aggregation of growths throughout varying in size from a pin's head to an inch or more in diameter. They also

formed projections beneath the pleural surface and avoided the apex. These nodules are generally round, circumscribed, very firm, tough, white and opaque, dotted here and there by pigment. Under the microscope they appeared made up of large fibroid tissue-like cells with numerous highly refracting nuclei. Encircling the root of the lung is a large mass of glands and new growths—the largest the size of a walnut. The left lung was in a similar condition, but the nodules were more generally distributed.

From Private D. Malcolm, aged 26, of 108th Regiment, of eight years' service, mostly in India (Delhi, Kamptee and Deesa). Thence he was invalided for phthisis, the principal chest mischief appearing to be in the right apex. His chief symptoms at Netley were dysentery and diarrhœa. His death was sudden, preceded by a convulsive fit. There was no hereditary history of any disease, and no history of syphilis. Emaciation was well marked. There were extensive cicatrices in right groin, with great enlargement of inguinal glands which were very soft. Opaque patches, the size of a pea, were extensively dispersed in the calvarium, of the same nature as the growths elsewhere. There was considerable distension of the lateral ventricles with softening of their surface layer, also of the commissures and of the *iter a tertio ad quartum ventriculum*, with softening of the floor of the ventricle. There was dense puckering of the tissues over the lumbar vertebræ in connection with the enlarged lumbar glands which compressed the main blood channels, especially aorta and vena cava. Red serum distended the pleural cavities with enlargement and induration of many mediastinal glands each about the size of small marbles. There were also circumscribed deposits of lymph over roots of great vessels proceeding from the heart; and also over the parietal pericardium where they were aggregated in racemose clusters. Over the internal surface of pericardium, there were also widely dispersed growths, small, firm and translucent, and closely aggregated round the origins of the great vessels. There was surface erosion of mucous membrane of large intestine, generally transverse in ascending colon. The liver was generally enlarged with nodules of new growths shining through its capsule, and of the same nature as those in the lungs and elsewhere. The spleen was also enlarged and misshapen from similar growths in its substance (see under spleen, No. 1307). In the cancellated texture of condyles of left femur were small nodular growths of similar appearance to those elsewhere. There was no blood in any of the heart's cavities and the immediate cause of death was syncope, connected with the pleural accumulation and pressure, and probably also from compression of large veins from the gland enlargements. These widely dispersed new growths in the lungs, spleen, and glands, and other parts of the body appeared to be of the nature of Hodgkin's disease. Similar cases are recorded in the Pathological Reports at Netley, No. 64, Vol. XIII, and also No. 86. Vol. XII.

Pathological Reports, Netley, Vol. XII. No. 75.

678. A portion of lung containing a well-defined deposit of medullary matter, about the size of a hen's egg, of a soft pulpy texture approaching very nearly the structure of fœtal brain, possessing no capsule but appearing to be in immediate contact with the contiguous healthy pulmonic tissue. Print. Cat., page 24, No. 65.

From Samuel Burn, aged 34, 4th Foot. While at Lisbon, his right testis was extirpated, on account of a cancerous affection. Two days after the operation he embarked for England, and, on arrival, was admitted into the General Hospital, Fort Pitt. The wound at that time

was healthy, and cicatrised. In a few days, however, he began to complain of headache, his countenance became cadaverous, and an unhealthy cauliflower-like fungus sprouted up from the sore, the surrounding parts being livid and indurated. An abundant, fetid, sanies was now discharged, the diseased growth rapidly extended, the whole scrotum and part of the penis became involved, superficial sloughs formed, and the patient finally worn out died after five months' sojourn in hospital. He never complained of any thoracic affection. The preparation exhibits very good examples of the encephaloid tumours of French authors.

Donor—Mr. Gulliver, Assistant-Surgeon to the Forces.

679. Superior lobe of right lung containing a fibrous deposit in its substance without any trace of tubercles. No further history.

680. Disseminated isolated nodules of malignant growth (secondary) varying in size from points just visible to circular masses of half an inch in diameter on section. One of these nodules had commenced to soften. It was well supplied with blood vessels; and from the condition of the axillary vein—plugged as it was with semi-coagulated blood and cancer material—it is probable that the nodules shown in the lung substance were the result of embolic transmission.

From James Cuthbert, aged 20, of 26th Regiment, admitted into Fort Pitt Hospital, October 26th, 1862, and who died on 27th December, having completed only 2 1/12 years' service. At Fort George, on December 12th, 1860, he sustained a subluxation (of the right wrist) from a fall on barrack stairs, and up to the time of admission to hospital at Aldershot, he was treated for chronic rheumatism and arthritis of left shoulder with stiffening of the joint. There was then no pain on pressure, nor any swelling; but he was unable to raise his arm above the level of the shoulder on account of pain. Careful examination of the joint disclosed a crackling or grating sensation. The first indication of swelling took place around the shoulder joint soon after his admission, (*i.e.* beginning of June). On 2nd October the joint then measured 18½ inches in circumference. He suffered from throbbing pain in it, especially at night. He had constant night sweats, and daily lost flesh. He had no cough nor expectoration. The shape of the swelling was globular, extending down the arm in a pear-like form; he was not aware of having injured the shoulder in any way. The swelling greatly increased during October, and its surface became covered over with large distended dark blue veins; constant febrile disturbance was established, with capricious appetite and disturbed rest. There was no hereditary history of any ailment. In April 1862 (8 months before admission to hospital at Aldershot) while in Edinburgh, he first experienced pain in the shoulder, and was sent from Edinburgh to Aldershot, the pain becoming much worse on the voyage. From Aldershot he was admitted to Fort Pitt Hospital, Chatham, in a very weak condition, and he lay on his back partly from prostration, and partly on account of the size and heaviness of the tumour. The pulse, 120, was small and weak. The swelling extended from the acromion to the lower third of the humerus. Its circumference was now 25 inches, so that it had increased at the rate of 6½ inches in 24 days. Two exploration punctures had been made (17th and 23rd October) before admission to Fort Pitt. The knife penetrated a spongy, elastic mass of a uniform consistence; blood only came from the openings. The swelling was soft and elastic, with little pain and only tenderness of joint. Supination and pronation of hand are impaired, but the movements of fingers, wrist and elbow joint are free. On October 28th

curvature of spine was observed, and a fetid discharge began to flow from the punctured exploration wounds. On November 2nd there was slight dulness over left thorax with bronchial breathing; and by 9th November the tumour had rapidly increased, with pain and a tingling sensation down the arm, and with pain in the fingers occuring in paroxysms, and finally he was unable to move the fingers of left hand. The pulse had hitherto varied from 108 to 125 with occasional febrile exacerbations. Blood in streaks became mixed with the sputa which were of a dark purple colour, expectorated without difficulty. They showed cell growths under the microscope, not usually seen in sputa, consisting of large and irregularly shaped nucleated cells with much granular and nuclear growth mixed with blood cells. November 15th, difficulty of breathing was complained of with pain in left side of chest. On 17th November the tumour had increased in circumference to 28¾ inches, pulse 128. The enlargement is most rapid in the direction of the axilla, and its pressure there causes great pain. November 21st, tumour now measures 30 inches. There is severe cramp in the fingers of left hand; respirations 26, pulse 130; expectoration increased, and a good deal of blood is passed with it. December 14th, tumour now measures 33 inches and overlaps the thorax considerably, the deep veins are pressed upon, with compensating enlargement of the superficial ones. Pulse imperceptible in left wrist. There is bloody discharge from the tumour. Sensation is lost in left hand and arm, and death took place by hæmorrhage from the tumour in jets on December 27th.

Dissection showed that the tumour proceeded from the upper portion of the humerus. The glenoid cavity was tuberculated; the acromion and spine of the scapula, and also the clavicle were involved in the disease by infiltration of the cancer growth in the substance of these bones. About the age of this boy the head of the humerus begins to coalesce with the shaft, and is then more freely supplied with blood than after coalescence is complete. The muscles in relation were also the site of the cancerous infiltration. The median and ulnar nerves had been carried forward and were imbedded in dense tissue. The musculo-spiral nerve was almost divided, and the sheaths of the nerves in the neck were much thickened. The lymphatic glands of neck and abdomen were in a state of vascular enlargement with a prune-juice appearance on section. The rapid rate of growth of the tumour is shown in the following record :—

Oct. 2nd..	..	..	18½	inches	circumference.
,, 26th..	..	..	25	,,	,,
Nov. 7th..	..	..	26	,,	,,
,, 9th..	..	..	26¼	,,	,,
,, 12th..	..	..	27	,,	,,
,, 17th..	..	..	28¾	,,	,,
,, 20th..	..	..	30	,,	,,
Dec. 14th..	..	..	33	,,	,,

The weight of left arm, scapula, clavicle, and tumour was 21 lb. 13 ozs., the approximate weight of the tumour was 15 lb. 11 ozs.

Post Mortem Records, Netley, Vol. III, No. 8.

681. Both lungs exhibiting numerous medullary deposits, varying from the size of a pea to that of a billiard ball. They are of different degrees of consistence, some being firm and cheesy or soft and broken up. A few of small size are distributed throughout the structure of the lungs. The same medullary deposit is observed in the bronchial glands at the bifurcation of the trachea. (*Vide* under "Malignant Tumours.")

From a woman, aged 65, who suffered from a tumour of the thigh necessitating amputation of the limb. The tumour was of three years' growth, of a medullary character, the size of an adult head,

lobulated and enclosed in a cyst; its substance brain-like. In one spot it was of a cartilaginous and bony consistence.

Donor—Dr. McCrae, Asst.-Surg., 6th Dragoons.

681A. Portion of left lung showing a carcinomatous-like tumour, with some cartilage-like structure.

From a soldier, aged 36, who died of phthisis pulmonalis.

682. Portion of upper lobe of right lung showing two large masses of matter said to be tuberculous, one the size of a hen's, the other of a pigeon's egg, attached to the surface of the upper lobe. The masses are of a pale cream colour, of the consistence of a healthy salivary gland and of a rounded and flattened form; the one seen in the upper part of the preparation has become softened in the centre where a small cavity may be observed. The centre mass has the appearance of an encysted tumour, having a soft granular substance contained in a distinct sac, this adventitious deposit appears to be situated between the pleura and the substance of the lung, the structure of which appears to be healthy. The portion in the lower part of the bottle was taken from the inferior edge of the same lung.

Case of Mr. Nugent, Staff Surgeon 2nd class. The early history of the symptoms have not been preserved. It is stated that his health was not good for many months previous to his embarkation for the West Indies, but it does not seem that he sustained serious inconvenience till about a fortnight after he sailed. He arrived on the 13th March, 1844; he was then suffering from difficulty in breathing, with some pain in the chest and emaciation; he did not cough and had no expectoration. It was only ascertained by Dr. Carson, 85th Regiment, that the action of the left lung was almost wholly obliterated, while the respiratory sound was very indistinct in the right lung. The difficulty of breathing became extreme, compelling him to remain almost constantly erect and depriving him of rest, but he did not cough and had no expectoration; œdema of his limbs was not observed. He died on the 2nd May.

On dissection the lungs were found almost universally adherent to to the contiguous surfaces; the left lung was inseparably adherent; the upper lobe, and anterior part of the lower lobe of this lung was wholly occupied by a growth in masses of large size, some of them being fully as large as an egg. These masses were of a pale cream colour and of about the consistence of a healthy salivary gland; these masses were partly liquified into a cream-like fluid which could be scraped off with the scalpel from the cut surface; in the interval of these deposits narrow bands of pulmonary tissue were visible in an œdematous state. The right lung was less extensively adherent, but its surface showed evident marks of former inflammation. It contained many masses of similar appearance to those in the left lung, but flattened, and was attached to the loose margin of this lung, having a very limited connection to its tissue. Nearly the whole of these masses were in a partially softened state, and exuded the same cream-like fluid from their cut or torn surface, as the other deposits in the left lung. No tubercles in a crude or miliary state were seen, but some such deposits of calcareous matter were found in the upper part of the right lung. The resemblance of the masses found in the lungs to those so commonly found in the liver, and which have been so well delineated by Dr. Farre as the "Tubera circumscripta" was very striking, both in their external form and internal structure.

Donor—E. Bradford, Surgeon, 23rd Regiment.

PARASITIC LESIONS.

683. Section of lung from a giraffe showing echinococcus cysts.

Donor—Dr. James Murie, Zoological Gardens, Regent's Park.

684. Portion of lung of a sheep with remains of echinococcus cysts. Similar hydatids were also found in the liver and spleen.

685. Left lung showing nearly the whole anterior half involved in the destruction caused by the presence of a large echinococcus cyst, which was easily separable from the surrounding lung texture, exposing on removal a solidified surface. Posteriorly here and there were masses of tubercular deposits. The remaining portions of lung were congested and hepatized. Examined microscopically the cysts were seen to present the characteristic lamination ; and several large hooklets were also found.

From Private James Robinson, aged 35, 1st Battalion, 9th Regiment. Having completed 17 years' service, he was admitted to Netley Hospital, 25th September, 1864. He had served in the Crimea from November, 1854, to June, 1856, in British America from 1856 to November, 1857, and afterwards in Corfu and Cephalonia. There was no record of any previous disease, except pneumonia contracted at Gibraltar, whence he was admitted to Netley Hospital. He was then much emaciated, weight at death 7 stone 10 lbs., suffering from cough and expectoration. Night sweats were almost without intermission. There was dulness over left lung, and puerile respiration over the right. Expectoration was abundant and offensive. Cavernous respiration, pectriloquy and metallic tinkling could be heard over left lung; and some days before death amphoric breathing is recorded.

There are several points of interest in this case, and especially its striking similarity to ordinary cases of phthisis. "Cases of hydatid disease of the lung have been reported by Sir Andrew Clark, Drs. Habershon, Robertson, Percy Kidd, Curnow, Wilson, W. J. Paget, Mons. Varnier (Paris), Mons. Husson (Havre), Dr. J. A. Thompson (Adelaide), Surgeon W. P. Gore-Graham, A.M.S., and in all these cases this similarity has been particularly noted. Further, cases of hydatid of the lung resolve themselves into two broad classes—(1) Those in which, for some reason or another, the cyst does not suppurate, but gives rise to changes in the surrounding vessels, so that hæmoptysis occurs, and in these cases this is the prominent symptom; (2) Those in which the cyst bursts and suppurates. In these cases profuse fetid purulent expectoration (as in the case of preparation 685), are the chief clinical feature, and accompanied by hectic, high pyrexia, and finally fatal chronic septicæmia. It is noteworthy that these two classes correspond more or less closely in their clinical manifestations with two similar classes of phthisis, which are also distinguished by having hæmoptysis on the one hand and fetid suppuration on the other, as the prominent symptoms. Trousseau remarks that the two diseases—*i.e.*, hydatid and tuberculosis—are often coexistent, and states that, especially where the region affected is the apex of the lung, tubercles are almost invariably found associated with the parasitic disease. This statement is borne out by the accounts of pathological examinations of several cases, the foregoing one being an instance; and Dr. Fagge noted a case where a deposit of tubercles took place in the consolidated lung surrounding a hydatid cyst; he thought the condition of the parts showed the sequence of events to have been as follows: the hydatid had given rise to localised pneumonia, impaired health followed, and then in its turn came a

development of tubercle in the affected lung. From a consideration of a number of cases it would appear that the only reliable guide to diagnosis, is the recognition of hydatid fluid, membrane, or hooklets amongst the expectoration of the patient, and until this has been done, the case has invariably been looked upon as one of phthisis. It is stated that in Australia, where hydatid disease of the lung is comparatively common, in a given case of hæmoptysis the parasitic disease is always discussed as a possible cause." (*Lancet*, 1890, Vol. II., page 807, Surgeon W. P. G. Graham, A.M.S.)

Post Mortem Records, Netley, Vol. IV, No 33.

686. Lungs of a dog from Shanghai, China, showing an extensive development of *filaria immitis* in the pulmonary artery. They were also found in both ventricles of the heart and extending for some distance along the course of the aorta (see Preparation No. 167) also next preparation 687.

From an English pointer born in China. The dog was fat and apparently in good health. It died suddenly, and the sudden nature of the death led to the belief that the dog had been poisoned, and hence to a post-mortem examination. The parasites were found coiled together so as to resemble a ball of ligature thread.

Donor—Dr. Lamprey, 67th Regt., Army Medical Staff.

687. *Filaria immitis*, male and female, taken from the preceding preparation.

Their natural history is fully described with drawings and diagrams, in the *Lancet* of March 8th, 1873, p. 336.

Donor—Staff. Asst.-Surg. F. H. Welsh, F.R.C.S.

688. Small portion of lung showing a small cyst opened so as to expose a parasite coiled up within it (*Pentastoma constrictum*).

*On 11th January, 1865, Private Isaac Newton was admitted into the hospital of the 5th West India Regiment, at Up Park Camp, Jamaica, for an attack of tonsillitis. He was an African, enlisted about eight months previously from the slave depôt at Rupert's Valley, St. Helena, where all slaves captured in slave-ships are kept until disposed of. He appeared to be about twenty-one years of age, and of a thin spare habit of body. On admission the tonsils were inflamed and enlarged, but not ulcerated; and there were aphthous ulcers about the tongue. He suffered from headache and pain across the back. On the morning of the 14th he complained of great pain in the abdomen, which became tympanitic. His tongue was clean, but vividly red at the edges and tip, and it felt dry to the touch. The skin was very hot and dry and harsh, and his pulse 100. The pulse continued to increase in quickness; sordes soon began to appear about the mouth and teeth, and the tongue became furred and cracked. Large moist crepitation was heard over the whole surface of both lungs. He became low, and disinclined to be spoken to, and by six o'clock in the evening his mind appeared to be confused. He passed his urine and his stools involuntarily in bed. On the 15th there was no improvement in his condition, and at ten o'clock at night he appeared to be in much the same state as before, and the bowels were confined. On the 16th he appeared livelier in the morning, the skin cooler, but still dry. He was thirsty, and sordes were still about the lips and teeth. The conjunctivæ of both eyes were stained of a vivid yellow colour.

About nine in the evening he became suddenly worse. His pulse became very weak and almost indistinct, the skin cold, the coun-

* Reprinted from the Fourth Edition of Professor Aitken's work on *The Science and Practice of Medicine.*

tenance sunken, and covered with a copious perspiration. He appeared to be sinking, and he died at half-past ten that night.

Post-mortem Examination Fourteen Hours after Death.—The general appearance of the body was that of emaciation, with yellowness of the conjunctiva.

Thorax.—The subcutaneous areolar tissue over the chest and abdomen was of a deep yellow colour. The pericardium contained about four ounces of deep amber coloured fluid.

The heart was large and pale, but its substance was otherwise normal, and its valves healthy. The lungs were both highly congested; and when cut into, a bloody frothy fluid exuded in quantity. The substance of both was very friable and yellowish in colour. "On the anterior surface of the right lung, and near the edge of its lower lobe, one or two yellow specks appeared. They were about the size of a spangle, and when cut into, worms were seen encysted in its substance." On the posterior surface of both lungs there were numerous adhesions of long standing.

Abdomen.—The liver was very large, extending into the left hypochondrium. "Its surface was dotted over, both posteriorly and anteriorly, with about twenty or thirty yellow specks similar to those seen in the lung." The hepatic substance appeared paler and rather more soft than natural.

Fig. 1.

Figure 1 represents a small portion of the lung, with the little worm seen at *a* curled up in its cyst. The pleura has been removed, so as to expose the "rings," "markings," or "constrictions," which are characteristic of the body of this parasite. The pleura was opaque, and considerably thickened, probably from the irritation of the parasite. The appearance of the parasite on the surface of the liver was exactly similar to that in the lung. (*See* under Liver Preparations.)

689. Represents two specimens of the parasite removed from their cysts (Fig. 2). They are of the natural size, and one of them, *a*, is much shorter than the other, the constrictions being closer together: *a* measures five lines in length, *b* measures about eight lines. In diameter they are about one line. From 20 to 23 rings or constrictions can be counted on the elongated body, at tolerably regular intervals, and somewhat spirally arranged.

Fig. 2.

Donor—Asst.-Surg. Edward Barrett Kearney.

Figure 3 represents the two specimens of the parasite slightly magnified (about three diameters): *a* is the shorter; *b* and *c* are the posterior and anterior aspects of the longer of the two worms. The head end appears compressed, so as to be flat and square-shaped at the end. It is seen to be marked with five spots on the anterior aspect, as shown at *c*. The posterior aspect of the flattened head, as shown at *b*, is comparatively smooth. The elongated body is rounded, and the caudal end terminates in a blunt-pointed cone. The constrictions appear like folds of the outer covering of the worm, each fold overlapping the one which follows, from the head to the tail. The body of the parasite is rounded, and not flat, as the tape-worms or cysticerci.

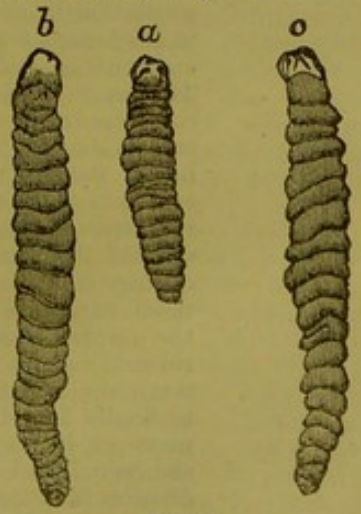

Fig. 3.

Figure 4 represents the anterior aspect of the flattened head end (cephalothorax) of the parasite. It is so highly magnified as to show the nature of the five spots or marks shown in fig. 3.

The dotted lines from *a* and *b* point to two pairs of hooks or claws—one pair on each side of a pit or mouth, *c*. The points of the claws indicated by *a* are seen nearly in profile; those at *b* are directed more towards the observer. These claws appear to be implanted in socket-like hollows or depressions, surrounded by much loose integument. These socket-like hollows appear to be elevated on the summit of the mass of tissue which lies underneath the folds of integument surrounding the base of the hooks. These parts are regarded as the feet of the parasite, and the hooks are the foot-claws. The pit or mouth (indicated by the dotted line to *c*) is of an oval shape, the long axis of the oval lying in the direction of the length of the worm. The lip or outer margin of the pit is marked by a well-defined thin line. There are no spines nor hooks on the integument of the elongated body.

From the description and the drawings here given it will be seen that the parasite corresponds in its specific characters with the larval condition of the "pentastoma constrictum." It belongs to the family acanthotheca of Diesing, and has no structural connection with the true helminth parasites found in the bodies of man and other animals.

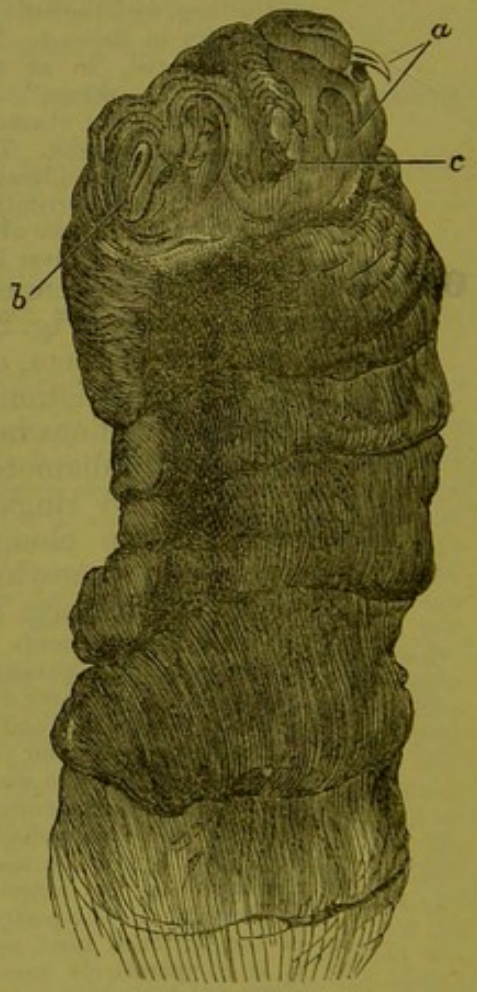

Fig. 4.

The parasite now described, when compared with the descriptions of pentastomata given by Frerichs, Cobbold and other observers, demonstrates that at least two species of pentastomata infest the human body; the pentastoma constrictum being by far the larger, the more dangerous, and fortunately the more rare, of the two species. It is also still more satisfactory to know that, as a human parasite, neither of the two species has ever been detected in this country; and according to the researches of Dr. Cobbold, it is only in the encysted or larval conditions that the pentastomata are met with in the human body. As an embryo it becomes encysted. The cyst is composed of condensed connective tissue, and is lined by layers of loose flakes, which are evidently the remains of repeated castings of the skin of the parasite; and during the intervals of these successive moultings the worm makes considerable growth, so as to reach the size in which it is finally found. In this pupa or larval condition it occurs in the solid organs of the abdominal and thoracic cavities of man in certain geographical districts in Europe, Egypt, and the West Coast of Africa; and much more frequently in various herbivorous animals, such as the sheep, deer, antelope, peccary, porcupine, guinea-pig, hare, rat, and

domestic cat (Cobbold). In all these animals, and in man, the larvæ usually occupy cysts immediately underneath the serous covering of the liver and the lungs; and Dr. Cobbold mentions that he has occasionally found the pentastoma denticulatum free in the cavities of the abdomen and pleura of animals.

Our knowledge of the natural history of these parasites is mainly derived from descriptions of the pentastoma denticulatum, the larval or sexually immature condition of the pentastoma tænoides of Rudolphi. Frerichs (Clinical Treatise on Diseases of the Liver, vol. ii., p. 276) states that Pruner was the first observer who pointed out, in 1847, the existence of the pentastoma as a parasite in the human subject. On two occasions he found pentastomata in the liver of negroes at Cairo. He does not seem, however, to have determined accurately the nature of the parasite he observed; and he also subsequently found two specimens of the worm preserved in the Pathological Museum at Bologna, which had been removed from the human liver (Cobbold). Bilharz has since repeatedly detected in the livers of negroes at Cairo the parasite discovered by Pruner in 1847. Bilharz and Von Siebold made this parasite the subject of careful study; and they recognized in it a variety of pentastoma quite different from that which prevailed in some parts of Germany. They gave this new variety the name of pentastoma constrictum—the parasite which has proved fatal in the case whose history Dr. Kearney has sent to Netley from Jamaica. It is the form of pentastoma endemic in Egypt, and hitherto it has only been found in the African negro. It differs from the pentastoma denticulatum (the larval form of the pentastoma tænoides), "in not being furnished with any integumentary armature of spines, and in its being a much larger worm" (Cobbold, p. 402). The pentastoma constrictum seems to be from eight to twelve times larger than the pentastoma denticulatum, and therefore is all the more dangerous from its actual size (nearly an inch long); and when it occurs in great numbers, as in the present instance, it cannot fail to prove an extremely irritant "foreign body," when it escapes into a serous cavity like the pleura or peritoneum—a mode in which it seems to cause death. The latter parasite (p. denticulatum) has been fully described by Frerichs, and figured by him in his Atlas, plate xi, fig. 9, as endemic in Germany in the human liver—in which organ it is considered to be far more common than the echinococcus.* Frerichs, however, regards the pentastoma endemic in Germany as devoid of clinical importance, because it does not give rise to any functional derangement. Not so, however, is such the innocent history of the pentastoma constrictum as it affects the negro; and after the history of the case now given, the clinical importance of this parasite cannot be disregarded.

As to the mode in which it tends to cause death, the evidence in this case, from symptoms and post-mortem examination, seems to point to pneumonia and sudden collapse from peritonitis. Professor Aitken is able to verify this point in the pathology of this parasitic disease still more clearly from a preparation of the parasite in the liver (see under liver) which has been in the Museum of the Army Medical Department since 1854, but the nature of which he could not understand till the history of the case now published was so thoughtfully furnished by Dr. Kearney, together with the specimens of the parasite in situ which he sent.

* "In Germany the *pentastoma* was first found in the human liver by Zenker in 1854: it occurs, however, not only in this gland, but also in the kidneys, and in the submucous tissue of the small intestine (Wagner). The parasite is by no means rare. Zenker, at Dresden, succeeded in finding it 9 times in 168 autopsies (or, according to Kuchenmeister, 30 times in 200 autopsies). Heschl, in Vienna, met with it 5 times out of 20 autopsies; Wagner, at Leipsic, once in 10. According to Virchow, it is more common in Berlin than in Central Germany. During six months at Breslau, I (Frerichs), met with it in 5 out of 47 dead bodies. As a rule there is only one present; in rare cases there are only two or three. It presents the form of a somewhat prominent nodule, from 1 to 1½ lines in length, which is formed by a firm, fibrous capsule, easily detached from the surrounding parts. The animal lies coiled up in the interior of this capsule" Frerichs (*On Diseases of the Liver*, vol. ii, p. 276

DISEASES OF BLOOD VESSELS AND PULMONARY APOPLEXY.

690. Specimen of pulmonary apoplexy probably of long standing. MS. Cat., Vol. I, page 47, No. 118.

From a man who died suddenly in the Detachment Hospital, Chatham. All organs were found healthy except as regards the condition of the lung as seen in the preparation.

691. A fine specimen of pulmonary apoplexy as described by Laennec. Print Cat., page 20, No. 48.

From Thomas Twinam, aged 26, 40th Regiment. He was admitted into his Regimental Hospital labouring under pectoral disease, which at first was supposed to be incipient phthisis. In a short time dropsical effusion taking place, particularly in the lower extremities, he was transferred to the General Hospital, where it was noted that "the disease was dropsy, depending upon organic lesion of the heart." No irregularity was observed in the pulse, but the carotids pulsated with unusual violence. The ordinary treatment was adopted without advantage, and death ensued. The lungs were sound, except the appearance represented in the preparation; the heart was diseased.

692. Effusion of blood into a portion of the tissue of the right lung. The section is made through the blood effusion.

From W. Bentley, aged 35, 45th Regiment, who died suddenly from extensive mitral valve disease. (See Preparation 105, page 29 of this Museum Catalogue.)

693. Portion of lung showing pulmonary apoplexy. MS. Cat., Vol. I, page 68, No. 200.

From John Keating, 1st Royals, 14 years' service. This man had been subject for years to palpitations which were accompanied with bruit de soufflet. In 1830 he had pneumonia, and since that period repeated attacks of hæmoptysis. On his admission into the General Hospital, his symptoms appeared much aggravated, respiration was difficult and accompanied by sonorous and sibilous râles; percussion was dull over both sides of the chest. Pulse 100, small and jerking, much dulness over the precordial region, countenance anxious the lower limbs were œdematous, the œdema gradually ascending to the trunk, he sank and died 40 days after admission. On post-mortem examination the heart was hypertrophied and weighed 18½ ounces, 4 pints of serum were found in the right and 8 ounces in the left pleural cavity; the lungs contained several apopletic foci.

694. Portion of lung showing two cysts remaining after the absorption of blood effused in pulmonary apoplexy.

No history.

695. Portion of lung showing pulmonary apoplexy. MS. Cat., Vol. I, page 41, No. 110.

From Robert Battersby, aged 28, 47th Regiment, who was admitted into General Hospital at Fort Pitt from Jamaica, May 31, 1833, in a very prostrate condition from chronic dysentery, and died 10th June. The section in the preparation seems to show more the character of septic pneumonic foci than blood effusion; but the history of the case is very imperfect.

MORBID CONDITIONS OF LUNGS IN ANIMALS.

696. Portion of lung of a sheep altered in structure, and containing several masses of deposit resembling ossified parasitic cysts. MS. Cat., Vol. II, page 146, No. 170.

The sheep was apparently in prime condition. When killed at the butcher's the lungs, spleen, and liver were found to contain an immense number of hydatids.

Donor—Dr. Athill, Asst.-Surg., Staff.

697. Lungs of a dog studded with tubercles from the size of a pin's head to that of a common bean. MS. Cat., Vol. I, page 47, No. 120.

The dog became greatly emaciated before death.

Donor—Mr. Shower, Apothecary.

698. Lungs of a monkey, affected with tubercular phthisis in all its stages.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

699. A portion of lung (minutely injected) from the Mecacus Rhesus pervaded by tubercles.

Donor—Mr. Gulliver, Asst.-Surg., Staff.

SERIES VI.

INJURIES AND DISEASES OF LIPS AND TEETH, JAWS AND TONGUE.

DISEASES OF LIPS.

700. Portion of lower lip removed by operation, showing cancer with slight ulceration of its margin. MS. Cat., Vol. III, page 242, No. 177.

Donor—Dr. Powell, Asst.-Surg., Staff.

700A. Upper lip and chin destitute of hair as was also the pubis, the testicles did not exceed those of a child of six months and the vasa deferentia were impervious and terminated in the cellular substance of the scrotum. From a man aged fifty-eight. MS. Cat., Vol. III, page 226, No. 105.

From Richard Winkworth, No. 472, page 136.

NECROSIS OF JAW FROM WOUND, INJURY, MERCURY, OR DISEASE.

701. Necrosed portion of lower jaw, with the alveolar process and some of the molar teeth. The consequence of an injury in extracting a carious tooth. A dry preparation.

[Effects of Gunshots in Tusks, see Catalogue of Surgical Museum, 598L, in a glass case.]

702. Lower jaw exhibiting a circumscribed deficiency of the alveolar process. (A dry preparation).—From a man who was wounded by a buck-shot which lodged at the base of the tooth, and produced caries of the remainder; it was extracted twelve months after the injury.

Donor—Mr. Fiddes, Surgeon, 85th Regiment.

703. A dry preparation, showing necrosis of a portion of left lower jaw, which appears to have been the result of an injury.

Donor—Surgeon Archibald Stewart, 14th Dragoons.

704. A dry preparation, showing necrosis of the right angle of the lower jaw, including the whole thickness of the bone, and extending up to the roots of the condyle and coronoid process. The portion of dead bone is detached, and the two last molar teeth are still imbedded in it. (*See* Preparation under "Knee joint," MS. Cat., Vol. III, page 109, No. 147.)

From Matthew Renston, aged 20, a recruit of 4th Regiment, was admitted into Regimental Hospital, 24th February, 1842, with a number of abscesses which had formed in rapid succession in different parts of the body. A collection of matter had its seat amongst the fibres of the gastrocnemius muscle of the right leg into which several free incisions were made from time to time. When admitted into hospital at Fort Pitt on 29th September, he had numerous glandular swellings in various parts of the body containing purulent matter. Left wrist and hand became much swollen into both of which incisions were made as occasion required. Left knee and ankle joints swelled in succession, and on the other side of the latter joint, extensive ulceration was present for some time. Eventually the right side of the face swelled, and purulent matter found its exit at the mouth. Fever with diarrhœa set in, and he died ten months after the commencement of his ailments. After death, miliary tubercles were found in the apex of right lung. In all the carpal bones were found caries, and soft cheesy masses with pus infiltration throughout the muscles and alveolar substance. A portion of loose bone was found about four inches above lower extremity of left fibula. The calcaneum and astragalus of same limb were also carious, and the surrounding parts thickened and ulcerated.

Donor—Dr. Williamson, Staff Assistant-Surgeon.

705. Left half of the lower jaw, to the outer surface of the horizontal ramus of which is attached a tumour, partly composed of bone and partly of dense fibrous tissue. The surface of the tumour is smooth, and its base is encircled in a thin shell of bone, extending from the jaw. The disease was of eighteen months' duration, and occurred in a middle-aged soldier who died of phthisis. (*See* Preparation No. 706 below.)

706. A dry preparation showing right half of the lower jaw (being a section of the preceding preparation), which has been macerated, to show the thin shell of bone more distinctly arising from the jaw, and the structure of the tumour divided into numerous cells by bony plates.

707. A dry preparation, showing a portion of necrosed alveolar process from the right side of the lower jaw, containing a temporary molar tooth, and the rudiments of two permanent teeth. Exfoliation was induced by mercury exhibited in yellow fever. MS. Cat., Vol. III, page 66, No. 309.

From a girl eight years of age, who was attacked by yellow fever in Jamaica in 1839. Mercury was given to the extent of profuse salivation. Whilst convalescent, but still suffering from extensive excoriation of the mouth, she embarked for England. During the voyage, general health was restored, and the gums healed, excepting in the situation of the anterior molar tooth on right side of lower jaw. When first seen at Fort Pitt, the breath was extremely fetid, owing to a putrid purulent discharge from the situation above named. Pressure on the gum caused an increased flow of the discharge, and on application of the finger to the tooth, it was found to be loose, and apparently to have attached to its roots, a portion of the alveolar process of the jaw. The gum was freely divided on either side, and the tooth, with the necrosed portion of jaw containing the rudiments of two permanent teeth, were removed. The wound healed readily under the use of slightly astringent washes.

708. A large tumour surrounding the left side of the lower jaw. The tumour is composed partly of soft medullary matter and partly of a firm fibrous substance; it adheres to the jaw, where a fissure extends through the body of the bone. The integuments and mucous membrane of the cheek are ulcerated, and communicate with a cavity which contained a quantity of bloody pus. MS. Cat., Vol. III, page 250, No. 210.

Donor—Mr. Allan, Asst.-Surg., Staff.

709. Extensive carcinomatous ulceration affecting the left side of the face, and destroying a considerable portion of the lower jaw. MS. Cat., Vol. III, page 236, No. 159. (*See* next Preparation).

710. Tumour situated under the cartilages of left ear, external to the parotid gland, texture smooth, compact, and spongy. (*See* previous Preparation, No. 709.) MS. Cat., Vol. III, page 236, No. 159.

These two preparations are from Samuel Butler, 17th Regiment, aged 35, 17 years' service, one year and six months in the East Indies. From the document accompanying him, as well as from his own statement, the disease commenced in December, 1830, by a small pimple the size of a grain of shot, which gradually increased and opened into ulceration, from which for the first two months, he did not suffer any particular inconvenience, but during the two or three succeeding years, he suffered occasional pain, and described the discharge from the ulcer, as a thick yellow purulent fluid. The sore gradually increased, assuming a spongy granular appearance, bleeding freely on pressure and adhering to the periosteum. The disease continued its ravages till nearly the entire left side of the face became the seat of carcinomatous ulceration. A tumour of a carcinomatous character, appeared under cartilage of ear on same side; the integuments over which became inflamed, and the seat of great pain, accompanied by loss of appetite, want of sleep, and general emaciation. On examination after death, the soft parts under Zygomatic arch were found entirely destroyed, with absorption of the maxillary bones. The tumour under the ear was found external to the parotid gland, and on being cut into, exhibited a carcinomatous structure.

DISEASES OF THE TONGUE.

711. Malignant ulceration which has involved the greater portion of the base of the tongue on the left side. There is considerable enlargement of the submaxillary and sublingual glands, and their natural texture is increased in density.

The patient, who died suddenly from hæmorrhage, had never suffered from constitutional symptoms, and the local ones, viz., difficulty of swallowing and articulation, made their appearance only a few days before death.

Donor—Asst.-Surg. Saunders, 3rd W. I. R.

712. Malignant ulceration which has destroyed the greater part of the right side of the tongue. Print. Cat., page 70, No. 6.

From a soldier of the 23rd Regiment. The disease in connection with diarrhœa, proved fatal.

Donor—Mr. Fraser, Assistant-Surgeon to the Forces.

713. A deep excavated cancerous ulcer in a portion of the tongue which was removed by operation.

Donor—Mr. O'Brien, Asst.-Surg., 7th Regiment.

714. Lenticular papillæ of the tongue in a state of hypertrophy. MS. Cat., Vol. II, page 4, No. 20.

From Joshua Stevens, aged 40, 39th Regiment, who died of chronic dysentery.

715. Mucous membrane of the tongue ulcerated in several places. MS. Cat., Vol. II, page 4, No. 19.

From the body of a girl, aged 11 months, who died of dysentery.

715A. Portion of larynx, trachea, tongue, and œsophagus.

From a man who died of hydrophobia.

SERIES VII.

DISEASES AND INJURIES OF PALATE, TONSILS, PHARYNX, AND ŒSOPHAGUS.

716. An ulcerated opening, extending completely across the soft palate having detached the uvula from its superior connections, the margins of which have become cicatrized.

Donor—Mr. O'Brien, Asst.-Surg., 7th Regiment.

717. Velum pendulum palati completely destroyed by ulceration. Print. Cat., page 70, No. 7.

From Thomas Lock, aged 30, 13th Light Dragoons, admitted in an advanced stage of pulmonary phthisis. When he attempted to swallow fluid, the greater part of it regurgitated through the nose. He stated that he had been repeatedly salivated for venereal affections and that ulceration and sloughing of the soft palate had existed. On dissection, exostosis presented on the front of the cervical vertebræ; the tibia was thickened from osseous deposition, and the glans penis was found nearly destroyed.

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718. Left tonsil one entire slough, in the centre of which an entozoa (*Trichocephalus Affinis* of Rudolphi) of minute size was found, the first instance of its having been met with in the human subject. MS. Cat., Vol. II, page 221, No. 93.

From James Huck, aged 18, 75th Regiment, admitted into hospital with the whole of the posterior fauces much inflamed, particularly the left tonsil, to the surface of which a foul slough adhered. On the morning of the 11th, he was suddenly seized with profuse epistaxis, which was stopped by plugging the nostrils with lint dipped in an astringent solution. In the evening he began to expectorate bloody sputa in large quantities, and on the following morning the urine was observed to be deeply tinged with blood and a copious sanguineous sediment deposited on cooling; pulse 120, beating strong; tongue, dark coloured and furred with extreme fetor of the breath. On the 13th, a small spot broke out on the nose and another on the lower lip, from both of which there was a considerable oozing of blood, the face was swollen and had an ecchymosed appearance. The sanguineous urine and bloody expectoration became more profuse, and the fetor of the breath more intolerable, the pulse became weaker and increased in frequency, and the patient died on the 15th.

After death, on cutting into the hemispheres of the brain, there was found in the left middle lobe of the cerebrum, a cavity capable of containing a filbert which was filled with coagulum. (See also under Urinary Bladder).

Donor—Dr. Williamson, Staff Assistant-Surgeon.

719. A large ulcer on the left side of the pharynx, which has laid bare the cornu of the thyroid cartilage; the glottis and epiglottis are very much thickened and œdematous. MS. Cat., Vol. II, page 2, No. 12.

From a black boy, "who had been long subject to ulcerations in his throat, particularly the tonsils and uvula which were nearly destroyed." He generally derived much benefit from the use of mercury. Ultimately, however, he lost his voice and experienced such pain on deglutition as to make him refuse all sustenance except in a fluid form.

Donor—Dr. Dyce, Asst.-Surg., Staff.

720. Numerous small cysts which contained pus, situated between the œsophagus, larynx and trachea. Print. Cat., page 69, No. 2.

From Peter M'Neil, 78th Regiment, who was admitted with hernia humoralis. When convalescent, he was attacked with pain in the throat and dysphagia; and, five days after, with urgent dyspnœa, and pain in the left hypochondrium; the former to such a degree, as shortly to terminate in suffocation, although bronchotomy was performed. He survived the operation but one hour.

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721. A dry preparation (in turpentine); vessels seen full of blood only when the preparation is held between the eye and the light. Mucous membrane of the œsophagus very much congested. MS. Cat., Vol. II, page 2, No. 14.

From John Smith, aged 33, 28th Regiment, who died of dropsy produced by cirrhosis of the liver. The man had a dysenteric affection but no symptoms except the tongue being preternaturally red indicated before death the condition of parts seen in the specimen. It was noted that the mucous membranes generally were preternaturally vascular.

722. A dried preparation showing portion of the interior of the œsophagus highly vascular. MS. Cat., Vol. II, page 2, No. 13.

From Dennis Ritchie, aged 29, 8th Foot, who died of chronic dysentery, but there were no symptoms before death which indicated the lesion seen in the preparation.

723. Mucous membrane of the œsophagus lined by a rough granular layer of lymph. Print. Cat., page 70, No. 8.

From Jane Walley, aged 23, who died from swallowing a large dose of oxalic acid.

Donor—Mr. Tuthill, Asst.-Surg., 52nd Regiment.

724. Ulceration of the œsophagus, about 3 inches below the pharynx; about an inch in extent from above downwards, and embracing the whole circumference of

the tube. Its surface is rough and irregular, having destroyed the mucous membrane, and laid bare the muscular coat. The preparation does not show any contraction of the canal at the seat of disease

From Mr. Henry H. Davis, Commissariat Clerk, aged 52, of fair complexion and slight frame, 25 years in the service, 5 of which at Malta, and 20 at Cerigo. Previous to his entering the service, he had been in India as a midshipman. Having suffered for several years from an affection (a stricture) of the throat which was daily becoming worse, he arrived at Corfu about the 15th of March, for the purpose of obtaining medical advice. About eight years previously, when at dinner, he felt something stick deep in his throat, which caused violent coughing and obliged him to leave the table, since which difficulty of swallowing has never been absent, and latterly it has been aggravated by spasm; and 18 months ago when taking rice soup the passage became completely shut, but after some time, much reaching and coughing having been induced, a grain of rice was brought up, and he was again enabled to swallow fluid, to which he has ever since been confined; fresh eggs thinly beat up in milk or water, constituting his chief nourishment. His general health has in other respects been good. Bougies of different sizes were attempted to be passed through the stricture, but in vain; they passed upwards of seven inches when they were stopped as if in a sac, and without having passed through any stricture. Much coughing and irritation was induced. 21st. The introduction of the bougies does not seem to have caused any bad consequences, the patient being able to swallow fluid as usual. He became daily weaker however. His chief complaint being that of thirst, nor was this very urgent, as he was able to allay it somewhat by taking and retaining about three table spoonfuls at a time, but on being increased it was immediately rejected. He became progressively weaker and died on the 6th of April.

Donor—Dr. Linton, Staff Surgeon, 2nd Class.

725. An oval tumour occupying the whole circumference of the œsophagus, commencing about an inch and a-half above the cardiac orifice of the stomach, extending upwards about two inches and across the centre measuring two and a half inches in breadth.

From Robert Stephens, 21st Regiment, who was seized on the 26th November, 1837, with nausea, vomiting, and pain at the epigastrium, accompanied with dyspnœa and slight cough, symptoms which were so far relieved that he was discharged to duty in about a week. He returned to hospital, however, shortly afterwards, complaining of fixed circumscribed pain under the ensiform cartilage with nausea and vomiting of food. He experienced a sensation as if a foreign body existed in the œsophagus. Leeching and counter-irritants were employed without success, and he died much emaciated in about six weeks after return to hospital. The coats of the canal presented a diseased appearance. The stomach was much diminished in size, while the calibre of the lower part of œsophagus would scarcely admit a common size bougie. The glottis and epiglottis were œdematous.

Donor—Robert Smith, M.D., Asst.-Surg., 21st Regiment.

726. Carcinomatous ulceration and contraction of the lower third of the œsophagus with thickening of the lining membrane of the middle third; likewise adhesion of portions of the lung in its vicinity, with effusion of lymph on the serous surface of the heart and pericardium. MS. Cat., Vol. II, page 3, No. 16.

From Richard Beatty, aged 45, of H.M. ship "Isis," who during

30 years he had spent in the naval service, had visited various climes and had been twice affected with yellow fever in the West Indies; for many years he had indulged freely in ardent spirits, and about six months before coming under observation, he was sent to Sierra Leone with a prize slave ship. While there his health was indifferent; appetite became impaired, and he experienced difficulty in deglutition. While returning to the Cape to regain his ship, he was attacked with hiccough, burning pain referred to the cardiac, increased difficulty in deglutition and frequent syncope. On 13th August, 1834, he was landed and received into hospital of 72nd Highlanders in a state of extreme emaciation and debility, countenance anxious, skin shrivelled, pulse small and quick; tongue deeply furred on dorsum, clean towards the tip; complained of a constant burning pain and sense of tightness at the scrobiculus cordis, total inability to swallow solids, and when fluids, even in a small quantity, were attempted they were soon rejected, had not any alvine evacuation during five days previously. An enema was administered which brought away a copious defection of fetid fæces of almost vermillion colour. Various medicines were attempted in different forms, but seldom did any of them reach the stomach, an opiate plaster at the pit of the stomach afforded some little relief. On the 21st, he began to sink rapidly. Diarrhœa and almost constant vomiting of slimy mucous tinged with bile set in on the 23rd, and continued until the 27th when he expired. On examination after death the body generally was emaciated, shrivelled, and dried. On opening the thorax the right lung presented a state of partial emphysema, while the lower lobe of the left lung was firm, dense, of a bright red colour, and adherent to the diaphragm, pleura and other parts adjacent to the principal disease. The other morbid changes are shown in the preparation. The abdomen being opened, the stomach appeared small and attenuated; it contained a quantity of very viscid slimy mucous of yellowish green colour. The whole course of the alimentary canal, from the pylorus to the anus, was excessively contracted and the two fatty appendices attached to it afforded the only trace of adipose deposit throughout the body. Both renal capsules were converted into membraneous cysts which were filled with thin grumous and sanguineous fluid. See Preparations Nos. 774 and 812.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

727. Ulceration and stricture of the middle third of the œsophagus. Print. Cat., page 69, No. 1.

The subject from which this preparation was removed, had been given to intoxication; and the disease had been known to exist about eight months.

Donor—Mr. Campbell, Asst.-Surg., 25th Regiment.

728. Two large oval ulcers on the interior of the œsophagus, one of which communicates with a diseased bronchial gland at the division of the trachea. MS. Cat., Vol. II. page 2, No. 11.

From Michael McCarthy, aged 35, 36th Regiment, who died of the sequelæ of dysentery, complicated with a pulmonic affection. There were no symptoms before death indicative of the lesion shown in the preparation.

729. An ulcer on the mucous membrane of the œsophagus; the lymphatic glands exterior to it are deeply impregnated with tubercular matter. MS. Cat., Vol. II, page 4 No. 18. (See Preparations Nos. 870 and 871, page 236.

From George Danigan, aged 30, 4th Light Dragoon Guards, who died of phthisis pulmonalis. The ulcer has a peculiar sacculated form.

730. An ulcer of the œsophagus which communicated by a sinus with the posterior mediastinum. Print. Cat., page 70, No. 9.

From a soldier who died of pneumonia.

Donor—Dr. Scott, Surgeon, Rifle Brigade.

731. Abrasion of the mucous membrane of the œsophagus. Print. Cat., page 70, No. 5. (See Preparation 417, page 125, from the case of Cornelius Conway—who died from relapse of dysentery after remittent fever).

SERIES VIII.

INJURIES AND DISEASES OF PERITONEUM.

(Not including Displacements.)

INJURIES OF PERITONEUM.

732. Laceration of the mesentery, caused by the individual being thrown violently from his horse against a tree.

Donor—Dr. Kinnis, Asst.-Surg., Staff.

INFLAMMATION, ECCHYMOSIS, BLOOD OR LYMPH EFFUSION AND VASCULARIZATION.

733. Blood effusions into the peritoneum, in the form of elevated coagula of considerable and variable size. There were numerous ecchymosed spots on the surface of the membrane, which is much thickened, and intimately attached to fascia transversalis.

From Private Samuel Robinson, aged 29, 10th Hussars, admitted to Fort Pitt, August 2nd, 1849. An English carpenter of nine years' service. While in India he suffered from dyspepsia, rheumatism, and hepatitis, and on the voyage home to this country was affected with purpura hæmorrhagica. On his admission into Fort Pitt he was much emaciated, his abdomen enlarged and fluctuating. He was soon attacked with diarrhœa, which gradually became worse. On the 13th of August, his face became œdematous, and he complained much of dyspnœa, and gradually sank until the 18th, when he died. On post-mortem examination six pints of fluid were found in the abdomen, and nearly the whole of the peritoneum presented the appearances seen in the preparation. The small intestines were found to be healthy, but the whole of the mucous surface of the colon was coated with lymph, and ulcerated in several places.

Fort Pitt, *vide* Register 319, Folio 47.

734. A dried preparation (in turpentine), showing a portion of peritoneum exceedingly vascular, and studded with a number of small osseous bodies which have an appearance like that of crystallization. MS. Cat., Vol. II, page 32, No. 130.

From James Lane, 92nd Regiment, aged 27, who died of hip joint disease, and abscess under left internal iliacus muscle, over which the portion of peritoneum lay. This local lesion was seen to be very circumscribed.

735. Portion of jejunum, the peritoneal surface of which is irregularly elevated by vascular deposits beneath it; some of these growths project from the free surface of the peritoneum, and appear to be almost entirely composed of blood vessels. The preparation is minutely injected. MS. Cat., Vol. II, page 39, No. 158.

From a woman, aged 30, in whose abdomen this condition was universal, and caused her death.

Donor—T. Wormald, Esq., Demonstrator of Anatomy, St. Bartholomew's Hospital.

736. Portion of sigmoid flexure of colon with effusion of lymph on its serous surface and ecchymosis between the peritoneum and muscular fibres. Print. Cat., page 102, No. 82.

From Thomas Stinson, aged 27, 59th Regiment, who was three months under treatment for pulmonary phthisis, diarrhœa was attended, latterly, with some pain of abdomen. After death, the lungs were found consolidated by tubercular infiltration; the right pleural bag contained a quart of fluid; the peritoneum held half a gallon of water; the whole of the abdominal viscera were agglutinated; the mucous tunic of the intestines was much inflamed and ulcerated, and the liver, which was large and condensed, presented a tough cyst, containing hydatids.

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737. Numerous ecchymosed spots of a black colour under the peritoneum. MS. Cat., Vol. II, page 39, No. 159.

From George Seaton, 60th Rifles, aged 22, who was in hospital on account of a contraction of the wrist; and who died somewhat suddenly from peritonitis of 27 hours duration. The abdomen swelled with great rapidity from effusion of fluid; but with little pain except on pressure. He was a fairly robust and healthy man, and appeared to suffer little as he was examining his boots about a quarter of an hour before death.

738. Gastro-colic omentum converted into a large and dense granular mass from effusion of lymph between its layers and on its surface. MS. Cat., Vol. II, page 75, No. 118.

From James Nobit, aged 28, 72nd Regiment, who had been long subject to dyspepsia; and was admitted into hospital on account of pain at the epigastrium with loss of appetite, followed by cough, effusion into the abdominal cavity, and hectic symptoms. He died from diarrhœa. The lungs were seen after death to be studded with miliary tubercle. The left lung was much compressed from pleuritic effusion. The sac of the peritoneum contained about 4 quarts of fluid; and the membrane was thickly studded with miliary tubercle. The liver was smaller than natural, and had adherent to its anterior thick edge the mass of lymph preserved in the preparation, and which also adhered to the arch of the colon, and communicated with the interior of that portion of bowel by two ulcerated openings. The mass appeared of a melanotic colour externally; its surface had several small openings through which a dirty brown colour exuded. Internally, it consisted of masses of light coloured caseous tubercular pulp intersected by bands of dark coloured matter, and the whole enclosed in a well-defined cyst. The whole of the gastro-colic omentum had become a dense mass of a granular character, uniting together the liver, stomach, and arch of the colon.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

739. Portion of mesentery, converted into a solid mass from deposition of lymph between its layers and on its free surface.

Donor—Dr. Milligan, Surgeon, 51st Regiment.

740. Omentum much thickened from deposition of lymph between its layers. MS. Cat., Vol. II, page 86, No. 166.

From a patient who died of tubercular disease, with considerable enlargement of the mesenteric glands.

741. A strong band of adhesion, extending between a portion of intestine and the walls of the abdomen, about one inch and a half in breadth and a quarter of an inch in thickness where it adheres to the gut, as it proceeds it divides into two round cords before reaching the abdominal walls.

742. Small intestines united and covered by a thick layer of lymph.

743. Small intestines agglutinated and covered with coagulable lymph which is at some parts one-eighth of an inch in thickness.

744. Convolutions of small intestines matted together by a thick adventitious layer of lymph on the serous surface of the peritoneum and by the deposition of large fleshy masses. Print. Cat., page 83, No. 61.

From a middle-aged woman who died of dropsy of both ovaria and tubercular disease of the lungs.

Donor—Mr. Gulliver, Asst.-Surg., Staff.

745. Portion of omentum with its margin much thickened from deposition of lymph between its layers.

746. Portion of omentum with its margin thickened and effusion of lymph between its layers. Print. Cat., page 104, No. 96.

From a soldier of the Rifle Brigade who died of chronic dysentery.

Donor—Dr. Scott, Surgeon, Rifle Brigade.

TUBERCLE.

747. Numerous tubercular deposits, from the size of a pin's head to that of a horse-bean, in their second stage of development on the peritoneal coat of the small intestines; convolutions at some parts adhering by coagulable lymph.

Fasciculus II, Plate VII, Fig. 5.

748. Tubercular accretions of the peritoneum, the omentum being the part principally involved in the disease, which is at some parts an inch in thickness, and firmly agglutinated to the transverse arch of the colon. Coats of the stomach much thickened. Print. Cat., page 88, No. 91.

From Serjeant-Major James Gouley, aged 37, of 7th Dragoon Guards. He first complained of a painful sensation of weight in the situation of the spleen, which he attributed to riding, followed by nausea, and symptoms of dysentery. Some time afterwards costiveness ensued, and he continued to feel uneasiness in the left hypochondrium, the abdomen being considerably enlarged. He ejected matter from the stomach, which, at last, assumed the appearance of black vomit;

and died in about six months from the commencement of the disease, with symptoms of pressure on the brain. On post-mortem examination, about two gallons of serum were found in the abdomen; the peritoneum generally was involved in the tubercular formation, of which an example is given in the preparation. The mass preserved was chiefly connected with the omentum; the stomach, and part of the colon, being seen above it.

Donor—Dr. Blake, Surgeon, 7th Dragoon Guards at Canterbury.

749. Extensive tubercular deposit in the peritoneum. Print. Cat., page 81, No. 49.

From John Couland's case described under No. 616, p. 171.

Fort Pitt.

749A. Crude tubercles attached to the peritoneal surface of the jejunum by tissue of a loose filamentous nature.

From the body of a soldier of 80th Regiment, aged 19, who died of inflammation of left lung after three days' illness. All the abdominal viscera were found after death covered with tuberculous matter of the same nature as shown in the preparation. Tubercular masses were also found in the lung.

749B. Peritoneum coated with lymph, and mesenteric glands enlarged from yellow scrofulous matter.

From J. McCrea, aged 9 years, who died of mesenteric disease. The peritoneum was studded with scrofulous matter, and the convolutions of the intestines were glued together.

750. Portion of sigmoid flexure of the colon and the upper part of the rectum, with numerous tubercles of various sizes beneath the peritoneal covering, and shreds of lymph hanging from its surface; there is also a pedunculated body about two inches in length, attached to the external surface likewise filled with tubercles. MS. Cat., Vol. II, page 78, No. 13. See next preparation, No. 751.

From James Green, aged 27, 28th Regiment, who was affected with chronic bubo in both groins for three years before his death. They frequently suppurated, and never showed any disposition to heal. Seven weeks before death, his abdomen began to swell, and he frequently complained of darting pains in it. His urine became scanty and high coloured; his lower extremities œdematous; and he suffered from frequent vomiting; great emaciation resulted, with hectic fever and death. After death 8 pints of a yellow coloured serum were found in the peritoneal cavity, and the serous coat of the viscera generally was covered with shreds of recent lymph, with small scrofulous tubercles in the subserous tissue, interspersed with red coloured spots (petechiæ ?) The lungs were healthy, but generally adherent to the walls of the thorax.

751. Portion of the anterior wall of the abdomen, beneath the peritoneal surface of which are situated some small tubercles. MS. Cat., Vol. II, page 78, No. 138.

From the same case as last preparation (750).

752. Portion of peritoneum lining the walls of the abdomen, studded with a granular-looking deposit of tuberculous matter. MS. Cat., Vol. III, page 261, No. 217.

From Hugh Mulloy, aged 23, who died of phthisis pulmonalis with ulcers (tubercular) in the large and small intestines.

753. Portion of abdominal peritoneum thickened from a deposit of tuberculous matter. MS. Cat., Vol. II, page 46, No. 189.

From Thomas Holden, aged 18, 3rd Regiment, a labourer of 9 months' service. He died of pneumonia and bronchitis of 34 days duration. Both lungs adhered firmly to the walls of the chest. Several of the bronchial glands contained scrofulous matter.

Donor—Dr. Williamson, Staff Asst.-Surg.

754. Extensive deposition of tuberculous matter beneath the peritoneal lining of the abdomen. MS. Cat., Vol. II, page 35, No. 148.

From John Adams, aged 17, 1st Battalion, 60th Rifles, who died of phthisis pulmonalis.

755. Large masses of tubercular deposit beneath the peritoneum of a portion of colon; also in the omentum, which is nearly two inches in thickness. MS. Cat., Vol. II. page 75, No. 120.

From a man who died of phthisis pulmonalis.

756. A portion of ileum attached to the omentum, with tubercles in both. MS. Cat., Vol. II, page 29, No. 125.

See Preparation No. 554, p. 156, for history of case of a Maltese woman from whose body this preparation was taken.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

757. Tubercular deposit in the second stage of maturation in the peritoneum. Print. Cat., page 81, No. 49.

From a patient who died of phthisis pulmonalis.

Fort Pitt.

758. Peritoneum thickened, coated with lymph, and studded with numerous deposits of tuberculous matter of various sizes, solitary and in clusters, in different stages of advancement, some of them being firm and crude, others soft and broken up. Convolutions of the small intestines agglutinated. About four inches from the termination of the ileum, is a large rugged opening two inches in length, communicating with the interior of the gut, corresponding to a large irregular ulcer on the mucous membrane; this aperture appeared to be the only one which gave exit to fœculent matter, which was found in the cavity of the abdomen. Also three ulcers with thickened vascular edges, between this opening and the caput cæcum. Mucous membrane of the small and large intestines of a dark slate colour, but free from ulceration.

From William Duke, aged 20, 18th Regiment, total service 1 $\frac{7}{12}$ years altogether at Chatham, where he was almost always in hospital with repeated attacks of acute and chronic catarrh, eventually ending in tubercular peritonitis. On opening into the abdominal cavity after death a large quantity of fetid gas escaped. The transverse arch of the colon adhered to the abdominal walls, dividing this cavity into

unequal sacs; the inferior of which was the largest; the superior contained seven ounces and the inferior one pint of fluid fœculent matter. The superior or smaller cavity was situated in front of the stomach, bounded on the right by the liver, which adhered firmly to the diaphragm, and inferiorly by the transverse arch of the colon, below a fold of which, the two cavities communicated by a large aperture situated on the left side in front of the spleen. Liver structure extremely soft and friable, weight 7lbs. Spleen structure, softer than usual, weight 7 oz.

Donor—Dr. Williamson, Staff Asst.-Surg.

759. Numerous small tubercular deposits on the peritoneum of a portion of ileum, convolutions adherent by coagulable lymph, which at some parts hangs in loose shreds. Print. Cat., page 81, No. 43.

From a patient who died of phthisis pulmonalis, whose lungs were found tuberculated; the contents of the abdomen firmly adherent together, and studded with tubercle.

York Hospital, Chelsea.

760. Portion of the termination of the ileum at its junction with caput cæci, with tubercular matter deposited in a granular form on the serous covering. Print. Cat., page 90, No. 106.

From James Barnett, 74th Regiment, who, having been long subject to chronic dysentery, was admitted in a state of extreme exhaustion, affected with erysipelas of the right arm, and consequent gangrene; under which maladies he sunk in a few days. On dissection, besides the sphacelated condition of the upper extremities, the lungs were found to contain miliary tubercles; the liver was larger than natural, granular, and pale. There were, at some parts of the ileum, patches of tubercular deposit, and at its junction with the cæcum, the whole intestine was in the condition exhibited in the preparation.

Fort Pitt.

761. Portion of ileum presenting a deposition of tubercular matter in a granular form on the external surface. Print. Cat., page 91, No. 107.

From Thomas Foreman, aged 20, 96th Regiment.

762. A long thin band of adhesion connecting the left lobe of the liver to the omentum. The omentum is infiltrated with tuberculous matter, and there is also a similar deposit beneath the serous covering of the liver. MS. Cat., Vol. II, page 77, No. 129.

From Joseph Milthorp, aged 34, 6th Regiment, who died of phthisis pulmonalis.

763. Peritoneum covering the convolutions of the small intestines adhering and studded with tubercles. Print. Cat., page 82, No. 51.

From John Cowan, aged 39, 42nd Regiment, who died of ascites.

Fort Pitt.

764. Tubercular deposit under the peritoneal coat of the small intestines, convolutions adherent. Print. Cat., page 81, No. 47.

The patient died of phthisis pulmonalis, at Malta.

Donor—Dr. Calvert, Asst.-Insp. of Hospitals.

765. Tubercular accretions beneath the peritoneum, with agglutination of the small intestines by coagulable lymph, which hangs in loose shreds. Print. Cat., page 83, No. 60.

From Michael Stapleton, whose case has been already described at p. 149, No. of Preparation 515.

766. A portion of ileum showing the peritoneum very thickly studded with scrofulous tubercles, some nearly as large as a bean. The convolutions of intestines were agglutinated by coagulable lymph.

From B. Creely, aged 9 years, who died of phthisis. He was ill for some months with the usual symptoms of pulmonary and mesenteric disease; was greatly emaciated, and death was sudden by profuse hæmorrhage from the lungs.

Donor—S. Lawrence, Esq., M.A., Chelsea.

767. Small intestines agglutinated by coagulable lymph, which hangs in loose shreds from their surface, with tubercles of various sizes below the serous membrane. Print. Cat., page 80, No. 36.

From a black pioneer, who was admitted with a fluctuating swelling of the abdomen, fulness and induration of the hepatic region, scanty secretion of urine, torpid bowels, and anasarcous extremities. He died in six months after the commencement of his illness. On dissection, the liver was found thickly studded with pale, yellow, tubercles; at the anterior margin of the left lobe it adhered to the pyloric extremity of the stomach, where an abscess was detected communicating with that viscus; the peritoneum and abdominal muscles were firmly agglutinated by bands of organized lymph, interspersed with innumerable tubercles of various sizes; and the thoracic, and abdominal cavities contained about three pints of serous fluid.

Donor—Dr. Shanks, Asst.-Surg., 82nd Regiment, Mauritius.

768. Convolutions of the small intestines firmly adherent to one another. Peritoneum very rough and irregular from the deposition of scrofulous bodies varying from the size of a pin's head to that of a bean, some of them of firm consistence, others in a state of softening. These bodies are deposited in the peritoneal coats or in the cellular substance beneath; many of them having become softened had burst both into the interior of the gut and into the cavity of the abdomen, leaving openings which allowed the contents of the intestines to escape. There are a few small oval ulcers on the mucous membrane of the intestines, produced by the bursting of the softened scrofulous deposits into the intestines only.

From Bushman boy, No. 42, page 12, also 797, p. 217.

Donor—Dr. A. Smith, 2nd Class Staff Surgeon, Maidstone.

769. Peritoneum thickened, with tubercular deposit in its structure.

770. Numerous minute miliary tubercles in the omentum.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

771. Tubercles the size of horse-beans in a portion of omentum.

Donor—Mr. Fiddes, Surgeon, 85th Regiment.

TUMOURS AND MORBID GROWTHS IN THE PERITONEUM.

772. A fatty tumour the size and shape of a large pear, attached to the sigmoid flexure of the colon. Print. Cat., page 97, No. 51.

From George Collins aged 30, 5th Regiment, who was admitted in the last stage of phthisis and died in four weeks.

Fort Pitt.

773. A small tumour of a steatomatous character beneath the peritoneum of a portion of rectum. MS. Cat., Vol. II, page 76, No. 125.

From a young man who died of phthisis.

774. Two fatty appendages the size of cherries, attached to the mesentery; ileum much contracted. MS. Cat., Vol. II, page 33, No. 138.

From Richard Beatty, aged 45, whose case is given with Preparation No. 726, page 202, also 812, p. 220.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

775. Omentum majus, much thickened from a deposition of numerous small tumours of a sarcomatous nature. MS. Cat., Vol. II, page 75, No. 119.

There was also found in the patient from whose body this preparation was taken a large tuberculated sarcomatous tumour between the bladder and rectum; and another involving the stomach and pancreas.

Donor—Mr. Taylor, Asst.-Surg., 58th Regiment.

776. Three small-sized bodies of a sarcomatous nature, attached to each other in a pediculated manner, and to the serous coat of the jejunum by a common stalk-like process accidently met with in the body of a man who died of phthisis. MS. Cat., Vol. II, page 38, No. 135.

777. Portion of peritoneum with a small fibrous tumour situated under the peritoneal coat.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

778. An osseous tumour, about the size of a large pea, situated in a prolongation of the peritoneal coat of the ileum.

From an African in whose body was found old and general agglutination of the intestines; and who died of dysentery, 1848.

Donor—Thomas Longmore, Esq., Asst.-Surg., 19th Regiment.

779. A small osseous deposit, with several tubercles in its neighbourhood, situated under the peritoneum lining the abdominal parietes. MS. Cat., Vol. II, page 78, No. 36.

780. A dried preparation showing large calcareous deposit beneath the peritoneum covering the colon.

SERIES IX.

INJURIES AND DISEASES OF THE STOMACH AND DUODENUM.

SUB-SERIES (A).—DISEASES AND INJURIES OF THE STOMACH.

INJURIES.

781. A gunshot wound of the larger curvature of the stomach the man lived eight hours after the accident.

Donor—Dr. White, Surgeon, Rifle Brigade.

782. Rupture of the stomach from violence. The opening is circular in form, about the size of "a florin," and situated, near the greater curvature, two inches from the pylorus. The mucous membrane is everted on the peritoneal surface of the stomach. The opening is surrounded by considerable ecchymosis.

From Corporal Lodge, 9th Lancers, who died at Maidstone, September 3rd, 1852. The rupture was caused by a horse falling back on the man. Symptoms for the first twelve hours were vomiting, intense pain in the epigastric region, and great anxiety of countenance. The vomiting ceased, suppression of urine succeeded accompanied by

marked epigastric distension. Several attempts at the introduction of a catheter into the bladder were made by myself and others, but without obtaining any urine. The post-mortem examination explained the cause—viz.: an empty bladder—the viscus being completely collapsed.

Donor—Dr. Tice, Staff Surgeon.

SOFTENING OR DIGESTION OF THE STOMACH AFTER DEATH.

783. Destruction of the whole of the great arch of the stomach by the action of its own secretions, after sudden death. Print. Cat., page 30, No. 91.

From a soldier of the 85th Regiment, who was killed by a fracture of the skull. Seventeen hours after death extensive solution of the great arch of the stomach was found; and part of its contents was found in the left pleural cavity.

Fasciculus II, Plate 6, Fig. 2.

Donor—Asst.-Surg. Smyth, 85th Regiment.

784. Portion of stomach and diaphragm, showing perforation of the parts, by the action of the gastric juice after death; the perforation in the stomach is half an inch in diameter, and near the pyloric orifice, the aperture in the diaphragm corresponds to that in the stomach, and is of the same dimensions.

From a Private of the Malta Fencibles, who died on the 6th day of Febris remittens. A live lumbricus was found in the left pleural cavity, having traversed the openings in the stomach and diaphragm. There were no symptoms, during life, referable to the stomach, nor any trace of inflammation in or around it after death.

Donor—Dr. Muir, Asst.-Surg., 42nd Regiment.

785. A stomach perforated in five places after death by the action of its secretions. MS. Cat., Vol. II, page 15, No. 32.

From the body of a man who died of *delirium tremens*, after an illness of two days.

FOREIGN BODIES FROM THE STOMACH.

786. A large piece of tobacco found in the human stomach after death.

Found in the stomach of Private Charles Curtiss, of the 66th Regiment, admitted 26th June, and died 4th July, 1849. Disease—acute rheumatism.

Donor—Surgeon Montgomery, 66th Regiment.

787. Substance expelled from the stomach by vomiting induced by an emetic.

From John Palmer, aged 38 years, 50th Regiment, 14 years' service, part of which was spent in the East Indies. He states that about four years ago, he felt an uneasy sensation in his stomach, this continued up to the present date. He describes the feeling as of something rising in his throat, endeavouring to get free, and then falling heavily down, this sensation being repeated several times

during the day when in an upright posture. He came to hospital on the morning of the 17th of August, 1852, complaining of feeling sick at his stomach, and described the above sensation. He was ordered to take a common emetic, which began to act soon afterwards when he vomited the substance forming this preparation. It was covered with a slimy coating.

Donor—Surgeon Cowen, 50th Regiment.

787A. Coagulum expelled from the stomach of a man, after eating a breakfast of bread and milk, violent symptoms of gastric and enteritic inflammation succeeded, from which the patient recovered.

787B. Six pieces of crude opium, which were swallowed with intention of suicide, and brought off the stomach by emetics of sulphate of zinc.

Donor—Dr. Williams, Surgeon, 68th Regiment.

788. One hundred and eighty-two pebbles, and two pieces of flint, which had been swallowed with a suicidal object, by an insane patient, in the Military Lunatic Asylum, and passed by stool without prejudice to his health.

788A. A ball, the size of a large plum, composed of hair, having a smooth polished surface.

From the stomach of a sheep.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

HYPERTROPHY.

789. Partial thickening and a peculiar corrugated appearance of the mucous membrane of the stomach, chiefly confined to the pyloric extremity. MS. Cat., Vol. II, page 18, No. 47.

From James Irwin, aged 46, who died of acute bronchitis.

790. General hypertrophy of the coats of the stomach, with a small ulcer on its mucous surface. MS. Cat., Vol. II page 16, No. 44.

From a man, aged 27, who died of peritonitis.

Donor—Dr. Dix, Surgeon, 94th Regiment.

791. Portion of stomach showing hypertrophy of all the coats, with a thick deposition of yellow lymph in the cellular tunic, which has a honey-combed appearance—probably colloid degeneration.

Donor—Dr. Arthur, D. I. H.

792. Hypertrophy of the coats of the stomach particularly in the neighbourhood of the pylorus, with deposition of yellow lymph in the cellular coats. MS. Cat., Vol. II, page 17, No. 45. (See case of Andrew Cunningham, under Preparation 424, page 126.)

792A. Stomach inverted, showing general hypertrophy of its coats. An ulcerated opening exists at its pyloric extremity. The stomach adhered to the lobulus Spigelii of the liver.—MS. Cat., Vol. II, page 14, No. 31.

From Thomas Green, of the Royal Malta Fencibles, who died suddenly (after eating a large quantity of figs), owing to rupture of the ulcerated part which had previously been adherent to the liver. The sudden rupture of these connections permitted the contents of the stomach to escape into the peritoneal cavity.

The stomach weighed 15½ ounces, and was capable of containing 13 pints of fluid.

Donor—Mr. Portelli, Malta.

EFFECTS OF POISONS.

793. A stomach everted with the attached œsophagus laid open. The mucous membrane of the latter is covered with shreds; the former from the cardiac to near the pyloric orifice is of a bluish black colour, marked by longitudinal whitish streaks, ragged, with minute erosions of the mucous membrane. At the greater curvature towards the cardiac orifice, are seen some irregular ragged perforations, and adjacent are parts verging into the same state. Towards the pylorus the destruction decreases, the colour is blue, and the mucous membrane, with that of the duodenum, is coated with masses and flocculi of lymph.

From Sergeant J. Brownlow, A.H.C. Intemperate, with prior symptoms of early insanity. He swallowed 2 ounces of strong nitric acid. Collapse and extreme agony, lips and mouth stained yellow, no vomiting, great pain on deglutition; he died in 10½ hours. At the *post-mortem*, the œsophagus was entirely denuded of mucous membrane, except a small portion near the stomach which was yellow and shrivelled, the stomach as displayed in the Preparation, the duodenum pulpy, a general inflammatory blush throughout the whole intestines; extravasation had ensued through the ragged perforations of stomach, and evidence of peritonitis was apparent.

Donor—Asst.-Surg. Kelsall, 20th Regiment.

794. Mucous membrane of the stomach of a dark brown colour thickened, granular, and at some parts eroded; the effects of poisoning from arsenic. MS. Cat., Vol. II, page 21, No. 62.

From M. A. Smith, a female, aged 29, who was found moribund. It was stated that she had gone to bed in her usual health, and had been seized about midnight with most acute pain of stomach and vomiting, soon after purging came on which lasted only about an hour; there had been intense thirst, but scarcely any cramps. The matter vomited resembling in colour the yoke of an egg, the contents of the stomach were tested with ammoniaco nitrate of silver, ammonico sulphate of copper, and hydro-sulphurate of ammonia, which gave the characteristic marks of the presence of arsenic; and another portion was dried in a watch glass mixed with charcoal and introduced into a glass tube, heat being applied a sublimate possessing metallic lustre and opacity was soon formed.

Donor—Mr. Cavat, late Asst.-Surg., 97th Regiment.

795. Stomach showing erosion and several dark coloured elevations on the mucous membrane of the bulging extremity; the affected part is about two inches in circumference; the result of swallowing a drachm of the oxymuriate of mercury and half an ounce of laudanum. Print. Cat., page 72, No. 11.

From John McGrath, who swallowed the poison while in hospital. The following symptoms were noted:—vomiting and abdominal pain, succeeded by signs of enteritic inflammation; on the second day, continued vomiting, with occasional hiccough; on the third, in addition to these, violent salivation ensued; and on the fourth, dysenteric symptoms appeared, with great debility. In this state he continued, until late on the seventh day, when he suddenly became worse, and expired. On dissection, the stomach was found as above described; small intestines free from disease; cæcum and colon thickened and inflamed, with erosion of the mucous membrane, and effusion of lymph, which hung inwards, presenting a rugged appearance. The left lung adhered to the pleura costalis, and was completely hepatized.

Donor—Mr. Martindale, Surgeon, 17th Regiment.

796. Two large irregular elevations, of a dark colour, on the mucous membrane of the pyloric extremity of the stomach, the rest of the internal coat is of a dark grey colour; produced by swallowing an ounce of the oxymuriate of mercury. Print. Cat., page 74, No. 21.

The patient survived ten hours, and died of gastritis.

Donor—Mr. Colclough, Surgeon, 9th Lancers.

ULCERATION OF THE STOMACH.

797. Stomach with the spleen attached to it. There are also numerous scrofulous bodies below the peritoneum, some of them have become softened, and caused an ulcerated perforation into the great arch of the stomach close to the pyloric orifice. The capsule of the spleen is thickened and opaque.

From Bushman boy. (Preparation No. 42 and 768, page 14 and page 211.)

Donor—Alexander Smith, 2nd Class Staff Surgeon, Maidstone.

798. A stomach with portion of duodenum attached, section passing along the lesser curvature. Posterior surface of stomach covered by films of lymph, and nodulated near the pyloric extremity, showing a circular perforating ulcer. Calibre of stomach very much diminished, walls greatly thickened, and mucous membrane close to pylorus and along the greater curvature showing erosions.

From a woman, aged 37, who died of scirrhus of the left ovary. The stomach, rejecting all food, was extremely small, its walls irregularly thickened and cancerous, mucous membrane congested; the margins of the perforating ulcer were adherent to the pancreas.

Donor—Staff Asst.-Surg. Davidson.

799. A large oval ulcer situated on the smaller curvature between the cardiac and pyloric orifices of the stomach, and presenting near its posterior extremity a projection resembling in shape and size the nipple of the female breast, the section of which shows it to consist of a portion of the pancreas; at its anterior extremity there is a rounded opening, capable of admitting a large bougie. The contents of the stomach had, during life, been prevented from escaping by an effusion of lymph and adhesion of the edges of the opening to the liver. The small curvature of the stomach is very much contracted, and the neighbouring parts much thickened. MS. Cat., Vol. II, page 21, No. 64.

James Erskine, aged 24, 26th Regiment, of sixteen months' service. After exposure to cold and wet marching from Dover to Canterbury, he went into hospital, and, whilst convalescent, was carried in a baggage-cart to embark for China. On 1st December, 1841, whilst at sea, he had a violent attack of hæmatemesis, he was in hospital at the Cape of Good Hope from 24th March to 24th June, 1842, and sent home on account of serious visceral disease. On the 11th October, was admitted into Fort Pitt Hospital, complaining of constant pain in the epigastrium; the abdomen became tympanitic; he vomited his food periodically, which was semi-digested in some serous fluid, sometimes attended with black coloured particles of a blood-like substance, this latterly became of a darker colour resembling coffee grounds, and was very fœtid, as was that also which was passed per anum. On the 19th January, 1843, he was attacked with violent pain all over the abdomen, vomited a dark-coloured fluid, pulse scarcely perceptible, and died on the 10th July, 1843.

On opening the abdomen after death, a considerable quantity of fœtid gas occupied the omentum; and the convolutions of the small intestines were of a brownish red colour, in the abdomen and pelvis were found one pint ten ounces of opaque reddish serum intermixed with numerous flakes and broken down portions of coagulable lymph, under the surface of the omentum a layer of coagulable lymph presenting in several spots a puriform appearance, very slightly gluing this membrane to the adjacent parts. The stomach and upper third of the small intestines were distended with fluid and gas, the remainder to within about a foot of the caput cæcum contracted, their whole course presented an irregular flaky band of coagulable lymph, by which their convolutions were slightly adherent to one another. The brownish red colour chiefly attended this band on each side, and was not remarkable on the lower half of the gut. The anterior surface of the stomach was closely but not firmly united to the left and part of the right lobe of the liver, and the peritoneal coat of the latter viscus was thickened, and of a grey colour. The substance of the liver was quite healthy.

Donor—Dr. Williamson, Staff Asst.-Surg.

800. A perforation of the coats of the stomach, the size of a common quill, situated at the posterior part of the inferior curvature, having the appearance as though a portion had been cut out.

Donor—Dr. Innis, Asst.-Surg., 84th Regiment.

801. Perforation of the stomach which leads to an extensive deposition of tuberculous matter between it and the liver; by this opening, the tuberculous matter had been partly evacuated. MS. Cat., Vol. II, page 18, No. 48.

From John Adams, aged 17, 1st Battalion 60th Rifles, who died of phthisis pulmonalis. A large excavation filled with tuberculous deposit and pus existed in the substance of the left lobe of the liver, which communicated with the stomach through the perforation in it.

802. Perforation of the lesser curvature of the stomach, the opening is capable of admitting a crow-quill.

SUPERFICIAL AND HÆMORRHAGIC EROSIONS.

803. Portion of stomach, showing abrasion, ulceration, and a superficial slough on its mucous membrane. MS. Cat., Vol. II, page 14, No. 29.

From John Burke, 21st Regiment, who died of anasarca following intemperance in alcohol.

Donor—Dr. Barclay, Surgeon, 21st Regiment.

804. Stomach, the mucous membrane of which, in the recent preparation was highly vascular; coats of the great curvature much distended, bulging and thinned, the mucous membrane covering it is eroded—the remainder of the lining membrane corrugated. Print. Cat., page 73, No. 16.

From a recruit, who died of confluent small-pox, on the 7th day.

Donor—Dr. Dease, Staff Surgeon.

805. Petechial erosion of the stomach; its mucous membrane is thickened and irregular. Print. Cat., page 71, No. 5.

From Sergeant John Gibbs, aged 37, 65th Regiment, who on arrival from India, was admitted to Fort Pitt Hospital, in a moribund condition from scorbutus; having previously suffered from rheumatism, dysentery, and the use of large quantities of mercury. He died the day after admission.

806. Mucous membrane of the stomach, with a number of small elevations and depressions on its surface, the result of inflammatory action. MS. Cat., Vol. II, page 14, No. 27.

From Robert Laurie, aged 23, admitted on account of "congestive fever," the result of intemperance with exposure to cold. The epigastrium was painful on pressure; the stomach very irritable; and the pulse small and rapid. A miliary eruption, ushered in by convulsions, appeared on the skin previous to death. The liver, after death, was seen to be enlarged and united by adhesions to the diaphragm. The mucous membrane of the stomach had a marbled, mottled appearance; and so dark towards the lesser curvature as to resemble melanosis; more marked towards the cardiac end.

Donor—Dr. Alexander, Staff Surgeon.

807. Mucous membrane of the great arch of the stomach abraded, the muscular coat laid bare, the walls of the viscus generally thin, probably from *post-mortem* digestion, and some of its vessels distended with coagulated blood. MS. Cat., Vol. II, page 18, No. 50.

From James Henmore, aged 31, 11th Regiment, who died of tubercular meningitis.

808. Extensive superficial ulceration of the mucous membrane of the stomach at the pyloric extremity, portions of the lining membrane hang in shreds from different parts of the ulcerated surface, probably due to *post-mortem* digestion. MS. Cat., Vol. II, page 17, No. 46.

From Josiah Davis, aged 32, 23rd Regiment, who died of phthisis pulmonalis. He had served six years at Gibraltar, and had frequently been the subject of chest and bowel complaints; and on arrival in this country, he was almost daily attacked with diarrhœa, accompanied with much abdominal tenderness, tympanitis and tormina. He became greatly emaciated; the integuments over sacrum sloughed, petechiæ appeared over abdomen and extremities. Anasarca of feet and leg supervened, and he gradually sank. Both lungs, after death, were found to be studded with tubercles; and many large ulcers (tuberculous?) were seen in cæcum and colon. The small intestines and abdominal viscera were healthy.

CANCEROUS ULCERATION—TUMOURS AND POLYPOID GROWTHS—OF STOMACH.

809. A large oval carcinomatous ulceration of the stomach with smooth round edges at one extremity a quarter of an inch in depth, the coats of the viscus are thickened and indurated.

Donor—Richard Partridge, Esq., King's College.

810. A large deeply-excavated carcinomatous ulceration at the cardiac extremity of the stomach, which has destroyed at some parts all the coats and its contents were only prevented from escaping by an adhesion to the liver.

Donor—Dr. Gordon, Asst.-Surg., 35th Regiment.

811. An extensive ulcer, with elevated firm edges, situated on the convex surface of the stomach near the pyloric orifice. Print. Cat., page 71, No. 3.

From Edward Burns, 95th Regiment, who was admitted to Fort Pitt Hospital with symptoms of primary syphilis, and, being attacked with fever, he died suddenly, after drinking immoderately of barley water.

812. Carcinomatous ulceration of the cardiac orifice of the stomach continued from the œsophagus; portions of lung, aorta, diaphragm, and pancreas adhere to its outer surface; there is also an abscess situated between its posterior surface and the aorta, with thickening and contraction of the pyloric orifice. The stomach is considerably diminished in size and highly vascular, its coats thinned and the mucous surface in some places is abraded. (See case of Richard Beatty, Preparation 726, page 202, also 774, page 212.) MS. Cat., Vol. II, page, 3. No. 16.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

813. Carcinomatous ulceration of the cardiac orifice of the stomach and termination of the œsophagus, which is in consequence very much contracted and the coats thickened.

814. A carcinomatous excrescence, about the size of a hen's egg with several others of a smaller size in its neighbourhood, situated on the mucous membrane of the stomach, which around the tumour is ulcerated and thickened.

Donor—Dr. Smith, Staff Surgeon.

815. A very large irregular carcinomatous ulceration of the stomach, the edge of the ulcer is much thickened and several nipple-like processes project from its margin. MS. Cat., Vol. II, page 20, No. 58. (See Preparation 376, page 114, for history of case of Ann Hartley, aged 51.)

816. Fungoid excrescences, of a carcinomatous character, on the mucous membrane of the stomach, ulceration has commenced on the surface of some of them, particularly on those near the cardiac orifice.

Fasciculus II, Plate 6, Fig. 5.

816A. Malignant disease of the stomach (carcinoma alveolar or colloid) which involves fully two-thirds of that organ, a small portion only towards the pyloric end being free from disease. The parietes of the viscus are enormously thickened, and near the œsophagus altogether absorbed by the adventitious structure.

From Captain E——, Barrack Master of Kilkenny, a thin worn-out looking man, who complained of dyspeptic symptoms, pyrosis, and gastralgia; these were temporarily relieved. About January, 1850, his symptoms became more severe and emaciation was perceptible. About this period he called attention to what he considered a tumour in the epigastric region appearing under the false ribs of the left side. It was at first believed to be a prominence of the abdominal muscles, but it shortly became more obviously a tumour, and that of a malignant nature. After a period of three weeks, the size of the tumour had increased, it could be circumscribed and extended from the false ribs on left side to the umbilicus, but he could not bear much manipulation, the symptoms complained of continued, viz., obstinate constipation, thirst, occasional gastrodynia, sinking at the præcordia and hiccough, which subsequently became a very distressing symptom followed by burning pain along the œsophagus. He could not take wine which felt like boiling lead going down the throat; constant expectoration of mucus and acid eructations from stomach annoyed him much: as the disease progressed he could not bear the pressure of his dress or the local applications directed to the surface of the tumour. He subsisted on broths and jellies; the symptoms continued without much variation until the month of June, when copious brownish evacuations from the stomach appeared, which continued for a week or ten days. He became more exhausted and emaciated to the greatest degree. Thirty-six hours after death the stomach appeared as a white solid tumour thrown prominently forward. The disease was entirely confined to the stomach which was densely thickened and, on cutting, felt as if cutting cartilage, the wall being fully an inch thick. The inner surface presented a pulpy brownish appearance and there was no trace of mucous membrane except a small portion towards the bulging extremity; it contained a small portion of brownish fluid such as was ejected during life.

Donor—Asst.-Surg. Swettenham, 41st Regiment.

PERFORATION OF COATS BY CANCER.

817. Extensive ulceration of a carcinomatous nature which has perforated all the coats of the stomach by a large round opening, with thickening of the pyloric extremity. Print. Cat., page 71, No. 4.

From Joseph Cross, 10th Hussars, who, intemperate in alcoholic drinks, had been declining in health and strength for two months previous to admission to hospital. He was affected with nausea, vomiting, loss of appetite, abdominal distension and irregularity of bowels. He became extremely emaciated and debilitated; and died 10 weeks after admission.

Donor—Dr. Chermside, Surgeon, 10th Hussars.

818. A large deeply excavated ulcer, with everted thickened edges, on the great extremity of the stomach which is adherent to and communicates with the spleen. Print. Cat., page 71, No. 6.

From John H. Lang, aged 43, 60th Regiment, who, at Fort Pitt Hospital, complained of pain in the region of the spleen, extending towards the sternum, increased by full inspiration, and sudden expirations. He attributed his complaint to an injury which he had received in Jamaica some time previously, since which he had never been free from pain in the site of the great extremity of the stomach, and had occasionally been subject to hæmatemesis. While under treatment he had frequent attacks of sanguineous vomiting and dejections. On examination after death, the liver was found to be tuberculated, and the stomach and spleen in the state here described.

819. A large oval ulcer, at the pyloric orifice of the stomach, which has perforated all its coats. Print. Cat., page 73, No. 19.

From Michael Mulholland, 89th Regiment, admitted for chronic dysentery, with epigastric pain and vomiting after food. Disease of pylorus was diagnosed.

819A. An oval ulcer half an inch in its longest diameter, with very defined edges, which extends through all the coats at the pyloric extremity of the stomach, with evidence of its serous surface having formed connection with some adjacent parts sufficient to prevent its contents from escaping into the peritoneum. Print. Cat., page 73, No. 18.

From a dyspeptic soldier who died of inflammation of the lungs.

Donor—Mr. Frazer, Asst.-Surg., Staff.

STRICTURE OF STOMACH.

820. Pyloric orifice of the stomach contracted and in a scirrhous state, coats much thickened. Print. Cat., page 71, No. 1.

From John Sullivan, who died at Fort Pitt, of tubercular phthisis.

821. Very extensive carcinomatous ulceration of the mucous membrane of the pylorus, the coats of which are much thickened and contracted. Omentum agglutinated into one mass of an irregular tuberculated appearance.

Donor—Dr. Jameson, Asst.-Surg., 10th Regiment.

822. A portion of the stomach and duodenum exposed internally to show constriction of the pylorus. The mucous membrane is mamillated, and the scirrhus mass, about half an inch long and one third of an inch thick, is observed on section at the right of the preparation.

From John Newman, aged 31, watchman, Military Prison. Gradual emaciation, vomiting, hiccough, melœna. A soft cancerous mass about the size of half a lemon was also situated in the front of the lower lobe of the left lung.

Donor—Staff Surgeon McDermott.

823. A number of irregular ulcers about the size of peas, and deep fissures separating them, situated at the pyloric orifice of the stomach, which is contracted and its coats much thickened, also a cicatrice on the mucous surface of this viscus, several inches from the orifice.

Donor—Mr. Martin, Surgeon, 73rd Regiment.

824. An enlarged gland about the size of a walnut, situated between the coats of the stomach at the pyloric orifice, which is in a scirrhous condition, and shows an oval opening on its surface. MS. Cat., Vol. II, page 15, No. 39.

From Duncan McLaughlan, aged 34, 21st Regiment, who died of phthisis pulmonalis. The pylorus was not obstructed, and there were no gastric symptoms.

825. Scirrhus of the pylorus with great contraction of that orifice of the stomach and enormous distention of the organ generally. The mucous membrane with the exception of the portion in the immediate vicinity of the pylorus appears to be healthy. The stomach is inverted.

From Private Daniel McGuin, 2nd Dragoon Guards.

Donor—Asst.-Surg. Brush, 2nd Dragoon Guards.

826. The pyloric end of a stomach showing its gastric and duodenal aspect, marked contraction of the orifice, and a vertical section displaying condensation of the surrounding tissues from cancerous infiltration.

From Private John Blakey, aged 41, 2nd Battalion 22nd Regiment. Disease had lasted five months. The stomach was enormously distended, extending from its cardiac end downwards fifteen and half inches, with an antero-posterior diameter of eleven inches. The pyloric orifice would only admit a probe; the induration was uniform and half an inch in thickness, the mucous surface rugged and irregular. No hereditary history. The splenic vein was very greatly distended.

Post-Mortem Records, Netley, Vol. IV, No. 26.

827. Ulceration of the pylorus. Print. Cat., page 73, No. 17.

From Edward Lockhart, of Newfoundland, Veteran Company, an habitual drunkard, who, three weeks before admission to Fort Pitt Hospital, was attacked with pain and sickness, vomiting both food and medicine.

TUMOURS AND MORBID GROWTHS.

828. Two large carcinomatous tumours at the pyloric extremity of the stomach, one the size of a hen's egg, the other much smaller; the mucous membrane covering them and in their neighbourhood is ulcerated, with a number of detached shreds of membrane hanging from its surface; the coats of this extremity of the stomach are much thickened, with a deposition of lymph in the cellular tunic.

Donor—Dr. Jameson, Asst.-Surg., 10th Regiment.

829. Large soft vegetations surrounding the interior of the pyloric orifice of the stomach; the vegetations are in many places nine or ten lines in thickness, and extend from an inch and a half to two inches round the pylorus; they appear to be produced from the mucous membrane.

Donor—E. Stanley, Esq., Surgeon, St. Bartholomew's Hospital, London.

830. Scirrhus of the pyloric orifice of the stomach; the opening into the duodenum is so small as hardly to admit a crow-quill; two large tumours of a similar nature also project from its mucous surface. Print. Cat., page 74, No. 22.

From John Meyers, Rifle Brigade, aged 40, who was much addicted to alcoholic drinks. He was affected, for seven months previous to death, with pyrosis, flatulency, palpitation, occasional swelling of the abdomen, vomiting after meals, sallow countenance, and emaciation; but never complained of pain in the pyloric region, even on strong pressure. On dissection, the stomach was found to contain about three pints of a brownish fluid. In the right lobe of the liver was also a scirrhous tubercle. The lungs contained some granular tubercles, and small excavations; and the pleuræ exhibited the effects of chronic inflammation.

Fort Pitt, *Fasciculus II*, Plate 6, Fig. 4.

831. A large irregular ulcer half an inch in diameter, situated on the lower margin of the pylorus, also a small spheroid tumour in the coats of the latter having an orifice on its summit leading into a small sac; texture of tumour firm. MS. Cat., Vol. II, page 22, No. 65.

From John Buckley, aged 24, 21st Regiment, who died of phthisis pulmonalis, with dysentery. Ulcers were found in both large and small intestines.

Donor—Dr. Williamson, Staff Asst.-Surg.

832. Stomach covered with patches of coagulable lymph, and scrofulous growths.

From a boy 10 years of age.

Donor—S. Lawrence, Esq., Military Asylum, Chelsea.

SUB-SERIES (B) DISEASES OF THE DUODENUM.

ULCERATION.

833. Superior half of the duodenum with the glandulæ solitariæ enlarged and ulcerated, the ulcers are in one or two places well defined but for the most part they present irregular edges, are of a burrowing nature and have undermined the mucous tunic for some distance around. MS. Cat., Vol. II, page 38, No. 156.

From a patient in lunatic asylum, who died of phthisis, aged 27.

PERFORATION.

834. A perforation of the duodenum arising from ulceration; with an almost impervious state of the ductus communis choledochus. MS. Cat., Vol. II, page 33, No. 136.

From Duncan McGrigor, aged 23, a man of very irregular habits, who, under treatment for acute rheumatism, was suddenly seized with icterus and deeply seated pain in the epigastric region. He died on the seventh day; and after death the contents of the duodenum had escaped by the aperture shown in preparation.

Donor—Dr. Diver, Surgeon, 91st Regiment.

835. An ulcerated opening in the duodenum which communicated with an abscess in the liver. MS. Cat., Vol. II, page 29, No. 124.

From a man of 7th Fusiliers who died of peritonitis from bursting of a liver-abscess into cavity of abdomen, complicated with dysentery.

Donor—Mr. O'Brien, Asst.-Surg., 7th Regiment.

836. A circular perforation capable of admitting a crow-quill at the upper part of the duodenum. MS. Cat., Vol. II, page 40, No. 164.

From Corporal John Callaghan, aged 24, 21st Regiment, who had for some time been addicted to the use of ardent spirits, and was suddenly seized with symptoms of abdominal inflammation, of which he died 12 hours after admission into hospital. After death the abdomen was found distended with fœtid gas. The peritoneum lining parietes, as well as that covering the intestines, exhibited marks of recent active inflammation, produced by the effusion of the contents of the stomach, through the aperture in the duodenum, over the peritoneal surface. There was scirrhous hardness of a portion of the mucous membrane of the pylorus. From the quantity of effusion and other appearances found on dissection, it is presumed, that although this man made no complaint until his admission into hospital, inflammation must have commenced a considerable time previous to that period.

Donor—Mr. Pilkington, Surgeon, 21st Regiment.

837. Perforation of the duodenum. The mucous and muscular coats of the bowel appear to have been ulcerated.

Rupture took place whilst playing a game of rackets, causing death in less than four days. Premonitory symptoms only those of slight indigestion.

Donor—George Taylor, Surgeon, 6th Dragoon Guards.

TUMOURS OF DUODENUM.

838. Extensive ulceration of the stomach in the neighbourhood of the pyloric orifice, the margin of the ulcer is thickened, elevated, and very irregular, also several fungoid tumours in the duodenum. MS. Cat., Vol. II, page 29, No. 126.

From the body of a Maltese woman, aged 53, who had been ill for several months, and died from severe jaundice, after much pain in the region of the stomach. The pancreas was found after death to be unusually hard, and, at least, twice its normal size. The abdominal lymphatic glands were generally enlarged.

Donor—Dr. Davy, Asst.-Inspr. Hospitals.

839. Duodenum showing two large infiltrated growths the size of a walnut, of slaty gray appearance, and some remains of old ulceration in jejunum. Brain and liver contained similar growths, in flattened like masses. There was also a large growth of $3'' \times 1\frac{1}{2}''$ between the peritoneum and the stomach, in the middle layers of its walls.

From Private W. Fox, aged 27, of $5\frac{1}{12}$ years' service at home and in India—a man of temperate habits who had been under treatment for gonorrhœa, orchitis, continued fever and primary syphillis, intermittent fever and ague. While under treatment for ague gastritis supervened, and he was invalided home. At Netley he became more and more emaciated; and always lay curled up in bed to relieve internal pain from pressure of abdominal muscles. Constant epigastric pain was present, passing up between the shoulders. The pain was especially marked at one spot, namely an inch below the Xiphoid cartilage. Pain immediately after food, and occasionally with vomiting of grumous matter, like coffee grounds. Stools were sometimes, black, fluid, and fœtid. He was finally seized suddenly with violent pain all over the abdomen, and he died next day in the collapse of acute peritonitis. The liver was found infiltrated with two nodular growths. (See under "Liver," No. 1198.)

Post Mortem Records, Netley, Vol. XII, No. 106.

840. Petechiæ and vibices situated under the muscular coat of the duodenum.

Donor—Dr. Alexander, Staff Surgeon.

SERIES X.

INJURIES AND DISEASES OF THE INTESTINE.

(Not including the Duodenum, Rectum, Anus, and the parts concerned in Hernia, and other displacements.)

INJURIES OF THE INTESTINES BY VIOLENCE.

Falls or Blows.

841. Upper portion of the jejunum, showing on its anterior surface a laceration of the coats forming an opening half an inch in diameter. The rupture of the peritoneal

covering extends ¼ inch beyond the rupture of the other coats, the mucous coat being the least torn. Around the peritoneal rupture are thin flakes of lymph for the space of 1 inch. Immediately beyond this is another laceration rather larger and apparently limited to the peritoneal covering.

From Private W. Jackson, 1st Dragoons. He was kicked by a horse on the epigastrium, there was no appearance of external injury; he died in eight hours. Extravasation had occurred into the peritoneal cavity, and evidence of peritonitis was present.

842. Two portions of the ileum, showing rupture of the intestinal coats. One rupture involves nearly the entire calibre of the gut.

From a soldier of the Royal Artillery; the injury was produced by the kick of a horse. There were no external signs of the severe internal lesion.

Donor—Surgeon Fogo, Royal Artillery.

843. A ruptured opening capable of admitting a crow-quill in a portion of the ileum; the mucous membrane is separated on one side for some distance around the aperture, and is rough and granular; it was produced by the blow of a capstan bar. The patient died forty-eight hours after the accident.

Donor—Dr. Trigance, Surgeon, 30th Regiment.

844. A portion of ileum ruptured by a fall into the ditch of Fort Victoria; the opening is capable of admitting a large bougie and situated in the centre of an ulcer, there is also another oval ulcer with thickened edges close to the former.

Donor—Mr. Trigance, Surgeon, 30th Regiment.

845. A ruptured opening about half an inch in diameter in the small intestine, produced by a fall. Print. Cat., page 87, No. 87.

From Sergeant John Carr, of 69th Regiment, who had an inguinal hernia of the right side, in the neighbourhood of which the laceration was discovered.

Donor—Mr. Whyte, Surgeon, 69th Regiment.

Gunshot Injuries.

846. Gunshot wound of the small intestines terminating in artificial anus. The ball entered on the left side below the ribs, wounded the intestine which here protrudes, and passed out through the second false rib of the same side; a quill is inserted into the upper part of the gut. The bowel was impervious below the wound, but healthy above; the fæces were voided through the preternatural opening. Print. Cat., page 85, No. 74.

From a sailor who was wounded in the act of rowing towards the enemy. (Ionian Islands.)

Donor—Dr. Roe, Surgeon, 28th Regiment.

847. Gunshot wound of the small intestines and mesentery, the former wounded in three places, and the latter in one. Print. Cat., page 86, No. 78. (Cape of Good Hope.)

From John Robertson, 75th Regiment, who committed suicide by placing the muzzle of his musket at the left side of the umbilicus, and so firing it. The ball entering at this spot made its exit near the posterior spinous process of the ilium, fracturing that bone. He lived 24 hours.

Donor—Mr. Tighe, Asst.-Surg.

848. Two pieces of small intestines (jejunum) showing the result of injury by gunshot wound. The larger portion shows three constrictions of the gut, two of which have been laid open to show the interior; the remaining one remains entire. In the interior these contractions present the appearance of a cicatrix—totally devoid of the normal villous character of mucous membrane. Above and below the cicatrix is a sharp well-defined line of the natural lining of the gut. Externally, these constricted parts are covered by a layer of old lymph; they were of a darker hue, and more vascular than other portions of the intestine, which presented throughout the abnormal vascularity and sodden-like state which is constantly observed in rapidly fatal cases of algide spasmodic cholera. The smaller piece of gut exhibits a fourth constriction capable of admitting only a good-sized quill.

From Paul Massey, of Her Majesty's 80th Regiment, who was shot in the abdomen at the Battle of Ferozshah. The symptoms immediately consequent on the wound, appear to have been so inconsiderable, that it is recorded by the Surgeon of the Regiment (Dr. Macdonald), that the ball had coursed round the abdomen and not penetrated, or passed through that region. But the patient, shortly before death, stated that he passed blood by stool after the receipt of the injury. Recovery followed slowly, but appeared to be perfect. He soon after became subject to attacks of bowel complaint, which gradually became more frequent; and for the last twelve months of his life he was nearly constantly under treatment for symptoms of dysentery of the scorbutic type. Whilst in hospital, he was seized with cholera, which terminated fatally the same day, cholera being then prevalent in the neighbourhood and epidemic in the regiment during the following month. After death (1½ hours) the cicatrix of a gunshot wound was seen in the left *lineæ alba semi-lunaris* about 4 inches above the crista ilii; and on the same plain posteriorly, another cicatrix one inch to the left of the spine. The omentum was found firmly adherent to the internal surface of the anterior cicatrix, being gathered into a fold, or knot, at that point. The intestine neither there, nor elsewhere, was morbidly adherent; but the fold of gut immediately opposed to the cicatrix, presented a contraction as if a ligature had been tied round it. The fold of gut immediately above, presented the same appearance; and on the first fold, 4 inches from the first-noticed contraction, and in a line below the umbilicus, was another similar appearance. The upper part of the colon was attenuated and contracted *in situ*.

Donor—Dr. J. R. Taylor, 80th Regiment.

FOREIGN BODIES IN THE INTESTINE.

849. Immense alvine concretions from the colon of aged horses. Sections have been made to show the nucleus mainly composed of hair.

Donor—Mr. Horne, Vet.-Surg., 2nd Life Guards.

HYPERTROPHY.

850. Mucous membrane of a portion of the colon ulcerated. The coats are about 2½ inches in thickness from a deposition of muscular tissue and fatty matter beneath the peritoneum.

CONGESTION, INFLAMMATION AND SPHACELUS OF THE INTESTINE.

851. A large portion of the jejunum in a state of inflammation and congestion approaching to gangrene. MS. Cat., Vol. II, page 30, No. 128.

From William Knight, aged 25, 6th Foot, admitted into the General Hospital from India, on the 7th of February, 1833, labouring under chronic dysentery and ascites. Early in the morning of the 13th, he was seized with violent pain in the abdomen, which soon became very tense and tender on pressure. He lay with his knees drawn up, had singultus, and vomited a greenish-coloured fluid. Pulse slow and weak. He died next day.

After death, five quarts of dark-coloured serum were found in the peritoneal cavity. The parietal peritoneum was of a red colour in the vicinity of the umbilicus, and was here in apposition to an inflamed portion of intestine. The lower portion of the jejunum and the whole of the ileum, were in a dark congested state approaching to gangrene. Many bands of recently effused coagulable lymph united the intestinal convolutions. The interior of the lower part of the colon, and of the whole of the rectum, was studded with ulcerations, some with irregular edges, and others partially cicatrized.

852. Sphacelated spots on the jejunum, one about the size of a shilling embracing all the coats, the other is considerably smaller, and only embracing the two internal tunics of the gut; the sloughs are partially separated, in both of them. The coats of the intestine are much thickened. Print. Cat., page 82, No. 56.

From a man, aged 25, who died of ascites. There was much thickening of the pyloric end of the stomach.

Donor—Mr. Titus Berry, Staff Surgeon.

853. A sphacelated portion of the jejunum adhering to the peritoneum at the internal abdominal ring, which is enlarged and the peritoneum relaxed. MS. Cat., Vol. II, page 33, No. 141. (See Preparation No. 881, page 238.)

From Michael Doughan, aged 30, 44th Regiment, who was admitted into hospital complaining of acute pain in the abdomen, nausea, but no vomiting, and constipated belows. His pulse was very

wiry and quick, his abdomen tense, and could not bear the slightest pressure, his countenance was anxious, and his breathing was very difficult, and attended with great heaving of the chest. General and local bleeding, together with purgatives, enemas, and fomentations were immediately had recourse to, but with no benefit. The pain and tenderness of the abdomen, together with the constipated state of the bowels remained without any change. A tobacco enema was prescribed, which had the effect of bringing away a small quantity of floculent matter, and somewhat relieving the abdominal tenderness. Nevertheless, he began to sink, and died one hour and a half after the enema, the disease from its commencement being only of 24 hours duration.

Examination, after death, showed the whole peritoneum of a mottled red colour, and extensively covered with pus and lymph. The intestines were very much distended with air, and were glued together with recently effused lymph. There was also some sero-purulent effusion in the depending parts of the abdomen. While elevating the intestines from the lower parts of the abdomen, the inflamed portion of jejunum readily separated from the internal abdominal ring of left side, leaving a portion of it attached to the ring, as may be seen in preparation.

854. A large opening embracing nearly the whole circumference of the ileum, a small slip of the peritoneal coat alone remains to connect the two ends of the gut; the result of sphacelus.

INTESTINAL CASTS.

(To be studied in connection with preparations of Dysentery, Nos. 894–916.)

855. Portion of intestines about eight inches in length, passed per anum, some muscular fibres are distinctly visible. The cylinder is stuffed with cotton wool.

Donor—Mr. Strahan, Inspr.-Genl. of Hospitals.

856. Portion of small intestine (about seven inches) voided per anum. Some muscular fibres of the gut are visible.

From John Geary, 13th Light Dragoons, who perfectly recovered, and who passed through the Invalid Depôt at Fort Pitt, some years afterwards.

Fasciculus II, Plate 7, Fig. 9.

Donor—Mr. Job, Surgeon, 13th Light Dragoons, Madras.

857. Mucous membrane and coats of intestine, passed by stool. (See A.M.D. Report for 1871, Vol. XIII, page 306.)

Private W. S., age 21, 62nd Regiment, service 8 months, joined at Lucknow, April, 1872. Came under observation on 19th April, 1872, complaining of languor, feebleness, and diarrhœa, with loss of flesh. On 27th, active symptoms had apparently subsided, and he was anxious to go to duty, but temperature being 101·8, he was detained.

On the morning of 28th, at 1 a.m., had a sudden attack of diarrhœa, motions copious but natural; at 6 a.m. was in a state of collapse, from which he rallied under diffusible stimuli and a hot bath. For next six days he continued in a highly febrile state, with dry, brown and fissured tongue; pulse 120 to 132; constant straining and diarrhœa; temperature 101 to 103·5.

On 4th May, "Passed four bloody stools last night, with violent abdominal pain and straining; in one of the motions was a tubular membrane, which was inverted, about 6 inches long, and which has all the appearance of being an entire portion of small intestine; after passing this the straining ceased; temperature 102·5, pulse 118, very weak; tongue dry and brown; countenance dusky, almost moribund."

From this date his condition continued to improve up to 1 a.m. on 7th May, when he again fell into a state of collapse;—rallied from this, and made fair progress to recovery up to 18th July, when he was declared convalescent.

The tubular membrane passed on the 4th has the appearance of being an entire portion of the small intestine. Soon after this tube was passed a microscopic examination revealed a structure closely resembling non-striated muscular fibre. The external surface of this tube had the smooth glossy appearance of the peritoneal covering of the intestine. The interior coating was well marked with numerous ulcers of different sizes, which in some places had nearly perforated the tube. One had completely done so.

Among other interesting points in this case may be noted two well-marked accessions of collapse, the first on the 28th of April, or six days before he passed the membranous tube; the second on the 4th of May, or the day on which he passed it. On both occasions large quantities of stimulants were required, as he appeared to be moribund. The symptoms from first to last, were very obscure; the only safe indications of the progress of the disease were derived from repeated thermometrical observations which were taken four or five times daily. The man himself, at the commencement of his illness, was inclined to make light of his complaint, declaring himself fit for duty; however, having once ascertained that his temperature was above the normal range, attention was directed to his case. Had it not been for the thermometer, he would have been sent to his duty, as, on the day previous to the first attack of severe prostration, there was no other symptom indicating disease; and had collapse occurred in barracks (nearly a mile from the hospital), it would have proved fatal. In this case the tepid bath, or when he was too weak to be moved, a sheet wrung out of cold water was frequently applied—occasionally six times daily, according as the temperature rose, and always with marked benefit.

The probable explanation why fatal peritonitis did not set in is, that intus-susception of the bowel for a length equal to the portion of the intestine passed had first taken place, and that the severe collapse, with its accompanying enfeebled circulation, favoured the separation, otherwise the bowel contents at that part must have made their way into the abdominal cavity and set up fatal peritonitis. The supposition of intus-susception would also account for the portion of bowel passed being turned inside out, and when passed it bore a close resemblance to an entire portion of small intestine, and certainly was much too perfect-looking for a slough.

There was no cutaneous eruption throughout the course of the disease.

Donor—Asst.-Surg. R. J. Scott, M.B., 62nd Regiment.

858. Portion of mucous membrane of intestine passed by stool about 4 inches square in a sloughy state.

From Colonel T. P., 1st or King's Dragoon Guards, C.B., aged 51 years, of 30 years' service, 16 of which were passed in India. A very strong muscular man of active habits, and who usually enjoyed good health; but under the impression that he was getting too stout he tried the "Banting" system of diet for five months, with the usual result of reducing his weight. Occasionally he gave up the system for a day or so, when he indulged freely in everything. On the 18th of July he was placed on the Sick Report, complaining of purging which first came on six days previously, after dining out and freely partaking of everything going, particularly of some French preserves;

he took some cathartic pills, with some doses of chlorodyne, and continued to perform all his duties, till, by continued purging and griping pain, he was obliged to seek relief. His disease assumed a dysenteric character, and on the 20th the stools he passed were almost entirely composed of blood and mucous. They became so frequent, and were attended with so great irritability of the rectum, that at times they escaped before he could reach the stool. He suffered from great pain and tenderness all over the lower part of the abdomen, particularly severe in the iliac region. Pulse 100, tongue coated, skin hot and feverish, abdomen distended and flatulent. Leeches and warm fomentations were freely applied with occasional relief, and he got half-drachm doses of ipecacuanha on the 20th and 21st, the stools continued of the same character, but scanty, and on the 21st he complained, in addition to other symptoms, of great oppression of breathing, and a feeling of tightness or dragging behind the ensiform cartilage attended with constant singultus which first came early that morning. Pulse became quicker, and irregular (116). He passed one or two pretty healthy-looking stools, but towards evening, they were again of a dysenteric character, consisting almost entirely of blood and mucous. Griping pains and tenesmus very severe. He again got two half-drachm doses of ipecacuanha powder, with one drachm tincture Opii, which he retained. Tepid water injection, followed by anodyne enemata, were frequently given. After this the character of the stools changed, and what he passed was like putrid sanies. On the 22nd leeches were again applied with fomentation, and he got two doses of half-drachm Pulv Ipecacuanhæ with tincture Opii. The hiccough still continued, notwithstanding the employment of everything likely to stop it. It occasionally went away for one hour or two, and during sleep. On the 24th the attacks of singultus became less frequent, but when it returned it was very loud, and at times almost suffocating, the intervals during which he was free from it, became gradually greater, and it stopped altogether on the 28th, on the morning of which he passed a piece of mucous membrane about four inches square in a sloughy state. The pulse became less frequent, and irregular; and all pain and tenderness of the abdomen ceased. The stools became dark coloured and somewhat consistent. On the evening of the 3rd August, he felt as if he was passing a large hard motion, but on examination of the stool, it was found to be a large solid mass (in a semi-putrid state, not preserved), of the mucous membrane of the colon 26 inches long, and evidently the mucous membrane very much thickened, of the whole calibre of this length of large intestine, detached as a slough, but so consistent and thickened that it appeared like a portion of the whole intestine, which had been macerated for some days. He became very weak for some days, and his pulse became as low as 60. After a few days his stools improved, and assumed a thin healthy-looking character, but occasionally containing small pieces of mucous membrane. He appeared much better, and all pain and tenderness of the abdomen went away; about the 17th of August, flatulency with griping pain again came on attended with diarrhœa; these symptoms were relieved by treatment, but returned again and again. His appetite and strength becoming impaired, he was sent to England for change of air in September. For some time after leaving India he suffered from constipation, attended with great agony, and was not able to make use of animal food. He is now gaining flesh and strength, but from his letters, I should say there is a great tendency to contraction of the whole of the large intestine. While in India he had never at any previous period suffered from dysentery. How far this attack can be attributed to his having adopted the "Banting" system, it is difficult to say. It is strange that this was the only case of gangrenous dysentery I ever met with at Bangalore, during seven years. I have, however, met with somewhat similar cases at Peshawar, and all died except one man, in whose case the slough measured only 12 inches, but involved the sphincter of the anus, as well as the whole calibre of the mucous membrane of the rectum. It is difficult to imagine how anyone could have recovered after the destruction of such a large quantity of mucous membrane, and some persons might imagine that I have

mistaken false membrane for the mucous membrane. The preparation has been carefully examined by more than twenty Medical Officers, and the opinion of all concurs with mine. The lower part of the preparation, or rather what I consider the lower part, is much thicker than any other part, and distinct muscular structure is visible, even without the aid of a magnifying glass.

Donor—J. H. Jephson, M.D., Surg.-Major, King's Dragoon Guards.

859. Portion of the inner coat of the caput cæcum detached by sloughing, and found in the colon of a dysenteric patient.

Donor—Mr. O'Brien, Asst.-Surg., 7th Regiment.

860. Shreds of a perfect circle of intestinal mucous membrane passed by stool—an inch and a half of the lower rectum, and containing muscular fibres.

From Mark Tapley, aged 22, Gunner, 10th Battery, Royal Artillery, admitted to General Hospital, Victoria, Hong Kong, from shipboard 14th October, 1857, and who died in the chronic stage of phlegmonous gangrenous dysentery, with perforation of the caput coli and adhesive peritonitis. On admission he had severe cough with slight febrile symptoms and diarrhœa, which subsequently assumed the character of acute dysentery. He suddenly complained of pain over the entire abdomen, but principally over the ascending colon, cæcum, and anus. Stools were frequent, with much pain and straining, mixed with blood, sometimes fluid, and at others more solid. There was occasional difficulty in passing water, so that the catheter had to be used. The stomach was irritable; hiccough prevailed, and his mind was at times wandering and confused. On 5th November he passed the substance preserved in the preparation, and suffered much from pain for two days afterwards, and the general symptoms increased in intensity. On 8th he became more delirious; on 9th there were frequent rigors, with hurried and stertorous breathing. On 12th he had a paroxysm of remittent fever, with much congestion of face and head, and he continued to suffer much from brow-ague. The dysenteric symptoms abated, and he continued to progress favourably up to 30th, when all the dysenteric symptoms returned with increased intensity, and small pieces of intestines were frequently passed, with large quantities of blood. He daily became weaker, and died on December 5th. In addition to the characteristic dysenteric ulceration of the large intestines, they were seen after death to be very much thickened in their entire extent.

Donor—Dr. Becher, Chinese Expeditionary Force, Book B, Case 26.

ULCERATION OF MUCOUS MEMBRANE OF THE INTESTINES.

(1) *Ulcers more or less deep; also Cicatrization.*

861. Large irregular livid ulcers of the jejunum, with ragged edges, some of them completely surrounding the gut. MS. Cat., Vol. II, page 45, No. 186. (See Preparation No. 886, page 238.)

From William Chucus, aged 19, 11th Regiment, service 1 year at home, has had febrile catarrh, acute hepatitis, and symptoms of stone in the bladder, although none could ever be detected; the bladder was found to be reticulated. On admission into Fort Pitt Hospital on the

10th May he complained of dyspnœa, pain in the small of the back and loins, with occasional passage of bloody urine, and frequent micturition; he had cough and muco purulent expectoration. On the 26th May he was attacked with diarrhœa, thirst, nausea and tenderness of the abdomen on pressure; these symptoms were in a great degree relieved by treatment, but he still suffered more or less from nausea, frequent micturition, and diarrhœa, and died on the 17th June.

862. Portion of jejunum with several ulcers on the mucous membrane and a number of dark-coloured spots on the valvulæ conniventes as if from the effusion of blood below the inner tunic. MS. Cat., Vol. II, page 37, No. 153.

From a case, believed to be enteritis, in Guy's Hospital, London.

863. Several ulcers with ragged edges on the mucous membrane of the upper part of the jejunum.

Donor—Dr. Scott, Surgeon, Rifle Brigade.

864. Portion of ileum, the mucous and muscular coats of which were in the recent preparation of a deep-red colour from sanguineous infiltration, the former is ulcerated and abraded. MS. Cat., Vol. II, page 36, No. 152.

From John Baker, a Dragoon, aged 33, who died of *purpura hæmorrhagica* and scorbutus. He was of spare make and dissipated habits. Eight weeks previous to admission he had been subjected to a course of blue pill for secondary syphilis; but otherwise he had been under no circumstances of privation, and was free from any cachexia, other than venereal. He presented a thickly set eruption on left thigh and leg, of small dark red blotches varying in size from a pea to a shilling, irregularly circular, slightly elevated, and in general presenting a livid spot more raised and of a purpurous appearance. Left knee greatly swollen and painful. Moderate febrile disturbance on the two following days increased, with febrile symptoms, swelling of other joints and eruption of several large chocolate-coloured vesicated blotches; swelling and lividity of gums. Pulse 110 and resisting. Fresh spots or ecchymosed blotches of various sizes and hues continued to make their appearance, followed by painful and livid swelling of the uvula and fauces, with spongy gums, debility and other cachectic and scorbutic symptoms. Later on, tenderness of the epigastrium followed by vomiting and great depression took place; subsequently pain in the lower belly, tympanitic state of the abdomen, small rapid pulse, persistence of nausea and vomiting, great prostration of strength, and death on the 7th of May.

The body was much emaciated, surface presenting yellowish or greenish discolorations, the ecchymosed spots, with the exception of those on the right arm, were noted to have faded very much and that on the left thigh and leg had nearly disappeared. Under the integuments of right side of chest an extensive extravasation of blood was found corresponding to a light red discoloration externally. About a pint of dark coloured serum was found in the peritoneal cavity. Intestines very much distended with flatus and liquid fæces, small intestines through their whole extent (but chiefly the jejunum and ileum) were of a dark sphacelated appearance and adherent by recent effusions of lymph. From about the lower two-thirds of duodenum where the brown or livid discoloration commenced, and increased downwards to the termination of the ileum, there was found on the external surface a nearly continuous chain of small ulcerations, varying in size from a pea to that of a shilling, here and there presenting a thick, whitish slough, but generally open and exposed, all penetrating the mucous membrane, and presenting a deep

irregular and ragged appearance. The mucous membrane, as also the ulcerations, had the same livid and highly injected appearance as externally, which seem to have been the result of bloody effusion similar to that on the skin.

Donor—Dr. Burrell, Asst.-Surg., Staff.

865. Ulceration and the highest vascularity of the mucous membrane of a portion of the ileum. The preparation shows myriads of anastomoses, the result of minute injection; the gut is most vascular in the situation of the ulcers.

Donor—Mr. Gulliver, Asst.-Surg., Staff.

866. Incipient ulceration of the mucous membrane of the ileum; the preparation is highly injected and the mucous tunic is excessively vascular round the ulcers. Print. Cat., page 85, No. 71.

From a young female who died of phthisis pulmonalis.

Donor—Mr. Gulliver, Asst.-Surg., 71st Regiment, Chatham.

867. Injected portion of ileum, presenting ulcers of the inner membrane. Print. Cat., page 85, No. 72.

From same subject as preceding.

Donor—Mr. Gulliver, Asst.-Surg., 71st Regiment.

868. Several large irregular ulcers, on the mucous membrane of the ileum, completely surrounding the gut, with dark coloured spots in their centres. MS. Cat., Vol. II, page 35, No. 146.

From a child, 3 years of age, who died of tubercular phthisis.

869. Numerous small ulcers on the mucous membrane of the ileum which is thickened and irregular. Print. Cat., page 77, No. 12.

From a soldier who died of bowel complaint of three months' duration.

Fort Pitt.

870. Extensive ulceration embracing the whole circumference of the termination of the ileum, also affecting the ilio-colic valve. MS. Cat., Vol. II, page 35, No. 147.

(See Preparation 729, page 203.)

871. Several large irregular ulcers, on the mucous membrane of the ileum, completely surrounding the gut, with dark coloration of the centres, and surrounded with polypoid wart-like growths.

(See previous Preparation and No. 729, page 203.)

872. A portion of the sigmoid flexure of the colon; the mucous membrane of which is almost entirely destroyed by ulceration; the surface is very irregular and portions of the lining membrane is hanging loose. Mesenteric glands

enormously enlarged and filled with firm yellow scrofulous matter.

From Nathaniel Hawkins, aged 11 years, who died of hæmorrhage from the bowels. He was a long time ill with visceral disease, and had copious discharges of fluid and clotted blood by stool. After death the liver was found adherent to the diaphragm by recent lymph; and the large intestines were adherent to the abdominal walls. The small intestines were studded with small ulcers, two of which had perforated the coats. The peritoneum was vascular and ecchymosed; and the spleen studded with small tubercles, hard and of a yellow colour resembling mustard seeds.

Donor—Surgeon S. Laurence.

873. Portion of colon, showing well defined ulcers which apparently implicate only the mucous membrane. It is stated that no particular symptoms occurred during life. (Asst.-Surg. Bowie). Presented by the Grant College Museum, Bombay, February, 1864.

(See *Abstract of Cases*, Netley, Vol. II, 28.)

874. Inner membrane of the colon, having a reticulated appearance from ulceration; several of the ulcers appear to have cicatrized. Print. Cat., page 93, No. 5.

From Wm. McBean, aged 40, 25th Regiment, admitted to Fort Pitt on account of dysentery, contracted in the West Indies. He died on 12th day after admission.

875. Ulceration of a portion of colon showing cicatrization. Print. Cat., page 95, No. 28.

From Edward Humble, 25th Regiment, admitted to Fort Pitt, on account of chronic dysentery (of two years' duration) contracted in West Indies. He is said to have contracted phthisis after arrival in England of which he died three weeks after admission.

876. Portion of colon studded with numerous small oval ulcers and petechial spots under the mucous tunic. A sequela of remittent fever.

Donor—Dr. Mahoney, Surgeon, 7th Regiment.

877. Mucous membrane of a portion of colon ulcerated, and its coats thickened.

(See Preparation 883, page 238.)

878. An oval ulcer in a healing state (cicatrization) with defined thickened edges on the lining membrane of a portion of colon. MS. Cat., Vol. II, page 71, No. 106.

From a man who died of phthisis with dysenteric symptoms.

Donor—Mr. Davey, Asst.-Surg., 7th Regiment.

879. A large ulcer with irregular edges on the mucous membrane of a portion of colon; the ulcerated surface has a peculiar granulated appearance. MS. Cat., Vol. II, page 76, No. 126.

880. Portion of colon, showing extensive ulceration, leaving only small prominent isolated patches, and polypoid warty outgrowths, with much fat under the peritoneum.

(2) *Perforating Ulceration.*

881. Portion of jejunum, with an oval perforation in it, the result of mortification; the parts in the neighbourhood are thickened and of a dark colour, and a long thick layer of lymph, about an inch in breadth, is effused on the peritoneal coat along the course of the gut.

Case of Michael Doughan, noted under Preparation No. 853.

882. Portion of jejunum with several large ulcers on the inner tunic, the edges of which are much thickened and irregular; in the centre of one of them are two small round openings from perforation of all the coats. Print. Cat., page 79, No. 28.

From Lawrence Tugwell, aged 25, 4th Regiment, admitted into Fort Pitt Hospital on account of chronic hepatitis contracted in the West Indies. He died 16 days after admission from pleuritic effusion. The lungs were found consolidated and tuberculous, and the intestines ulcerated.

883. The lower portion of the ileum and cæcum. The numerous follicles of the former are enlarged and contain scrofulous matter, the greater number of which have become softened, have suppurated, and produced small ulcers; many have coalesced, and some have caused perforation. There are also a few enlarged mesenteric glands. (See Preparation 877.)

From J. Cavenagh, aged 11, who died of phthisis.

Donor—S. Lawrence, Esq., M.A., Chelsea.

884. Perforation by ulceration of a portion of small intestine; the opening is about an inch in length and embraces the whole circumference of the gut. MS. Cat., Vol. II, page 41, No. 165.

From a man, aged 30, who died of phthisis.

Donor—Mr. Wood, Surgeon, Edinburgh.

885. Portion of ileum near the ilio colic valve extensively ulcerated and in a sloughing state, with a perforated opening capable of admitting a common probe, through all the coats; higher up in the ileum is a well defined ulcer of a dark brown appearance. Print. Cat., page 89, No. 96.

From Robert Horphley, aged 21, 63rd Regiment, admitted to Fort Pitt Hospital on account of a continued fever, which soon assumed a typhoid form, and proved fatal on the 9th day. The mucous membrane of the small intestines exhibited several ulcers similar to those preserved. It was found that fæces had escaped into the abdominal cavity and there was redness over the convolutions of the intestines.

886. Fold of small intestine united by coagulable lymph, and on the adhesion being partially separated an ulcerated opening, one-fourth of an inch in diameter, presented itself. MS. Cat., Vol. II, page 45, No. 187.

(See case of William Chucus, under Preparation No. 861, page 234.)

Donor—Dr. Williamson, Asst.-Surg., Staff.

887. Perforation from ulceration of all the coats of the ileum, also a deep excavated ulcer a little above it; mucous membrane thickened. Print. Cat., page 87, No. 86.

No history beyond fever and death from peritoneal inflammation.

Donor—Mr. Lightbody, Surgeon, 80th Regiment.

888. Pinhole perforation of the colon, occurring near the junction of the ascending with the transverse portion. Throughout the whole extent of the large intestine, ulceration was present, passing into gangrene towards the rectum. Death quickly followed with symptoms of rupture. The case had lasted two months. Peculiar dark stains were noted in the liver. (See *Abstract Book*, No. II, 28.)

Donor—President of Grant College Museum, Bombay.

889. Ulceration of the colon which has perforated all the coats. Print. Cat., page 95, No. 25.

From William Aspinelle, 59th Regiment, admitted to Fort Pitt Hospital on arrival from India, moribund from chronic dysentery of two years' duration.

890. Perforation of the ileum from ulceration, also a layer of coagulable lymph on its peritoneal surface.

891. A large irregular ulcer, with two small perforations through its centre, in a portion of the ileum. The intestine is very atrophic, probably from enteric fever.

Donor—Mr. James Cavet, Surgeon.

892. A large ulcerated perforation of the ileum; the omentum adheres to the margin of the opening; the cæcum is also ulcerated. MS. Cat., Vol. II, page 28, No. 117.

From Sergeant Wm. Taylor, aged 49, of the Recruiting Staff, who was admitted, on account of phthisis, into the General Hospital, Fort Pitt. Constipation of the bowels prevailed throughout, and there were no symptoms of the fistulous opening in the intestine. The caput cæcum is seen to be ulcerated and partially everted. A piece of whalebone has been passed through the ilio-colic valve and the perforation in the ileum.

893. Portion of transverse colon, showing a large opening through which the contents of an hepatic abscess was discharged. Print. Cat., page 95, No. 24.

From Patrick Cahill, who was treated at Gibraltar, for three months, for chronic hepatitis; becoming worse, he was invalided and arrived at Fort Pitt Hospital moribund. After death, the liver was found adherent to the diaphragm. A large abscess, capable of containing a pint of pus, occupied its right lobe and opened into the adjacent part of the colon, into which its contents were emptied.

DYSENTERIC ULCERATION.

(1) *Sloughing Phagendenic, Necrotic, or Diphtheritic* Lesions.*

[*To be studied in connection with Intestinal Casts, No.* 855 *to* 860.]

894. Cæcum and adjoining portion of ileum; the mucous tunic of the former is extensively sphacelated so as to expose the muscular fibres; and a large portion of the inner membrane hangs loose in the jar. An ulcerated aperture extends through all the coats of the large intestines; in the ileum there are several patches of ulceration. Print. Cat., page 101, No. 77.

From William Exell, aged 24, 6th Regiment, admitted to Fort Pitt Hospital on account of acute pneumonia, from which he was recovering, when he was suddenly seized with symptoms of dysentery, which proved fatal in 18 days. Peritoneal adhesions had prevented escape of fæces into abdominal cavity.

895. Portion of colon with sloughing of the inner membrane, which hangs in loose shreds from its surface. Print. Cat., page 96, No. 35.

From a soldier who died of dysentery of eight weeks' duration.

896. Portion of large intestine showing large sloughing ulcers of a circular or oval form, about two inches in diameter. The mucous membrane is detached from over their surface and adheres in long loose shreds from their margins, laying bare the muscular coat. The ulcers are of recent formation, and the sloughs were of a blueish slate colour. The intervening mucous membrane is thickened, soft and pulpy.

From Patrick Donovan, aged 19, 99th Regiment, a labourer, of only 12 months' service, who had good health previous to enlistment. On 6th January, 1847, he was under treatment at Fort Pitt Hospital for an attack of pneumonia of the right lung for 20 days. He had not returned to his duty above three days when he was seized with diarrhœa, increasing in severity until the 3rd February, when he began to pass blood and was again admitted into hospital. He had then much abdominal tenderness with constant straining and calls to stool, thirst, and quickened pulse. The bowels continued to be opened 12 times in the day, and nearly as often during the night; occasionally patches and shreds of mucous membrane came away with the thin dark and sanious stools, while the pulse continued very small and the tongue dry and red. On February 11th, his ailments became complicated by the occurrence of pain under the sixth and seventh ribs on the left side, with scanty, viscid, and slightly rust-coloured sputum, but without any cough, and the dysenteric symptoms returned with increased acuteness, larger patches of mucous membrane were passed at stool; hæmorrhoids appeared from the constant straining, and the patient's strength was very much reduced. In the last 24 hours before his death, thin watery stools (with no abdominal

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* The term "diphtheritic" has here nothing to do with the specific disease, "diphtheria." In connection with dysentery, it does not imply the presence of any false membrane, but it does imply a partial destruction of and more or less necrotic processes on the mucous surface.

tenderness) were constantly passed, and he sank on the 20th February, 1847. After death, a fold of the sigmoid flexure of the colon was found adherent to the posterior surface of the bladder, and on separating it, fœculent matter escaped from a large ulcerated opening, the discharge of which into the cavity of the abdomen during life, had been prevented by adhesive inflammation. Numerous large sloughing ulcers were found in the caput cæcum and along the whole course of the large intestines. Mesenteric glands enlarged. The remainder of the abdominal viscera were healthy.

Donor—Dr. Williamson, Staff Surgeon.

896A. Numerous sloughing ulcers in the mucous membrane of a portion of colon. Print. Cat., page 103, No. 86.

In this case death was occasioned by the escape of fæces into the peritoneal cavity through a perforating ulceration of the rectum.

Donor—Dr. Trigance, Surgeon, 30th Regiment.

897. Extensive sloughing ulceration of the inner membrane of a portion of colon. Print. Cat., page 105, No. 100.

From James Blackledge, aged 44, 65th Regiment, admitted to Fort Pitt Hospital from the West Indies (where he had served 16 years), in the last stage of dysentery and diarrhœa, consequent on remittent fever. He died a few days after admission. After death, the colon was found adherent to the parietes at many parts, and could not be separated without tearing; and the transverse arch adhered to the convex surface of the liver, at which spot there was an ulcerated opening.

898. A flocculent and granular effusion of lymph on the mucous membrane of the colon, which is also thickened and ulcerated. Print. Cat., page 93, No. 10.

From George McGuire, aged 45, 25th Regiment, admitted to Fort Pitt Hospital with dysentery of four months' duration. He had served 9 years in the West Indies, where he contracted his ailment of which he died three days after admission into Fort Pitt Hospital.

899. Portion of transverse arch of colon, with ulceration and extensive separation of the mucous membrane from the muscular coat by sloughing.

Donor—Dr. Fiddes, Surgeon, 85th Regiment.

900. Coats of the caput cæcum coli much thickened and the mucous membrane covered with lymph, at some parts ulcerated, and with sloughs, hanging in shreds. The interior is very irregular and thrown into large folds.

Donor—Mr. Whitefield, Surgeon, R.A.

901. Portion of colon showing irregular ulceration (probably follicular) on the mucous membrane.

From a patient who died in the Crimea.

Donor—Dr. Lyons.

902. Extensive ulceration of the mucous membrane of the colon, which in some parts is nearly separated as sloughs from the muscular coat, which is thickened. The sloughs have a reticulated appearance, and ulceration has probably commenced in the solitary follicles.

The patient died of dysentery of 6 months' duration, contracted in the West Indies.

903. Extensive sloughing of the mucous membrane of a portion of the colon, which hangs in shreds from its surface. The piece of gut is inverted.

Donor—Mr. Bradford, Asst.-Surg., 56th Regiment.

904. Sloughing ulceration which has in two places perforated all the coats of the colon.

905. Portion of colon with sloughing ulceration of the inner membrane which is separated from the muscular coat and hangs in shreds.

906. Sloughing phagedæna of the mucous membrane of a portion of colon. Print. Cat., page 98, No. 52.

From an invalid, who was attacked with vomiting and purging on his return from India, which continued and terminated fatally in 5 months. After death, the large intestines were found sloughy and ulcerated particularly at the sigmoid flexure of the colon. The liver was granular, easily lacerable and pale in colour.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

907. Ulceration and sloughing of the inner tunic of the cæcum which hangs in loose shreds from its surface; coats much thickened.

908. A portion of colon showing shreddy sloughs of mucous membrane, with hypertrophy of sub-mucous tissue. Tuberculated elevations existed here and there, through two of which a section has been made.

From a patient who died of dysentery.

Donor—President Grant, Medical College, Bombay.

909. About 2 feet 10 inches of colon from caput cæcum, showing extensive sloughing shreds of mucous membrane.

From Thomas Ramble, 22nd Regiment, admitted into General Hospital, Fort Pitt, on account of acute pleuro-pneumonia, of which he died 7 days after admission. Dysenteric symptoms came on in the course of the disease. (See also Preparation 934, page 246.)

Donor—Dr. Williamson, Staff Asst.-Surg.

910. About 42 inches of colon ascendens with a portion of ileum, showing the condition of the mucous membrane, after repeated attacks of phlegmonous or gangrenous dysentery, showing also granulating and contracting, or healing ulcers, in combination with fresh sloughing, and with pulpous softening and sloughing of the lower end of ileum.

From William Barnes, aged 25, Medical Staff Corps, who arrived in Hong Kong, from Singapore, where he had been in hospital under treatment for dysentery. He was much emaciated and had frequent calls to stool, with griping pains and tenesmus. The evacuations were thin and feculent, and tinged with blood. His condition varied much from day to day; and exhausted with the frequent alvine discharges, he died on board the transport ship "Nillus."

After death, the large intestine was found thickened throughout, and for the most part contracted. There was very extensive destruction of the mucous membrane. Smaller and larger irregular patches were deprived of their mucous covering, with reparative organised pigmented layer (commencing cicatrization), attended with considerable reduction in the calibre of the tube. The process extended into the ileum which was converted into a soft friable pulp; and evidence of capillary hæmorrhages. No opening was found in the gut; but the escape of gaseous contents and the general prevalent peritonitis was taken as evidence of perforation (Book B. (blue) case 19).

Donor—Dr. Becher, Asst.-Surg., Chinese Expeditionary Force, 1857.

911. A portion of ileum, also a portion of colon, the mucous membrane of which is covered with a copious deposit of coagulable lymph.

From a patient who died of dysentery.

Donor—Mr. Bradford, Asst.-Surg., 56th Regiment.

912. Mucous membrane of the lower portion of the ileum and commencement of cæcum coated with granular lymph. From a man who died of dysentery.

Donor—Mr. Bradford, Asst.-Surg., 56th Regiment.

913. Portion of ileum with the valvulæ conniventes covered with lymph and several small ulcers on their surface—a dysenteric process in small intestine.

914. Portion of ileum with the mucous membrane thickened and coated with granular lymph—a dysenteric process in the small intestine. The whole intestinal canal was seen to be in a state of disease. MS. Cat., Vol. II, page 26, No. 111.

Donor—Mr. Fiddes, Surgeon, 85th Regiment.

915. A portion of ileum near its termination with a copious deposit of coagulable lymph on the valvulæ conniventes which are considerably enlarged. An appearance often noted in dysenteric cases. Print. Cat., page 82, No. 54.

The patient died of peritoneal dropsy and chronic hepatitis. (See also No. 1023, page 272.)

Fasciculus II, Plate 7, Fig. 3.

916. Portion of colon near the sigmoid flexure. The mucous membrane is in a ragged sloughy state, the other coats thickened and vascular. In the recent state there were also seen long transverse black discolorations; and nearer the cæcum there were numerous small distinct ulcers.

Acute dysentery; perforation of the gut; and rapid death from shock.

(2) *Catarrhal forms of Dysentery, with Hypertrophy and Infiltration of all the Coats of the Colon, Mucous and Sub-mucous Tissues Swollen.*

917. Mucous membrane of caput cæcum coli, and ascending

colon, very irregularly thickened and covered by granular plastic lymph. It showed extreme vascularity. The calibre of the gut is also much diminished both by the thickened folds of the mucous membrane, and also by hypertrophy of the coats. The termination of the ileum is healthy. Print. Cat., 1833, page 103, No. 90.

From Philip Wesley, aged 26, 14th Regiment, who returned from India, after 7 years' service, suffering from chronic dysentery, which had lasted several months, and who died on the twentieth day after admission to Fort Pitt.

Fasciculus II, Plate 8, Fig. 1.

918. A portion of the colon, showing ulceration, effusion of lymph, and a sloughing state of the mucous membrane Print. Cat., 1833, page 98, No. 55.

From a soldier who died of acute dysentery.

Donor—Mr. O'Brien, Asst.-Surg., 28th Regiment.

918A. Portion of colon, showing extensive plastic exudation on its mucous surface, and abundant deposition of fatty matter in mesocolon and appendices epiploicæ.

From a soldier who died of chronic dysentery.

919. Portion of the large intestine; the mucous membrane is soft and pulpy, and several of the folds are congested, and of a dark livid colour with ulceration commencing on their surface. A few of the solitary glands are also enlarged and ulcerated.

From Driver George Lines, aged 21, Royal Horse Artillery, A Troop, who died of dysentery, complicated with bronchitis, and lobular pneumonia, at Scutari; the lower end of the ileum was also ulcerate d. (See also Preparation 939.)

Report on the Pathology of the Diseases of the Army in the East, 1856—Dr. Lyons, page 35.

920. Portion of colon showing thickening of coats, and o mucous membrane which is covered with granular plastic lymph in a case of dysentery.

921. Mucous membrane of a portion of colon showing patches of granular lymph, chiefly in the folds, in a case of dysentery subsequent to fever, and rheumatism.

922. Lining membrane of a portion of colon thickened and universally covered by granular lymph. Print. Cat., page 99, No. 66.

From Thomas Hartwell, who was admitted to hospital with fever. On the fourth day he complained of pain in the abdomen; and on the fifth day passed bloody dejections. These symptoms continued till he died on the twenty-seventh day.

Donor—Dr. Hennen, Deputy Inspr. of Hospitals.

923. Mucous membrane of a portion of the colon ulcerated and covered with large masses of granular lymph.

924. Mucous membrane of a portion of the colon ulcerated and covered with granular lymph. (See Preparations 959, page 254, and 1046, page 277.)

925. Portions of large and small intestine the inner membranes of which are coated with organized lymph but more particularly the former. Print. Cat., page 100, No. 73.

See case of William Pitt, under Preparation No. 137, page 39. Dysentery and rheumatism being subsequent diseases.

926. Two portions of colon; the lining membrane of one of them is entirely covered with masses of granular lymph and the coats much thickened; the mucous membrane of the other is ulcerated, rough and irregular, with numerous small oval ulcers or pit-like depressions which seem to have originated in the solitary glands.

Donor—Mr. Dowse, Asst.-Surg., 88th Regiment.

927. A portion of colon and ileum showing wart-like growths over valvulæ conniventes, having a fungating appearance and extending throughout the colon, with exudation proceeding from the minute tubular glands forming the layer of lymph on the surface of the mucous membrane of the gut, which is at the same time intensely vascular.

From Private Ingram, aged 42, 42nd Regiment, of 22 years' service, who died at Netley, from chronic dysentery, having previously suffered from fever (intermittent), and primary syphillis.

928. Mucous lining of a portion of colon ulcerated, partly gangrenous and pellicles of lymph effused on its surface. Print. Cat., page 97, No. 39. (See Preparations 973, page 257, and 988, page 261.)

From John Shortell, aged 20, 17th Regiment, of a strong and healthy appearance, who was admitted to hospital at Edinburgh, under a continued form of fever, from which he became convalescent; but having encountered a relapse, the disease degenerated into a formidable typhus, of which he died on the eleventh day. (Typhoid ?) After death, the small intestines appeared inflamed externally in patches, especially at the lower part of the ileum; on opening them, extensive ulcerations were observed, reaching to the valve of the colon. The liver was indurated to a degree approaching to scirrhus.

Donor—Mr. Martindale, Surgeon, 70th Regiment.

929. Extensive ulceration throughout the colon, the pits, corresponding to the solitary follicles, are very distinctly shown amongst the infiltration of tissue. Print. Cat., page 99, No. 59.

From Leonard Cheveny, aged 36, 60th Regiment, admitted for chronic dysentery into Fort Pitt Hospital. The dysentery was contracted in the West Indies; and death was hastened by an attack of hepatitis.

930. Portion of colon covered with a granular layer of plastic lymph, and infiltration of its coats. Different stages of vascularity existed in the recent specimen.

From William Pitt, aged 23, 40th Regiment. (See Preparations Nos. 137, page 39, and 925, page 245.)

931. Portions of colon extensively ulcerated, coats generally infiltrated and dilated.

932. Cæcum and portion of ileum very much thickened from general infiltration, and effusion of lymph, on the lining membrane, which is ulcerated and presents a granular appearance, in some places.

933. A layer of lymph effused on the lining membrane of the colon, which is also slightly abraded.

934. Portion of colon with the mucous membrane covered by a thin stratum of lymph. It further shows pigmented "pitting" suggestive of solitary gland lesion. MS. Cat., Vol. II, page 68, No. 167.

See case of Thomas Ramble, under Preparation 909, page 242.

935. Portion of colon injected; coats thickened and mucous membrane coated with lymph, which is seen by the injection to be at parts highly vascular.

Donor—Dr. Monro, Asst.-Surg., Coldstream Guards.

(3) *Dysentery in which the solitary Follicles, Glands, or Pits, are the structures most obviously diseased, combined with the Lesions* (1) *and* (2).

936. A number of small round ulcers in pits corresponding to the solitary glands, on the lining membrane of the colon, this membrane is thickened and has a granular appearance. There is general infiltration of all its coats.

937. Dysenteric ulceration, of 12 months' duration, in which the pits of solitary follicles are very distinct.

938. Numerous small ulcers which have coalesced, on the mucous membrane of a portion of colon, and showing the characteristic pits of the solitary glands. Print. Cat., page 97, No. 47.

From a soldier who died of dysentery, after six months' illness, contracted in the West Indies.

939. Portion of colon presenting numerous circular ulcers of various sizes, and the "pitting" characteristic of solitary gland lesion. The surface of some of them is covered with lymph. The intervening mucous membrane softened and infiltrated generally.

From George Lines, aged 21, a Driver, Royal Horse Artillery, Troop A, who died of dysentery complicated with capillary bronchitis, and lobular pneumonia and peritonitis. The small intestines were also ulcerated towards the ilio-cæcal valve. Thermometer at Scutari, 65° Fahrenheit, during *post-mortem* examination. (See Preparation 919, page 244.)

Report on the Pathology of the Diseases of the Army in the East, 1856—Dr. Lyons, page 35.

940. Portion of colon with numerous small oval ulcers, many of them having united; the mucous surface is greatly altered by diphtheritic (necrotic) patches. The ulceration appears to have originated in the enlargement of the solitary glands, which were here and there distended before ulceration commenced.

From Private Richard Sully, who died at Scutari, of dysentery, of more than four months' duration. The viscera in the peritoneal cavity were greatly contracted, especially the colon. The omentum was drawn upwards towards the liver. The abdominal walls very much drawn together. The peritoneum was infiltrated with a clear semi-transparent deposit, granular in form, imparting a sand-like sensation to the touch. The mesenteric glands were enlarged, especially those in connection with the caput cæcum and ileum. The lymphatic vessels passing to and from the morbidly softened and enlarged glands were distended with a bloody coloured lymph. Some of the glands had undergone cretaceous degeneration, and others were in process of a similar change. Both kidneys were enlarged; the surface of the right was highly congested, and firm adhesions existed between it and the colon. Its lower end was the seat of small scrofulous-looking abscesses, with deposits here and there on its surface of a creamy-yellow colour. A dark purple margin of excessive vascular reaction surrounded these deposits; and the whole surface presented an irregular tuberculated appearance. On section both kidneys were seen to be extensively degenerated; the cortical substances relatively swollen; and of a coarse granular appearance from irregular distension of the tubes. The diphtheritic (necrotic) patches consisted of fine cells, and nuclei with elongated nuclear cells, resembling in general aspect the cells from the kidney. The exudation from the kidney consisted of larger cells of irregular form combined with cells resembling pus corpuscles; and in general appearance like tubercle. The tubes also contained solid moulds of a hyaline substance, holding together the fine cells in the tubes. In the mesentery the exudation consisted mainly of fine fibres, the curling together of which had doubtless given the granular sand-like character to the peritoneal membrane visible to the naked eye alike on the visceral, and the parietal layers. Naked nuclei were here and there scattered amongst the fibres. The contraction and curling up of these fibres may to some extent account for the drawing up (by a slow contractive process) of the omentum over the transverse colon.

Report on the Pathology of the Diseases of the Army in the East, 1856—Dr. Lyons, page 42.

941. Portion of colon showing numerous oval and circular ulcers of solitary follicles, the mouth or margins of some of them are thickened, everted, projecting, and burrowing below mucous coat; at other places the surface is irregularly ulcerated, laying bare in many places the sub-mucosa, and the margins smooth. There is much thickening of texture generally from new growth or exuded material.

From Private Peter Denahy, aged 30, 31st Regiment. The entire surface of the rectum was covered with recent ulceration of a bright red colour, with a black, necrotic, sloughy state of the surrounding mucous membrane, the texture of the rectum generally being almost in a state of gangrene, tearing on the slightest tension. The liver was in the condition of nutmeg-like congestion. The weather at Scutari when the *post mortem* was made showed a temperature by the thermometer of 82° Fahrenheit.

Report on the Pathology of the Diseases of the Army in the East, 1856—Dr. Lyons. page 33.

942. Numerous oval ulcers on the mucous membrane of a portion of the colon (and also of the rectum); many of the ulcers have coalesced and burrowed below the mucous coat; they originated in the solitary glands.

From Benjamin Brown, 34th Regiment, admitted for diarrhœa.

Report on the Pathology of the Diseases of the Army in the East, 1856—Dr. Lyons, page 4.

943. Portion of the termination of the ileum with caput cæcum and colon. The solitary glands in the ileum are seen to be enlarged. The whole of the mucous membrane of the cæcum is filled with small oval ulcers generally about the size of pins' heads; some of them have coalesced and formed irregular ulceration. This preparation illustrates ulceration commencing in the solitary glands. The peritoneal surface of the preparation is shown externally.

Donor—Dr. Lyons.

944. Numerous small deep ulcers on the inner tunic of a portion of colon (solitary gland lesion), coats much thickened from general infiltration. Print. Cat., page 98, No. 58.

From John Singleton, who died of dysentery, of two years' standing, contracted in India.

945. Portion of ulcerated colon, the ulcers at some parts are small and in clusters, at others large and irregular with the mucous membrane at their margins hanging in shreds. There is considerable burrowing underneath the mucous coat, by some of the ulcers, originating probably in the solitary glands.

946. Extensive ulceration in mucous membrane of a portion of colon, amidst islands of healthy tissue, and showing the pits of solitary glands.

From Thomas Develing, aged 57, 30th Regiment, admitted to Fort Pitt Hospital on arrival from India, with dysentery of six months' duration. He died the same evening.

947. Mucous membrane of caput cæcum and colon. Throughout its whole extent it is the seat of numerous small circular ulcers, getting somewhat larger towards the rectum. Many of the ulcers have a dark sloughy base, and are surrounded by much pigmentation. There is considerable cicatricial contraction in the transverse colon, causing a narrowing of the gut at that part.

From Corporal James Arnold, aged 29, 2nd King's Royal Rifles, of 11 years' service, who died at Netley Hospital, of chronic dysentery, of four years' duration, contracted in Afghanistan. He had served nearly 10 years in India, and three months in Africa. He had a mild attack of primary syphilis in India, and for 10 years he had been subject to attacks of ague and diarrhœa. He had been 40 days under treatment for dysentery in India, 43 days on board ship, and 98 days at Netley. His evacuations at Netley numbered from 7 to 14 daily. He had occasional paroxysms of severe pain all over the abdomen. Emaciation was extreme with petechial spots over anterior aspect of thorax. After death there was seen to be catarrhal congestion in the lower

part of the jejunum and ileum, with atrophy of Peyer's patches and generally of the small intestines. The substance of the liver was pigmented.

Pathological Reports, Netley, Vol. XIV, case 79.

948. The mucous membrane of the large intestine in a state of catarrhal congestion and extensively destroyed by ulceration and with much pigmentation. There are also some growths of a warty character and broken up by ulceration about the size of hemp seeds and some much larger, red and prominent. The ulcers are "clean cut," with well defined margins. The solitary glands appear surrounded with a vascular halo. In some places there is evidence of a healing process going on. Towards the rectum, and in the lower part of the colon there are small characteristic swellings from which a gummy material, like boiled sago, can be squeezed out.

From Corporal James Hopkins, aged 31, King's Royal Rifles, who had served in Afghanistan, India, and South Africa. He enjoyed good health till the spring of 1878, when he had his first attack of dysentery, which lasted only a few days. Six months later he had a second attack. A third attack occurred "on the march" with General Roberts from Cabul to Kandahar, when he was on duty daily, notwithstanding about 16 alvine evacuations daily. In January, 1881, he proceeded with his regiment to the Cape of Good Hope, where he improved in health; but in July he was obliged again to go into hospital at Newcastle (Cape), whence he was invalided to Netley, having been 18 months at Natal. At Netley, he gradually got worse, and in the end he was the subject of pulmonary tuberculosis. His dysentery was over 3½ years' duration, and he died in a state of extreme emaciation.

Pathological Reports, Netley, Vol. XIV, No. 78.

949. Solitary glands of colon at intervals throughout its whole course are enlarged and stuffed with a transparent jelly-like or colloid material which can be squeezed out of them. Bristles have been inserted into the orifices of some of these gland cavities. There is cicatrix-like loss of substance at the site of old ulcers, the evidences of ulceration increasing from the caput cæcum towards the rectum.

From Lance-Corporal J. Stirrup, aged 29, of 10 years' service at home, and in India where he had six years' service. He had been 11 days in hospital in India, for hard chancre, in 1872. In Afghanistan and Kandahar he had ague with diarrhœa, and ague with dysentery, for 51 days. At Bombay he was 67 days ill with dysentery and ague, and was invalided from Colaba, February 22nd, 1881, on account of dysentery, contracted at Kandahar, in 1880. He was extremely emaciated on admission to Netley, in March, 1881, after one and a half year's suffering from dysentery aggravated by climate and active field service for six months, in Afghanistan. He had never been wounded. He attributed his dysentery to sleeping for 43 nights in the open-air, on damp ground, and in wet clothes. He became much worse on the voyage from Bombay to England, and his bowels had been moved about 17 times daily previous to landing. Before leaving Kandahar he passed mucous and bloody stools; but since arrival, no blood, nor sloughs have been seen. His stomach was irritable; there was abdominal pain and tenderness, with cirrhosis of the liver. His habits had not been temperate. The veins over the front of the abdomen

were enlarged and there was œdema of the legs. The heart's sounds were normal. The tongue was moist and smooth, and the motions were reduced to six daily, and were passed without pain or difficulty. They were serous and mixed with little feculent matter. The liver dulness extended from the 5th to 7th costal cartilage. Up to 11th April the motions during the night varied from three to six, and on the 11th he is reported to have passed about a pint of greenish serum with some blood and sloughs, such as he had not done since the commencement of his illness. On the 12th he had become worse, having been at stool fifteen times since the previous day. He again passed serum and no feculent matter; and on the following day there was evidence of increased peristalsis with intestinal irritability, but no tenesmus nor tormina. The tongue was red, glazed, and fissured. The temperature in mouth was normal. The serous character of the stools continued and he died on 14th June. The cyst contents were for the most part clear and semi-transparent, with here and there white or yellowish opaque streaks in the jelly-like matter. This matter appeared to be either in the enlarged solitary glands, or it had grown in the follicles of Lieberkühn, and thence spread itself beneath a thin expansion of the mucous membrane by amalgamation or coalescence of several follicles. They varied in size from $\frac{1}{12}$ to $\frac{1}{4}$ inch in diameter, and stood out from the surface in hemispherical projections. Considerable pigmentation of a bluish black surrounded the larger cysts; and at the apices of the projections the clear semi-transparent jelly-like matter shone through the thin covering or protruded through a minute circular orifice. These contents could easily be expelled by pressure, either in concrete masses or in homogeneous masses like calves'-foot jelly or gelatine. The cysts were chiefly found in the colon and rectum. There were none in the small intestine. Microscopically the material was composed of a few delicate nucleated cells resembling white blood corpuscles; and was largely made up of elongated cells of the character of cylindrical epithelium of varied forms, and of other small rounded cells varying in size from a red blood corpuscle to that of a white one, in which dilute acetic acid disclosed nuclei and caused coagulation of the mucinous homogeneous exudation. In the opaque parts streaked white or yellow the material seemed to be mainly fat granules and globules, to some extent soluble in liquor-potassa and ammonia. There were also the stellate crystals met with in fæces.* (See also Preparations 918A, page 244, also 950, page 251, and 952, page 252.)

Pathological Records, Netley, Vol. XIV, No. 57.

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* Cystic development with clear jelly-like contents in cases of dysentery have been recorded and described in the Medical History of the War of the Rebellion in the U.S. of America, Vol. II, Part II, page 512, by the late Surgeon J. J. Woodward, of United States Army. This account is enhanced by beautiful coloured illustrations; and by an account of all the known cases of this remarkable lesion, which was first described and figured by Stark, in 1766, in a patient who had dysentery after malarious fever. Cruvilhier in his "*Anat. Path. du corps humain*," *T. II, Paris*, 1835, *Livre* 34, *Plate* 2 *and* 3, mentions the case of a man 41 years of age, diagnosed during life as "*Chronic Enteritis*," in which the cysts were said to be pedunculated,—a condition which has not been recorded in any other case, except in one by Virchow. Similar cysts were also numerous throughout the small intestine. Cruvilhier believed the cysts to be seated in the solitary follicles. But Virchow, on making thin sections of the intestines found that the cysts originated in cyst-like dilatations of the lower portion of the glands of Lieberkühn, several of which coalesced to form a cyst visible to the naked eye. The patient was a boy aged 15, who died of chronic dysentery, with liver cirrhosis and dropsy. Virchow described the case as one of *colitis cystica polyposa* (*R. Vircho. Die Krankhaften Geschwülste. Bd. I, Berlin*, 1863, *S.* 243, *Fig.* 39.) Of the four cases recorded by Surgeon Woodward the first occurred in a volunteer, aged 19, who sustained a severe gunshot wound of the left chest in which the ball fractured the eleventh rib, and transverse process of eleventh dorsal vertebra, and also the lung. He continued to improve for several months till diarrhœa set in, of a dysenteric character, and he died in three months. In the descending colon and rectum "the solitary follicles were enlarged, forming cyst-like vesicles, the size of peas, with minute circular openings at their summits, and each containing a transparent gelatinous mass." The

(4) *Cases of Dysentery characterised by Wart-like Outgrowths, or Polypoid Excrescences from the Mucous Coat, combined with Lesions* (1), (2), *and* (3).

950. A portion of the ileum, with caput cæcum and ascending colon laid open. The small intestine presents extensive diphtheritic exudation on the mucous surface, commencing at the edge of the valve and diminishing upwards, this exudation has a honey-comb eroded aspect beneath the valve, but higher up is velvet-like; the mucous coat over the lowest Peyer's patch is in a similar condition. The coats of the large intestine are thickened mainly from intestinal deposit in the mucous coat, which measures at least $\frac{2}{10}$ths of an inch in places. In the caput cæcum are numerous minute erosions of the inner membrane, which merge into the changes in the ascending colon. The inner surface of this portion of the gut presents an irregular warty aspect interrupted occasionally by smooth serpiginous patches, which are dotted over by superficial erosions. These excrescences here and there, are excavated with dotted depressions (solitary gland lesions).

From Private Patrick Breen, aged 23 years, 59th Regiment, who died, in China, from acute dysentery after eight days' hospital treatment. The lesion in the small intestine was limited to the portion preserved; beyond that exemplified in the preparation, the large intestine was contracted, and coats very firm from the rectum and sigmoid flexure upwards to the caput cæcum; the transverse and descending colon exemplified old tough cicatrices of former extinct disease, over which was spread a soft diphtheritic film of recent dysentery. The intestine was empty—mesenteric glands not enlarged. The kidneys were the seat of desquamative nephritis, and the spleen was malarially enlarged to 1 lb. 2 oz. (General Hospital, Victoria, Hong Kong, 1857, No. IX, Case 22, page 107.) (See Preparation 952.)

Donor—Staff Surgeon Becher, Chinese Expeditionary Force.

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colon was thickened. The contents of the cysts could readily be expelled by pressure and resembled drops of warm boiled glue. They were very unequally scattered over the mucous surface.

In Surgeon Woodward's second case the patient was a volunteer, aged 29, who also had been wounded by a gunshot causing fracture of the left thigh bone. Two months afterwards dysentery supervened. There were numerous ulcers about ¼ inch diameter throughout the whole extent of the large intestine, and in the descending portion of the colon there were many cysts containing lymph-like contents, some of which were ulcerating, while others were filled with pus-like contents—a semi-transparent yellow-like matter resembling calves'-foot jelly. Many of the cysts had ruptured and their contents had escaped, leaving cavities resembling follicular ulcers.

Surgeon Woodward's third case occurred in a private of the 1st U.S. Chasseurs, who suffered from chronic flux for about two months before death. Besides cysts, similar to those described, follicular ulceration had taken place in the thickened colon, and the case was further complicated by an extensive diphtheritic process, so that the lower 15 inches of the ileum and much of the large intestine were in a state of necrosis of mucous membrane.

The fourth case, described by Surgeon Woodward, occurred in a private of 16th Pennsylvanian Cavalry, aged 23 years, who had suffered from intermittent fever as well as chronic flux and who died after three months. The whole of the large intestine was thickened and presented numerous follicular ulcers, and a number of cysts about the size of peas. A diphtheritic process had commenced in the intestine just before death.

951. The rectum sigmoid flexure, and portion of the descending colon laid open. All the intestinal coats are thickened, but the active changes are limited to the mucous membrane and its elements. This inner tunic is generally increased in bulk, especially towards the rectum, from interstitial deposit, its surface is extremely irregular from warty nodular masses of material varying from a pin's head to large irregular excrescences projecting from the general level, and especially numerous towards the rectum; interspersed among these are ulcerations from a small circular dot, to irregular erosions the size of a split pea, the former are smooth apertures occupying the centre of a limited tumefaction (enlarged solitary glands), the latter are sharp cut excavations, as though produced by the mere ablation of a portion of texture.

The man, Patrick Reardon, aged 22, from whom the specimen was taken, died in China in 1857, after 73 days in hospital, the symptoms being throughout of a chronic character. The body was extremely emaciated; in the lower portion of the ileum were the signs of diffuse chronic inflammation of the mucous membrane, the condition of the large intestine throughout was that observed in the preparation —with this addition, that the mucous coat was anæmic and softened, of a slaty grey colour; towards the upper portion of the large gut, some of the solitary glands were swollen out with gelatinous fluid, others had discharged their contents, giving a central depression surrounded by a pigmented halo; the intestine was empty. The mesenteric glands were somewhat enlarged. The *post-mortem* evidence was in favour of the origin of the disease in the solitary glands. (See General Hospital, Victoria, Hong Kong, November, 1857, Case 16, No. III, page 79.)

Donor—Staff Surgeon Becher, Chinese Expeditionary Force.

952. Colon, showing ulceration and granulation, also thickening and induration of the coats of the large intestine through chronic dysentery (muscular and cellular hypertrophy). The mucous membrane is almost entirely replaced by a firm fibrous tissue with a smooth surface. The only remains of mucous structures are small prominent islands of tissue, disposed here and there, forming hard granulations, which, on close examination, are found to consist of the prominent and slightly enlarged solitary glands—some of them filled with a transparent colourless gelatinous substance. (See under No. 950, case of Patrick Breen, aged 23 years.)

953. Colon for the first twelve inches below ilio-colic valve, showing wart-like growths and cicatrization of ulcers. The growths looked vascular; but the remainder of the mucous membrane was anæmic.

From Private Wm. Johndrill, aged 20, 25th Regiment, of $2\frac{6}{12}$ years' service, who was admitted into Fort Pitt Hospital on account of "Abscess" (of 14 months' duration), scrofula and phthisis pulmonalis. Many times in hospital for bronchitis, ostitis, and scrofula. The abscess commenced with enlargement of left submaxillary glands, and discharge from left ear with intense pain. Paralysis of left side of face quickly followed. Another abscess formed behind the left ear, and continued to discharge till death. No record of any intestinal symptoms.

Pathological Reports, Fort Pitt General Hospital, Vol. II, No. 34.

954. Almost the whole of the mucous membrane of the cæcum, and a portion of colon destroyed by ulceration, and presenting a peculiar wart-like and granulated appearance.

Donor—Mr. Simpson, Malta.

955. Very extensive ulceration of the inner membrane of the cæcum and colon.

From William Morgan, aged 26, seven years' service at the Cape of Good Hope. He suffered from frequent attacks of rheumatism at that station, complicated with secondary syphilis, for which he was invalided home. On the passage he contracted dysentery, which became associated with scorbutus. He was admitted into Fort Pitt Hospital, 12th June, 1839, and discharged 26th cured; readmitted on the 7th July, with difficulty of breathing, aphonia, and with loss of sensation of the left side. He ultimately died comatose with symptoms of compression of the brain on the 17th July.

On examination, after death, the cerebral surface of the dura mater under the right parietal bone, disclosed small masses of coagulable lymph of a tubercular consistence, pia mater also thickened by granular lymph. In the intestines, a few small ulcerations were observed near the extremity of the ileum. The appendix vermiformis was much thickened in its walls, with adhesion of them in the centre, so as to divide its cavity into two compartments; that corresponding to the free extremity of the appendix, contained a thick putty-like secretion mixed with thick mucous; the caput cæcum externally, was of a dark colour, internally, contracted in diameter, much ulcerated, and presenting a highly irregular surface at these points; mucous coats, much thickened and perforated by ulcerations, and where not destroyed by the ulceration process, separated from the subjacent coats, so as to admit the passage of a probe, in various directions, under the bands remaining between the different ulcers. Two other such patches presented themselves in the ascending and transverse portions of the colon. The surface of the ulcers had generally more or less a blackened appearance, and, in some, the process of cicatrization had been advancing. The descending portion of the colon and the rectum were healthy. On opening the knee joints, the sigmoidal membrane was of a red or chocolate colour, particularly in the left joint.

Necrological Register, Vol. V, page 361, Fort Pitt Hospital.

956. Mucous membrane of a portion of colon covered with lymph, and to which are attached a number of wart-like excrescences; coats thickened.

957. Large intestine showing thickening, and irregular ulceration of the mucous tunic, the remaining portions in many places present the appearance of fleshy verrucæ. Print. Cat., page 101, No. 81.

From a middle-aged man, who died of chronic dysentery.

Donor—Mr. Gulliver, Asst.-Surg., 71st Regiment.

958. Very extensive ulceration of the mucous membrane of a portion of the colon, also a number of wart-like excrescences on this membrane. Print. Cat., page 95, No. 22.

From Peter Madden, aged 48, 25th Regiment, who had suffered from dysentery for 18 months, and who died of phthisis pulmonalis.

Fort Pitt.

959. Portion of colon with marks of old ulcers and wart-like excrescences on the mucous membrane. Print. Cat., page 94, No. 17. (See also Preparations Nos. 924, page 245, and 1046, page 277.)

From William Scott, aged 35, 5th Regiment, admitted for chronic dysentery and phthisis on arrival from West Indies. He died after 10 months in hospital.

Fort Pitt.

960. Portion of colon, with extensive ulceration and wart-like growths on its mucous surface. Print. Cat., page 103, No. 89.

From Joseph Vise, aged 40, 14th Regiment, an invalid from India, who had suffered from hepatic disease and dysentery, and, on the voyage home, from sea scurvy. He was admitted in a state of extreme exhaustion, with low delirium, and died on the 5th day. On inspection after death, the body was of a saffron-colour, and covered with petechiæ; the liver exhibited a viscid fluid; the common bile-duct was much dilated, and obstructed by two large calculi; the whole of the mucous lining of the intestines was of a dark colour, at some parts exhibiting extreme congestion, at others ecchymosis. The vascular projections shown in the preparation, appear to have been the result of a yielding of the coats of the gut.

Fort Pitt.

960A. Transverse arch of the colon much contracted, as often seen in dysenteric cases, with many vascular rounded projections from its peritoneal surface, apparently the result of a yielding of the coats. Print. Cat., page 103, No. 88.

From the same case as the previous specimen.

961. Very extensive exudation and irregular ulceration, and diphtheritic sloughing in the caput cæcum and ascending colon. The termination of the ileum is also in the same condition, and the surface is coated with diptheritic exudation.

From Richard Owen, aged 27, of the Land Transport Corps from the Crimea, who died of phthisis at Scutari, September 14th, 1855. There was also excessive congestion of the lower part of the small intestines, with ulceration of Peyer's patches. The lungs were infiltrated with tubercles throughout; kidneys granular.

Report on the Pathology of the Diseases of the Army in the East, 1856—Dr. Lyons, page 45.

962. Extensive ulceration with thickening and wart-like growths on mucous surface of the colon. Print. Cat., page 99, No. 61.

From William M'Laughlin, 67th Regiment, who laboured under acute dysentery, attended with typhoid symptoms from the beginning, for twelve days, when, notwithstanding very active treatment, he died. On examination, after death, the large intestines alone appeared at all disorganized, and chiefly towards their lower part, whence the preparation was obtained.

Fort Pitt.

962A. Specimens of *ancyclostema duodenale* from a case of Beriberi, at Cairo, Egypt, and sometimes considered a cause of dysenteric symptoms from the blood in the stools.

LESIONS IN TYPHOID OR ENTERIC FEVER.

(1) *Intumescence of Peyer's Patches and Solitary Glands (Medullary-like Infiltration).*

963. Great enlargement and prominence of the gland-tissue of Peyer's patches, and less so of the solitary glands, the surfaces of two of the former are ulcerated. These patches of Peyer are elevated to the extent of three or four lines above the mucous surface of the intestine—a contracted border surrounds the margins of each patch, giving them a sessile, fungiform aspect, with umbilicated depressions on the surface. They are of a tawny colour when seen through the peritoneum of the gut; and were wont to be described as "fleshy lumps." The substance of the gut (muscular and mucous) is extremely atrophied.

No history.

964. Portion of ileum, the glandulæ solitariæ, and aggregatæ, are very much enlarged, and the surfaces of two of them are slightly ulcerated. Print. Cat., page 87, No. 83.

From John Fairish, 95th Regiment, who died of continued fever at Malta, previous to1833—before Jenner's differentiation (in 1846), of enteric fever from other continued fevers.

Donor—Dr. White, Asst.-Surg., Staff.

965. Portion of ileum, showing great prominence of the aggregate glands of Peyer, and of the solitary glands, with ulceration commencing.

No history; but previous to 1834.

Fasciculus II, Plate 7, Fig. 1.

966. Portion of ileum with enlargement of the glandulæ aggregatæ and superficial ulceration of their surface, also two deep ulcers of a somewhat circular form with raised edges. Print. Cat., page 89, No. 95.

From Samuel King, aged 23, 96th Regiment, who was attacked with continued fever, which degenerated into typhus (enteric?) attended with delirium, small pulse, brown tongue, fœtid stools and prostration of strength; lastly, by involuntary passage of urine and fæces, coma, and death about a month after commencement of the disease. A case of enteric fever previous to 1833.

967. Enlargement and ulceration of two of the glandulæ aggregatæ, the elevation of Peyer's patches were originally described in this preparation as "fungiform elevations" developed during certain fevers, and constituting the *Plaques ovalaires*, so frequently mentioned by French Pathologists, also a circular spot at which all the tunicæ are deficient except the peritoneal. Print. Cat., page 87, No. 81.

A case of enteric fever previous to 1834.

Fasciculus II, Plate 7, Fig. 2.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

967A. Intumescence of Peyer's patch and solitary glands, described as petechiæ between the coats of the ileum.

From John Parker, aged 29, 13th Regiment, invalided for pulmonic disease. On the day after admission to Fort Pitt Hospital, he complained of headache and other symptoms of fever. The skin of the face and trunk was unusually red; and on the following day this redness had extended to the extremities, with a pulse of 110. There was copious discharge from the nose, and sputa were tinged with blood. On the fifth day he died. Effusion had taken place in the lungs. A case like enteric fever with death about eighth or tenth day in Catalogue of 1833, page 80, No. 35.

(2) *Lesions showing subsidence of the gland intumescence, with softening of the gland growth and its elimination by absorption without ulceration.*

968. Thickening of the coats of the ileum with partial enlargement of two of Peyer's patches and numerous solitary glands enlarged. The glands of Peyer have collapsed nearly over the entire glands, so that the patches show regular pits, depressions, or follicles, giving rise to the "reticulated indistinctly pitted surface" so often seen after all evidence of gland structure has disappeared, the patch presenting the appearance of a fine sieve (*plaques à surface réticulée*). Most of the solitary glands are still intumescent; but a few have undergone absorption, leaving characteristic solitary pits. This reabsorption is what probably occurs in cases where the disease is mild, of short duration, and usually found when a patient has died from some disease intercurrent with enteric fever. Hence not often seen in museums. Print. Cat., page 83, No. 59.

From a patient who died of ascites, with organic lesion of the heart.

Donor—Mr. Gulliver, Asst.-Surg., 71st Regiment.

969. Considerable intumescence with slight ulceration of two of Peyer's patches, with the same state of some of the glandulæ solitariæ; absorption has commenced and the sieve-like appearance prevails as in the previous preparation. Print. Cat., page 89, No. 97.

From Thomas Jarvis, aged 19, 17th Regiment, admitted with headache, diarrhœa, heat of skin, thirst, and loss of appetite. In six or seven days the symptoms assumed a typhoid type, attended by a relaxed state of bowels, prostration of strength, delirium, and coma. The case terminated in death at the end of twenty-six days. On opening the abdomen, the greater part of the ileum was found in the state displayed in the preparation; no disease of the brain or other part was demonstrable.

970. Portion of ileum from case 950 and 952 showing absorption of glands of Peyer. Their form as measured

from the length of the patches reaching from seven to ten inches and the glands were still intumescent.

From Private Patrick Breen, whose case is already described under No. 950, page 251.

971. Enlargement of the glandulæ solitariæ of the ileum, also absorption of gland growth which has sometimes been described as incipient ulceration in the form of small round points.

(3) *Elimination by ulceration or sloughing of the swollen gland structure.*

972. A portion of the small intestine just above the cæcum laid open. Small points of lymph are scattered over the peritoneal covering. The mucous membrane is extremely thickened, laminated, and separating easily from the subjacent coat; flakes of lymph are attached and nodulations of every size from deposited material are observed, some of these are in a state of ulceration. Peyer's patches, especially the lower ones, are extensively eroded and rough from attached portions of sloughs.

From a man of the 1st Battalion, 15th Regiment, at Bermuda, symptoms mild but debility very great, died ten days after admission. The large intestine was also involved, the liver, spleen and kidneys very congested.

Donor—Surgeon Ferguson, 1st Battalion, 15th Regiment.

973. A portion of the small intestines, with great enlargement of Peyer's patches which are ulcerated in their centres. Print. Cat., page 78, No. 22.

From John Shortell, case described under 928, page 245, and 988, page 261. The large gut was also involved.

Donor—Mr. Martindale, Surgeon, 17th Regiment, Edinburgh.

974. Extensive ulceration and thickening of the mucous membrane at the termination of the ileum. Print. Cat., page 81, No. 45.

From John Hannan, aged 21, 3rd Regiment, who was admitted into Fort Pitt Hospital, labouring under typhoid symptoms, with diarrhœa of some standing. After five days' treatment he died. On dissection, it was observed that the small intestines were alone diseased, their mucous membrane being extensively ulcerated, and studded with fleshy tubercles, the apices of many of which had undergone absorption.

Fort Pitt.

975. Portion of ileum mounted on glass, showing five or six patches of Peyer and numerous solitary glands in a state of intumescence and ulceration; some portions have undergone absorption showing the characteristic "pitting."

From a Kaffir, aged 23, who died at Port Napier, Natal, in May, 1881.

976. The lower portion of the ileum and the attached caput cæcum laid open to display the lesions of typhoid fever.

The walls of the small intestine are thickened, especially of that portion contiguous to the valve. The mucous membrane is very velvety with thin flocculent films floating from its surface and is thrown into numerous projections from a hemp seed to a pea in size by enlarged solitary glands—some of these have a central aperture, which, towards the valve, extend into small ulcerations. Contiguous to the valve are three elevated irregularly special patches of ulceration about $1\frac{1}{4}$ inch in diameter. closely opposed, the two inferior ones placed side by side and leaving only a small linear zone of tissue between them and the free edge of valve, which is also thickly studded with ulcerations. The other $1\frac{1}{2}$ feet of small intestine is occupied by two circular masses of sloughy gland substance $\frac{1}{3}$-inch in diameter and one Peyer's patch; the edges of the large ulceration are very prominent and irregular, and enclose ragged sloughy-looking surfaces, which, in the lowest of the smaller circular ulcers have been partially detached, nearly laying bare the peritoneal coat. In the caput cæcum the mucous membrane is thrown into projections and small folds; several surface ulcerations are present, and some of the prominencies have a central depression.

Gunner Robert Wood, aged 23 years, died from intestinal hæmorrhage, during an attack of typhoid fever, contracted in Hong Kong, 16 days from the commencement of the febrile symptoms and eight from the first trace of intestinal implication. All typhoid lesions were limited to the lower portion of the ileum, the solitary and agminated glands swollen out with gelatinous contents and merging into the more advanced changes depicted in the preparation. The connected mesenteric glands were greatly enlarged and swollen, contents of intestine of a yellow bilious colour, tinged with red streaks and black disorganised blood. The lungs were hypostatically congested, the spleen very soft, and with ecchymosis of the bladder.

Donor—Staff Surgeon Becher, General Hospital, Hong Kong, Chinese Expeditionary Force, 1857.

977. Lower portion of the ileum, the caput cæcum, and contiguous portions of colon laid open to illustrate the lesions of typhoid fever. Adjacent to the valve the coats of the small intestine are thickened, the mucous membrane throughout is velvety, with scattered projections from the size of a pin's head to that of a pea caused by the distention of the solitary follicles, some of which have a central aperture. Peyer's patches have elevated irregular edges which enclose a brownish slough, in some parts wholly or partially detached. Smaller sloughs are seen elsewhere, evidently connected with the solitary glands. The lowest patch is the most advanced in destruction and masses of ulceration encroach on the edge of the valve and pass into the appendix vermiformis. In the caput cæcum the mucous membrane is honey-combed by small surface erosions and throughout the portion of the

larger gut the inner membrane is thrown into folds. Solitary glands are observed swollen, enlarged to the size of a split pea and occupied centrally, either by a smooth aperture or a small irregular slough.

From a soldier who died in General Hospital, Scutari, 1856; no history available.

978. Portion of ileum showing commencing ulceration of Peyer's patches and said to have been preserved as probably representing the transition from true typhus to the typhoid form of fever.

From Private Martin Frazer, aged 26, 1st Battalion, Royal Marines No history.

Donor—Dr. Becher, General Hospital, Hong Kong, Chinese Expeditionary Force, 1858.

979. Over four feet of ileum with caput cæcum attached, showing about fifteen patches of Peyer in various stages of infarction and ulceration, with much thinning or atrophy of the mucous and muscular coats of the intestine; also solitary gland intumescence in button-like elevations and remains of the absorption process in pits.

From Private Waters; one of three fatal cases of enteric fever which occurred in the Barracks at Secunderabad, India, in 1879, and were attended by Surgeon-Major Purdon, with others of like severity.

979A. From Corporal Stewart, showing great thinning, infarction and ulceration, Secunderabad.

979B. From Private Steele, showing enteric lesions from Secunderabad. [These two preparations are in stoppered jars so as to be easily examined.]

Donor—Surgeon-Major S. E. Purdon, M.B., A.M.D.

980. Patch of Peyer forming a large oval ulcer, coated with sloughy débris on the mucous membrane of the ileum with solitary gland intumescence. Print. Cat., page 78, No. 17.

From John Kirkham, aged 19, 6th Regiment, admitted with fever. He had previously recovered from the effects of a severe burn, and suffered from bowel complaint. He died five days after admission. The intestines were found greatly diseased. [A case previous to 1833 and characteristic of enteric fever lesion.]

981. Two large oval ulcers involving two of Peyer's patches, covered with sloughy débris, edges thickened and everted, on the mucous membrane of a portion of the ileum which is attached to a portion of its mesentery in which the mesenteric glands are swollen. Print. Cat., page 81, No. 46.

From the same case as the previous specimen and characteristic of enteric fever lesion.

982. Portion of small gut showing extensive ulceration and sloughing of Peyer's patches. The sloughs are in the course of being separated.

From Corporal Richard Toogood, aged 28, 4th Light Dragoons, of nine months' service. Arrived sick from the Crimea and admitted into the General Hospital, Scutari, on 2nd September, 1855, and diagnosed as "diarrhœa." The day after admission he voided five or

six thin watery stools, without blood or mucous. There was great prostration and emaciation. By a Medical Board of 16th September, he was invalided and ordered to be sent to England; but on the 21st a recrudescence of fever occurred, with frontal headache, delirium and rapid pulse. Coma supervened and death on September 24th, the third after the reaccession of fever and probably about fourth week of the fever. After death Peyer's patches were found in various stages of the enteric fever lesion. Towards the lower part of the ileum ulceration had advanced in the glands to a considerable extent, leaving in some parts a reticulated appearance after the intumescence had subsided or sloughs of follicles had separated. The patches towards the upper portion of the intestine were in a state of intense intumescence from new growth, which had not yet commenced to soften or to ulcerate. The spleen was enlarged and soft, of a mulberry hue. The kidneys were congested with relative enlargement of the cortical substance. There was excessive enlargement of the mesenteric glands, with softening of some. The general mucous surface was highly vascular. There was also engorgement of the pulmonary tissue with friability of the parenchyma; but crepitant throughout.

Report on the Pathology of the Diseases of the Army in the East, 1856, page 73.

983. Portion of ileum showing great enlargement of seven of Peyer's patches which are intumescent and with sloughs, which in some of them are in course of separation. The peritoneum corresponding to one of them is thickened, and the gut generally is atrophic.

From Private George Nicholas, aged 21, 7th Dragoons, who was admitted into the General Hospital, Scutari, on 8th July, from the Crimea. He died on 12th August, having been thirty-four days in hospital. His ailment was diagnosed as "diarrhœa." After death, the intestinal mucous surface was generally congested and of a dark red colour. Peyer's patches were deeply ulcerated, especially in the lower part of the ileum, where the patches had greatly thickened elevated edges with central sloughs in course of separation. The spleen was greatly enlarged, hard and easily broken up. The mesenteric glands were enormously enlarged.

Report on the Pathology of the Diseases of the Army in the East, 1856, page 66.

984. Portion of the termination of the ileum in connection with a few inches of caput cæcum, showing enlargement and ulceration in Peyer's patches. Several of the sloughs have been detached, leaving the muscular coat quite bare and the margins of the ulcer sharp as if cut with a knife. There is considerable atrophy of the intestine.

Donor—Dr. Lyons.

(4) *Perforating ulcers of intestine during enteric fever.*

985. Two specimens of perforating ulcer of the ileum, consequent on typhoid fever from different patients. The smaller specimen, three feet from the caput cæcum, exhibits a minute, oval, smooth aperture at the centre of a lateral linear ulcer $\frac{3}{4}$ inch in length and $\frac{1}{4}$ inch wide, with a clean surface; the larger specimen two feet from the cæcum has an elongated, irregular perforation $\frac{1}{3}$ inch in length occupying the centre of an irregularly out-lined

ulcer the size of a florin, with a large mass of slough attached on one side; the base of the ulcer is extremely thin and flocculi of lymph are seen on the peritoneal aspect.

The former was taken from a soldier, aged 41, Royal Engineers. Rose-coloured spots appeared on the 10th day, on the 12th peritonitis, and on the 13th death. The intestines were matted together with lymph. Peyer's and solitary glands ulcerated throughout the whole of the ileum; a minute slough occupied the perforation but no fæcal extravasation had ensued.

The latter from a soldier, aged 21, 22nd Regiment. Very asthenic form of fever; no spots, no diarrhœa, peritonitis on the 13th day, death on the 14th. Lymph, serum, and fæcal matter occupied the peritoneal cavity; in the cæcum was a large ulcer in process of cicatrization and the specimen shows other evidence of the typhoid process in the intestinal canal.

Donor—Surgeon A. L. Adams, M.B., 1st Battalion, 22nd Regiment, September, 1861.

(5) *Atrophy of intestine after Enteric Fever.*

986. Two portions of ileum stitched together, showing great enlargement and ulceration of Peyer's patches with remarkable thinning of the coats of the intestines.

From Private David Prior, aged 20, 17th Lancers, admitted to hospital at Scutari, on 21st July, 1855, and died three days afterwards. Was reported as a case of "Common continued fever." The mesenteric glands were much enlarged. Peyer's patches in some parts of the jejunum and throughout the whole of the ileum, exhibited various stages of softening with ulceration.

Report on the Pathology of the Diseases of the Army in the East, 1856, page 67.

987. Small intestine showing great wasting of the mucous membrane with thickening and cicatrization of old ulceration on the mucous surface.

From Private William Woods, Rifle Brigade, who died at Scutari, an invalid from the Crimea, recovering from typhoid fever. He was suddenly seized with bronchitis and pneumonia, which proved fatal.

Report on the Pathology of the Diseases of the Army in the East, 1856, page 119, by Dr. Lyons.

988. Enlargement of the glands of Peyer and of solitary glands with ulceration, and sloughs; separating the ulcers, the edges of which are thick and everted. The intestine is extremely thin. Print. Cat., page 78, No. 22.

From John Shortell, aged 20, 17th Regiment, whose case is described under 928, page 245, and 973, page 273.

Donor—Mr. Martindale, Surgeon, 17th Foot.

989. Enlargement and ulceration of the glandulæ aggregatæ, from the same case as last preparation. Print. Cat., page 78, No. 22.

Donor—Mr. Martindale, Surgeon, 17th Foot.

ULCERATION OF PEYER'S GLANDS IN SECONDARY FEVER OF CHOLERA AND SMALL-POX.

990. Portion of ileum exhibiting great enlargement and ulceration of the glandulæ [aggregatæ; the patches of enlarged glands are about two inches in diameter.

From Van Katt, aged 30, 1st Jäger Corps of British German Legion, who died from cholera, on the 7th day in the General Hospital, at Scutari. There was incomplete collapse, but blueness well marked; pulse fair; gradual sinking without evacuations. Examination after death showed the intestinal contents highly bilious with neutral reaction; tumid state of Peyer's patches; exudations white and cream-like; solitary glands tumid; sloughy ulceration in the lower-most two of Peyer's patches; vascular ramifications were seen to pass into the ulcerating gland tissue with great congestion round the intumescent glands generally. The white secretion was composed of clear nucleated minute cells, like young epithelium. Spleen large, weight 12 ozs. Numerous vermillion-like patches in both lungs and pulmonary substance irregularly carnified in masses. The blood was black, but fluid. Venous congestion prevailed in cranial cavity. A dark clot existed in the basilar artery; the choroid plexus was loaded with blood; and the brain generally vascular.

Report on the Pathology of the Diseases of the Army in the East, 1856, page 21.

990A. Portion of ileum with enlargement of the glandulæ solitariæ and effusion of lymph on the mucous tunic. Print. Cat., page 90, No. 103.

From the body of a man who died of confluent small-pox at Malta.

Donor—Dr, Davy, Asst.-Inspr. of Hospitals.

TUBERCULAR ULCERATION OF THE INTESTINES.

990B. Caput cæcum and portion of ileum attached, showing extensive ulceration of the large intestine. Large "patchy" ulcerations were scattered throughout the large intestine, as though the patient had suffered from chronic dysentery. The small intestines were studded with small tubercular ulcers, some of them extending nearly through the walls and varying in size from a pea to a bean. [Dysenteric ulceration with tubercles.]

From Private Joseph Craig, aged 31, 86th Regiment, who died of phthisis pulmonalis contracted at Dover, of nine months' duration. He had served three years at Home, and above ten years in the East and West Indies, Natal and Gibraltar. He had records of ague, bronchitis, and pneumonia; and he was admitted to Netley in an advanced stage of pulmonary phthisis, accompanied with laryngeal phthisis. There was no hæmoptysis. He had previously suffered from diarrhœa and he died from exhaustion August 1st, 1883. After death the epiglottis and parts surrounding were dotted with tubercular deposits; the lungs were excavated in all directions, and a large cavity (size of a hen's egg) existed in apex of right lung. Numerous cheesy tubercles were found scattered throughout both lungs, and miliary tubercles existed in numerous patches.

Pathological Reports, Netley, Vol. XV, No. 3.

991. Several large oval ulcers, the bases of which are studded with small caseous tubercles. Situated in the mucous membrane of the ileum they involve the glands of Peyer and some of the solitary glands, the surfaces of the ulcers are highly vascular and villous. The preparation has been minutely injected and affords a good example of exaggerated vascularity by the inflammatory process. The tubercular accretions elevate the peritoneum immediately opposite the ulcers of the mucous tunic and indicate the extension of the (bacillary ?) tuberculisation by the lymphatics. Print. Cat., page 83, No. 62.

From a middle-aged woman, who died of phthisis. Five weeks previous to death the night sweats ceased, having been very profuse; and a distressing diarrhœa supervened. She also had been affected with scrofulous disease of the knee-joint, for which the limb was amputated. After death the lungs showed every stage of tubercular deposit; and the mucous tunic of ileum and cæcum were much ulcerated.

Donor—Mr. Gulliver, Asst.-Surg., Staff.

992. Portion of ileum with a large ulcer on its mucous tunic becoming cicatrized and contracting; the base of the lesion is formed by abundant (bacillary?) tubercular matter which elevates the serous coat of the gut in a granular form. The preparation is minutely injected, and highly vascular, but none of the colouring matter of the injection has entered the tubercular substance. Print. Cat., page 85, No. 69.

From a middle-aged subject who died of phthisis at Fort Pitt, Chatham, who was affected with diarrhœa for six weeks prior to death.

993. An ulcer on the mucous tunic of the ileum, the base of which is studded with tuberculous matter. The preparation is injected. Print. Cat., page 84, No. 63.

From a young woman who was affected with organic lesion of the heart and ultimately died of ascites.

Donor—Mr. Gulliver, Asst.-Surg., Staff.

994. Injected ulcers of the mucous membrane of the ileum. Print. Cat., page 84, No. 65.

From a young woman who died of an acute attack of enteritis; a condition, similar to the lesion shown in the preparation, pervaded the whole of the ileum and part of the jejunum.

Donor—Mr. Gulliver, Asst.-Surg., 71st Regiment, Fort Pitt.

995. Lower part of the ileum, exhibiting old cicatrized ulcers limited to the patches of agminated glands. On the peritoneal surface of the bowel corresponding to these cicatrices are clusters of small tubercular (bacillary?) deposits; these deposits on the peritoneal coat were limited almost

entirely to the points corresponding to the old ulcerations. The whole of the small intestine, from the duodenum, presented extensive old ulcerations. The ilio-cæcal valve nearly entirely destroyed.

From Daniel McDeaid, aged 23, 50th Regiment, an Irish labourer, who served $5\frac{3}{12}$ years at home. In July, 1851, he was attacked while on detachment at Stockport, with pulmonary symptoms and admitted into hospital at Fort Pitt, June 3rd, 1852, in an advance stage of phthisis pulmonalis, of which he died.

996. Portion of ileum showing cheesy tubercles with ulcerations of many solitary glands. There was also ulceration in the ilio-colic valve and the ascending colon. Both lungs consolidated from catarrhal phthisis.

From Private John Moseley, aged 34, of 20th Hussars, who died at Netley, of phthisis, in 1857, after five months' illness, contracted in India. He had 16 years' service chiefly in India, where he suffered from attacks of diarrhœa, intermittent fever, bronchitis, pneumonia, and finally phthisis.

Pathological Reports, Netley, Vol. XII, No. 40.

997. Portion of small intestine showing Peyer's patches slightly filled with tubercular matter. It is attached to a portion of colon, which was extensively diseased, the mucous membrane much destroyed by ulceration, exposing the muscular coat, and obviously commencing in the solitary glands, some of which were infiltrated with tubercular matter, which elevates the peritoneum.

From Private James Robertson, aged 30, of the Scots Fusilier Guards, who, suffering from phthisis pulmonalis, was sent from London to Netley for change of air, and who died after an illness of 164 days. His death was hastened by diarrhœa, from which he suffered constantly.

Pathological Reports, Netley, Vol. IX, No. 9.

998. Portion of the small intestines very firmly agglutinated.

From H. Williams, aged 14 years, who died of disease of the abdominal viscera. On opening the abdomen, a very extensive and confused mass of disease presented itself. The transverse arch of the colon was ulcerated and communicated with the duodenum. All the small intestines were agglutinated and contained a quantity of fœcal matter mixed with castor oil which had been swallowed. Abscesses had also formed in various parts between the convolutions of the intestines, several of which communicated with intestines; the intestines were so soft as to be torn on the slightest force. The sigmoid flexure of the colon was ulcerated and fœculent matter escaped from it into the pelvis. The left lung was filled with tubercles.

Donor—S. Lawrence, Esq., M.A., Chelsea.

999. Several large irregular ulcers with ragged edges on the mucous tunic of a portion of small intestine. Tubercular deposits at the base of the ulcers project on the peritoneum. Print. Cat., page 77, No. 15.

From John Walsh, who for 12 months had been affected with scrofulous glands in the neck. For three months before death the conglobate glands in all the superficial parts of the body were enlarged, attended with emaciation, extreme debility, cough, purulent expectoration and night sweats, ending in death. His lungs were found to

be tuberculous and ulcerated. The liver was highly granular, the mesenteric glands enlarged, with a varicose condition of the lacteal lymphatics.

Donor—Dr. Bushe, Asst.-Surg. to the Forces.

1000. A portion of ileum ulcerated; the result of remittent fever.

Donor—Dr. Mahoney, Surgeon, 7th Regiment.

1001. Corrugation of the mucous membrane of the ileum, copious deposit of highly vascular lymph, and ulcerations of old date, the bases of which are studded with miliary tubercles. Print. Cat., page 82, No. 57.

From a young man who had long suffered from tubercular phthisis and ultimately died from a violent attack of diarrhœa.

Donor—Mr. Gulliver, Asst.-Surg., 71st Regiment.

1002. Two large excavated ulcers, which nearly embrace the whole circumference of the ileum, with thickened irregular edges. The peritoneal coat corresponding to the ulcers on mucous surface, shows irregular varicosity of the lymphatics, with plentiful deposition of tubercle. There is also much thinning of the substance of the gut.

1003. Portion of ileum presenting several ulcers, with thick everted edges, on the mucous membrane, and commencing deposition of granular tubercle on the peritoneal aspect.

Donor—Dr. Hennen, Deputy Inspr.-Genl. of Hospitals.

1004. Tubercular deposition, in the site of the glandulæ aggregatæ, which precedes ulceration in phthisis pulmonalis. Print. Cat., page 86, No. 79.

The patient died from empyema. Tubercles were present in both lungs and vomicæ in the left.

1005. Large masses of yellow lymph (scofulous-like deposit) effused below the mucous membrane of a portion of colon; the lining membrane is abraded at several places.

1006. Glandulæ aggregatæ enlarged and filled with tubercular matter; and with excessive atrophy of gut substance.

1007. A portion of ileum. An ulcer with ragged edges on its mucous membrane and an entire tubercle about the size of a bean, in the second stage of development under it, with tubercular deposit on peritoneal aspect of gut. MS. Cat., Vol. II, page 30, No. 127.

From Charles Whistler, 2nd Rifle Brigade, who died of phthisis. See also Preparation 499, page 142.

Donor—Dr. Scott, Surgeon, 2nd Battalion, Rifles.

STRICTURE OF THE INTESTINES.

1008. Portion of jejunum (inverted) about six inches from its commencement, showing a well-marked stricture; it has the

appearance as if a cord had been firmly tied round the gut; the mucous membrane is quite healthy. Print. Cat., page 86, No. 76.

From Sergeant Carnagie, aged 37, 1st Regiment, who had suffered from ague. He was received into Fort Pitt Hospital with obscure disease, pains in the limbs, and constipated bowels, tongue foul and dry. His stomach rejected medicine, and there were symptoms of low fever. Two days after admission, he passed two evacuations; on the third day he vomitted a dark fluid, having a gelatinous appearance; on the seventh his bowels again acted, after Croton oil, and enemata. The fever continuing, he had pain in the scrobiculus cordis, hiccough, hollow voice and anxious countenance, and a daily evacuation per anum. The day previous to death (which took place on the thirteenth day) the pain and singultus disappeared, and the pulse beat only thirty-six times per minute. On dissection the jejunum, about six inches from its commencement, was found suddenly much contracted. It has never been opened, but is simply inverted. The mucous membrane at the ilio-cæcal valve was morbidly vascular. The stricture was, apparently, the result of chronic inflammation.

1009. Stricture of the jejunum (which has been laid open), the inner surface of which presents a small white glistening depression encircling the gut; the mucous membrane seems as if it stopped abruptly at the groove superiorly, but it runs more gradually into it inferiorly. Print. Cat., page 86, No. 77.

From the same subject as the preceding preparation. This stricture was formed about a foot further down the course of the gut, and had lessened the calibre of the bowel more than the first stricture. Its character was the same. Nothing from above could be made to pass without forcible pressure by the hand. [There is some evidence of tubercular deposition and adhesions on the peritoneal aspect.]

Fasciculus II, Plate 7, Fig. 8.

1010. Portion of jejunum near the commencement very much contracted, with thickening of the coats in the site of the stricture. There is also evidence of localized peritonitis (probably tubercular) corresponding to the site of stricture. MS. Cat., Vol. II, page 42, No. 170.

From James Armstrong, 12th Regiment, a man of irregular habits, who died, after seven weeks' confinement to hospital, of extensive tubercular disease of lungs and intestines, which latter were also much ulcerated. During four weeks prior to death an abdominal tumour was discovered, situated a little above and to the left of the umbilicus, and to which severe griping and a sense of heat after taking food were always referrible. Bowels latterly were much confined.

1011. Cæcum very much contracted and the inner membrane of it and the termination of the ileum ulcerated, probably tubercular. Print. Cat., page 104, No. 97.

From Michael Sullivan, aged 46, 46th Regiment, a maniac, who died of a bowel complaint of very short duration. On dissection, the surface of the dura mater was found unusually vascular, and the choroid preternaturally dry; four ounces of fluid were also detected at the base of the brain. Both lungs contained tubercular matter in considerable quantity. The ileum and colon were ulcerated in many parts.

1012. Two contractions, one at each extremity of the transverse arch, by which the gut is reduced to half its usual calibre. MS. Cat., Vol. II, page 72, No. 108.

From Martin Murray, aged 23, 21st Regiment, who died of phthisis pulmonalis, with the usual appearance of tubercles in the lungs, seen after death; but no abdominal symptoms during life.

1012A. Great thickening of the coats of the sigmoid flexure of the colon with diminution of its calibre to such a degree as only to admit a quill; the opening seen in the preparation, which exposes the quill inserted through the stricture, is a rupture of the intestine made on removal. Print. Cat., page 102, No. 84.

From James Phillips, aged 35, Newfoundland Veteran Company, who had been for some months affected with bowel complaints, of which he died. The whole of the colon was found diseased, showing fleshy granulations.

Fort Pitt Hospital.

1013. Large intestines presenting three strictures; the first about six inches from the commencement of this gut, it appears as if a ligature had been placed tightly on it, and it is so much contracted as to admit only a bougie; around this stricture the mucous membrane is extensively ulcerated. At the upper part of the descending colon, there is a second stricture of the same size as the former; the gut between the two is much dilated and was filled with fœculent matter; its mucous membrane is, however, free from ulceration. Above the second stricture there is an ulcerated opening, about the size of a common quill, which communicates with a large irregular cavity situated between the layers of the omentum; the mucous membrane surrounding this contraction is also irregularly ulcerated. In the middle of the descending colon there is a third contraction, but not to such an extent as the two preceding; mucous membrane ulcerated; this part of the gut, as also the caput cæcum in the recent preparation, was of a dark slate colour, with several ecchymosed spots beneath their lining membrane.

From Thomas Rourke, aged 37, 55th Regiment, total service 19 years, of which 14 years in India, three in China, and the remainder at home. Was twice in hospital in India for bowel complaint, and once in China for the same disease during a period of four months, and on several occasions for intermittent fever. On arrival at Portsmouth, in July, 1844, he had another attack of diarrhœa, attended with severe abdominal pain and passing of bloody stools, for which he was salivated with temporary benefit. On admission in Fort Pitt Hospital, 25th October, 1844, he was much emaciated, skin sallow, dry, harsh, and corrugated; he complained of general weakness, bowels regular, and the stools of a healthy character; for some time he evidently improved and was gaining strength. On the 14th November he had a slight attack of ague, followed by vomiting and purging, which were easily subdued, but for several days afterwards he complained of severe griping pains in the colon accompanied by obstinate constipation. Laxatives were administered, but they only gave temporary relief; his appetite, which hitherto had been very good, now began to fail, and his strength to be impaired. On the 14th December the abdominal pain was very severe, confined more particularly to the left side, which

was hard and very tender to the touch, and his bowels were obstinately confined. Laxatives again afforded him relief, and the evacuations procured were bloody. He now gradually became weaker, complained of constant chilliness, increased pain and tenderness of abdomen and almost constant constipation. Purgatives and injections were several times administered when several scybala were passed, followed by a quantity of slimy matter mixed with blood, but at last healthy stools were again procured. Still, however, the pain and tenderness of the abdomen continued, and a distinct hard line could be felt extending along the course of the colon, to sigmoid flexure. His pulse now became weak, his tongue parched and dry, and thirst urgent; nothing was passed from his bowels without the aid of purgatives and injections; stomach irritable, with vomiting. All his symptoms gradually increased, and towards the close of life violent and distressing hiccough with dyspnœa, aggravated his sufferings, and he died on 4th January, 1845. After death the right lung, by its upper lobe, adhered firmly to the thoracic parietes; a few crude tubercular masses with several clusters of miliary tubercles, were found in this lobe; apex of left lung adhered to the walls of the chest, the superior lobe was in the same state as the right. The omentum to the left of the umbilicus, with the transverse and descending colon adhered loosely to the abdominal walls; this adhesion being detached a portion of the parietal peritoneum, about the size of a crown piece was observed to be much thickened and coated with pus, and adhering at this part more firmly than at any other to the upper part of the descending colon; on the anterior surface of which, corresponding to the thickened portion of abdominal portion of peritoneum, was a large irregular ragged honey-combed-looking opening, which communicated with a large cavity in the layers of the great omentum, by a tortuous canal which encircles the gut and was situated in the coats of the intestine. On raising the colon, several of the convolutions of the small intestines were found adhering to each other by coagulable lymph, and on the posterior aspect of the colon corresponding to the former mentioned opening, was a second aperture, capable of admitting a bougie, which communicated with the cavity in the omentum, and through it with the intestine; the surrounding parts were much thickened and coated with lymph and pus. The peritoneum covering several of the convolutions of the small and the whole of the large intestines, presented marks of increased vascularity. The abdominal cavity contained a considerable quantity of purulent matter mixed with fæces. The transverse arch of the colon appeared much dilated and the descending much contracted; mucous membrane of the cardiac extremity of the stomach retained its usual appearance and that of the pyloric was of a dark slate colour.

Donor—Dr. Williamson, Staff Surgeon.

1014. Portion of colon much contracted, its mucous surface is covered by a peculiar gelatinous-looking secretion and the mucous membrane is ulcerated. MS. Cat., Vol. II, page 79, No. 142.

From Thomas Fluck, aged 47, 13th Light Dragoons, who died of phthisis. He had dysenteric symptoms for some time previous to death (tubercular dysentery). The colon throughout was seen after death to be extremely contracted and thickened, and its mucous membrane beset with what appeared to be tuberculous matter, which presented generally a white or bluish appearance.

Donor—Dr. Dyce, Asst.-Surg., Staff.

1015. Portion of colon (in a wide mouth stoppered jar for easy examination), showing extreme constriction, with ulceration approaching to perforation, just before the sigmoid flexure of the gut. The caput cæcum was found greatly distended, descending into the cavity of the pelvis, and

twisted on itself from the region of the kidney inwards. A band of adhesion stretched across and downwards over the peritoneal surface, proceeding from the anterior aspect of the tissue covering the right kidney. There is extensive ulceration of mucous membrane at the site of stricture, which, with difficulty, admits an ivory ball, the diameter of which is 0·49 inch. The whole colon was greatly distended above the stricture to the extent of five inches circumference, immediately above it, and seven inches circumference at the cæcum, which was the site of small vascular ulcers about two inches below the ilio-colic valve. There was adhesion of the colon immediately in front of the spleen by a transverse broad band firmly attached to the peritoneum about three inches below the diaphragm.

From Captain M., of Her Majesty's Ship "Hector," who died on board from "Ileus," after seven days' illness, 11th December, 1876. He was wounded on 11th August, 1857, in the chest, while serving in China, by a gingal ball fired from the top of a wall in the Canton River. The missile is supposed to have entered the left lung. Extreme emphysema followed, and he spat a few clots of blood. Effusion into the pleura followed; and he afterwards suffered much pain in the anterior and lower part of left thorax. He suffered also from diarrhœa. There never was much discharge from the wound; but on 22nd September it was noted that it was not healed, and he was then free from all pulmonic irritation. For 2½ years after this he was unfit for service. He then suffered from dysentery, which became chronic; and up till the date of his last illness he was accustomed to take a great deal of exercise. In May of 1876, at Vigo, he complained of distress going up hill, but still he would walk seven or eight miles a day. He was forbidden by his medical attendant to drink anything but whisky, as he was supposed to have latent gout. He suffered latterly from insomnia, rarely sleeping after 4 or 5 a.m., when he would get up and walk about smoking. He suffered constantly from intestinal irritation, pain, and constipation; and his last illness was characterised by obstinate constipation and vomiting. The stomach was found to be intensely vascular, the heart soft and flabby, and the aorta atheromatous, from the innominata and iliacs it was the seat of small irregular hard elevations. A triangular cicatricial thickening of the pleura with string-like hardness of pulmonary tissue was found about three inches from apex of left lung posteriorly, but no ball was found.

Pathological Reports, Netley, Vol. XIII, No. 48.

MORBID GROWTHS IN THE INTESTINES.

Papillomatous Growth.

1016. Lower portion of colon, which is laid open to show a large fungating mass of new growth, involving the whole superfices of the gut for about three inches, and commencing about four inches above the anus, so that the great mass of disease lay in the cavity of the true pelvis. It was made up of a congeries of distinct papillomatous growths, and the portion of bowel involved in them was firmly adherent by its peritoneal surface to the peritoneal aspect of the bladder. The apex of the vermiform appendix was adherent to this mass. The bladder was

firmly contracted, and together with the new growth in the colon made up one compact tumour. The portion of gut in contact with the bladder was softened and disorganised, easily torn, and muco-purulent matter lay between the bladder and the rectum. A large portion of the new growth had ulcerated through the gut into the space behind the base and neck of the bladder. Peritoneal adhesions closed in this pouch. The general appearance of the growth resembled that affection of the vesical mucous membrane to which the name of "villous tumour" has been given (or "villous cancer"). It consisted of numerous tufts of long branching processes, originating in the submucosa, and covered by a layer of tubular gland structure (papillomatous adenoma), so that the Lieberkühn gland substance being thus carried up lay on the summit of the growth. The free ends were bulbous or shreddy, resembling a cauliflower growth. The lymphatic glands were not enlarged, nor did any metastatic nodules exist in any other organ, nor any secondary deposits anywhere.

From Private Thomas Tonko, aged 26, of four years' service, who is said to have contracted dysentery at Bhamo, Burmah, in 1888, where he was for 59 days, and thence to Rangoon. He had been ill for 14 months; but his original medical history sheet was lost, so that no record existed of his illness. He says he suffered from enteric fever in India before proceeding to Burmah. His ailments first began in Upper Burmah in May, 1888. He was then employed in the armourer's shop inside the stockade, and he attributed his disease to the bad smells given off from a temporary latrine built close to it. The disease commenced with diarrhœa, unchecked by astringents. The discharge soon became bloody and offensive in character, accompanied by severe tormina and tenesmus. He was thence transferred to Rangoon in December, 1888, where he was treated for dysentery of "a very severe and obstinate type" for 59 days. On admission to Netley, 25th April, 1889, he was very weak and anæmic and extremely emaciated, countenance pinched-like and anxious. He complained of abdominal pains and tenderness. The pain was mostly referred to the cord, testicle, and bladder. He passed from half-a-dozen to a dozen motions daily, more often during the night, and many of them involuntary. Stools liquid and very offensive, of a dark brown or purplish red colour, containing large quantities of blood and slime. He had several attacks of ague in hospital. (See next preparation.)

Pathological Report, Netley, Vol. XVI, Case No. 11, 1889.

1017. Continuation of colon in preceding case to show the absence of any dysenteric lesion.

1017A. Portion of ileum with a pedunculated body hanging from its mucous surface; the pedicle is about three-fourths of an inch in length, and the tumour attached to it is about the size of a horse-bean, it appears to be of a simple tissue, possibly an hypertrophied and enlarged follicle.

Guy's Hospital.

1018. Meso-colon and transverse arch of the colon in a carcinomatous state; the former is converted into a large scirrhous mass; the coats of the latter are much thickened

and indurated, and there is an ulcerated opening nearly in the centre of the transverse arch, through which its contents were discharged into the abdominal cavity. MS. Cat., Vol. II, page 71, No. 107.

From Sergeant Callender, 14th Regiment, who was admitted into hospital on the 14th December, 1831, to be treated for hydrocele. The abdomen though tumified, did not excite attention till the 27th when he was attacked by sickness and vomiting, which became aggravated on the 5th January. It was then discovered that a distinct movable tumour existed in the umbilical region, and extended upwards into the epigastric, and latterly into the two renal regions. From this time it continued to increase in size, and became exceedingly painful on pressure, accompanied at intervals with sickness and vomiting. The stools were generally copious and fœculent, but occasionally mixed with bloody pus, and always passed with much uneasiness. On opening the abdomen after death a large cartilaginous-like mass was found occupying more or less the umbilical, epigastric, hypochondriac and renal regions. The great curvature of the stomach, and parts of the duodenum and jejunum intimately adherred to it. But the chief parts implicated were the meso-colon, and the transverse arch of the colon.

Donor—Dr. M'Andrew, Surgeon, 14th Foot.

1019. Scirrhous thickening of the ilio-colic valve; the opening from the ileum is completely obstructed by coagulable lymph, the mucous membrane is thickened, softened in some places and ulcerated in others, with hypertrophy of it and the submucous tissue, to such a degree as very considerably to diminish the calibre of the gut.

From a man who died of continued fever.

Fasciculus II, Plate 8, Fig. 3.

Donor—Dr. O'Hallaran, Surgeon, 77th Regiment.

DISEASES OF THE CÆCUM AND ITS APPENDIX.

1020. A dried preparation of the ilio-colic valve, cæcum and appendix, to show the normal relation of these parts to each other, for comparison with following preparations.

1021. Caput cæcum of very large size with appendix of unusual length. Print. Cat., page 105, No. 101.

From a soldier of 85th Regiment, who died of pneumonia.

Donor—Mr. Fiddes, Surgeon, 85th Regiment.

1022. Lining membrane of the caput cæcum and portion of colon almost entirely destroyed by ulceration, and the portion of the inner coat that remains is thickened and projects in the form of fungus. The appendix vermiformis is doubled up in an adhesion which it has contracted with the omentum majus. MS. Cat., Vol. II, page 77, No. 133.

From George Sweeny, aged 37, 68th Regiment, who died of phthisis. No diarrhœa during his illness.

1023. Extensive ulceration of the caput cæcum and copious

effusion of lymph an inch in thickness in its coats and neighbourhood. Print. Cat., page 21, No. 57. (See Preparation 915, page 243.)

From Sergeant Logan, aged 35, 85th Regiment, who had served in the West Indies and Malta. He died of chronic hepatitis and peritoneal dropsy. After death effusion of fluid into left thoracic cavity compressed the left lung against the mediastinum. The pleura was coated with an adventitious membrane; and the peritoneal cavity contained a large quantity of fluid.

1024. Mucous membrane of the cæcum, appendix vermiformis and portion of colon extensively ulcerated and the coats at some parts thickened and at others thinned. Print. Cat., page 72, No. 7.

From Sergeant Robert Sharpless, aged 31, Rifle Brigade, who died of ascites, with hepatic disease. Bowels were constipated, and stools clay-coloured. He had been intemperate.

Donor—Mr. Booty, Asst.-Surg., Staff.

1025. A large irregular ulcerated opening at the apex of the vermiform process. The mucous membrane of the cæcum and termination of ileum is thickened, ulcerated, and projects in the form of wart-like excrescences.

1026. Appendix vermiformis of unusual size, its coats thickened, and the mucous lining of it, as also that of the cæcum and a portion of the ileum, are in a state of inflammation and ulcerated.

Donor—Mr. Melvin.

1027. Perforation by sloughing of appendix vermiformis where it communicates with cæcum. MS. Cat., Vol. II, page 79, No. 131.

From J. J., an engineer, aged 37, who suffered from peritoneal inflammation, and who died in sudden collapse in a few hours. Much sero-purulent fluid was found, after death, in the peritoneal cavity.

Donor—Dr. Sibbald, Maidstone.

1028. Appendix vermiformis gangrenous, and numerous perforations extending through all its coats. MS. Cat., Vol. II, page 80, No. 145.

From William Ewans, aged 44, 68th Regiment, admitted for mortification of the toes from cold. Several phalanges had separated, and the process of restoration was proceeding favourably, and general health (with exception of cough and spit) improving, when he had a severe ague-like paroxysm (to which he had been subject abroad) leaving headache and general derangement of health. The stomach soon became very irritable, rejecting all injesta, and the circulation much excited. His belly became painful on pressure, tumid and fluctuating; and swelling, with redness in the course of the absorbents of the leg, supervened. Death was preceded, for two days, by muttering, delirium, and picking at the bed-clothes. On inspection, there was found softening of the walls of the lateral ventricles of the brain. There was infiltration of pus in the sub-peritoneal cellular tissue of left iliac region extending downwards into the cellular tissue behind the pubes, and backwards in the course of the left psoas muscle. The cæcum adhered to the surrounding parts by bands of lymph infiltrated with purulent fluid. The *processus vermiformis* was gangrenous, softened and perforated, as exhibited in the preparation.

There was a cyst of firm texture, and containing a brownish matter between the pancreas and spleen, and adhering internally to the latter viscus.

1029. Mucous membrane of vermiform appendix of cæcum lined by a pseudo membrane and its sides completely adherent about an inch from its termination. A well-marked example of adhesion in a mucous canal, it contained pus. There are also several large irregular ulcers in the mucous membrane. MS. Cat., Vol. II, page 80, No. 144. (See Preparation 447, page 130.)

From William Edwards, aged 25, who died of phthisis.

1030. An ulcer of the cæcum nearly cicatrized, the appendix vermiformis is greatly elongated, and was very much distended with flocculent matter; its opening is involved in the cicatrix, and much contracted. MS. Cat., Vol. II, page 79, No. 141.

From James Unwin, aged 46, 11th Regiment, who died of acute bronchitis. The intestinal canal was healthy throughout, except as shown in the preparation; and there were no abdominal symptoms.

1031. Appendix vermiformis of a large size, with a number of excavated ulcers on the lining membrane. MS. Cat., Vol. II, page 71, No. 104.

From a man of 73rd Regiment, who died of phthisis pulmonalis.

Donor—Mr. Martin, Asst.-Surg., 73rd Regiment.

1032. Ulceration of the mucous membrane of the vermiform process, also several broad bands covered by the lining membrane, passing across it. MS. Cat., Vol. II, page 78, No. 135.

From Michael Stevens, 8th Hussars, who died of phthisis pulmonalis. The colon, after death, was found ulcerated throughout; and the bands shown in the preparation, are covered by mucous membrane, and do not appear to be of recent date.

1033. Appendix vermiformis much enlarged and ulcerated internally. MS. Cat., Vol. II, page 74, No. 116.

From a man of the 42nd Regiment, who died of phthisis pulmonalis. Both the large and small intestines were in a state of ulceration; but there had been no diarrhœa.

Donor—Dr. Nicholson, Surgeon, 42nd Regiment.

1033A. Aperture of the appendix vermiformis partially obliterated, and its cavity of the usual size. MS. Cat., Vol. II, page 82, No. 154.

From George Lloyd, 1st Foot, who died, at Fort Pitt, of phthisis pulmonalis. After death, the colon was found studded with ulcers near the appendix vermiformis, which was distended with pus, the aperture being closed from the effects of inflammation.

1034. Ascaris lumbricoides in the appendix vermiformis, the mucous membrane of which is highly inflamed. MS. Cat., Vol. II, page 75, No. 121.

From a Maltese, who died of peritoneal inflammation; and of the mucous coat of the ileum, and the ascending colon.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

1035. A female ascaris lumbricoides which has passed from the ileum into the cæcum, and thence into the appendix vermiformis, in which it is imprisoned.

No history.

1035A. Cæcum of a boy, aged 2, having a large number of worms (Trichocephalus dispar) with the head (hair-like end) imbedded in the mucous membrane. A vast number of lumbrici were found in the substance of the liver, gall bladder, and duodenum.

From the body of a Maltese boy, who died of dysentery in the Civil Hospital at Malta. The large intestines showed dysenteric lesion, and abscesses had formed round the lumbrici in the liver. (See under "Liver.")

This parasite was first noticed by Morgagni; and more than 100 years ago (1760–61) it was re-discovered by a student at Gottingen, while dissecting the ilio-colic valve of a girl five years of age. Wrisberg, then a student, considered the parasite a new worm, and a dispute arose as to which end was the head and which the tail. It was, eventually, found that the head was on the hair-like end which is usually buried in the mucous membrane of the intestines, and hence the name of *Trichocephalus*. It is from 1½ to 2 inches long.

At that time, an epidemic prevailed in the French Army stationed at Gottingen, which was described under the name of *morbus mucosus*, and this parasite was then frequently found in the bodies of soldiers who died during the epidemic of this mucous flux. It has been found in France, England, Egypt, Ethiopia, and Italy, abounding especially in the caput cæcum. It is said, on the authority of Duvaine, to be very common in Paris.

Aitken's *Science and Practice of Medicine*, Vol. I, page 159, Seventh Edition.

Donor—Dr. Davy, Inspector of Hospitals, Malta.

SERIES XI.

INJURIES AND DISEASES OF THE RECTUM AND ANUS.

INJURIES OF RECTUM.

1036. A large perforation of the posterior part of the coats of the rectum caused by a fall on the handle of a broom which entered the anus, perforated the rectum, and made an opening into the cavity of the abdomen. Print. Cat., page 104, No. 94.

From a soldier of the 7th Fusiliers, who died of peritoneal inflammation, the result of the injury.

Donor—Mr. Smyth, Asst.-Surg., 85th Regiment.

ULCERATION OF RECTUM.

1037. A number of large irregular ulcers on the mucous membrane of the colon and rectum.

1038. Portion of rectum, showing extensive oval ulceration of the mucous membrane. The solitary glands seem to have been originally implicated; some of the ulcers have coalesced and produced irregularly shaped ulcerations; and there is a considerable amount of wart-like new growths.

From Michael Delaney, aged 23, 48th Regiment, who died of chronic dysentery at Scutari. There was soft pulpy ulceration of the mucous membrane of a greenish black colour where recent. The mucous membrane of the ileum was congested, and Peyer's patches infarcted; congestion of cæcum existed throughout.

Report on the Pathology of the Diseases of the Army in the East, 1856—Dr. Lyons, page 35.

1039. Mucous lining of colon and rectum covered by a number of small oval ulcers, coats thickened. Print. Cat., page 96, No. 32.

From a patient, who died of dysentery contracted in the West Indies.

1040. Thickening and contraction of the mucous membrane of the rectum.

From a case of dysentery. Large sloughs of a dark colour were found in the cæcum and commencement of the colon, the consequence of the dysentery.

Donor—President of Grant Medical College, Bombay.

1041. Rectum ulcerated and lymph effused on the inner membrane. Print. Cat., page 100, No. 67.

From a soldier who, having had diarrhœa for 65 days and hepatitis, died from rupture of a liver abscess, and effusion of pus into abdominal cavity.

Donor—Dr. Calvert, Asst.-Inspr. of Hospitals.

1041A. Oval ulceration and effusion of lymph on the mucous tunic of a portion of colon and rectum, many of the ulcers are cicatrizing. Print. Cat., page 97, No. 48.

The patient died of chronic dysentery. After death, effusion was found to have taken place between the arachnoid and pia mater.

1042. The inner surface of the rectum, the mucous membrane of which is much corrugated. In some parts the muscular fibres appear exposed. The natural rugæ are not obvious, the general appearance of that of wart-like new growth.

Stated to be from a case of long-standing disease.

Donor—President of Grant College, Bombay.

PERFORATION OF RECTUM.

1043. Upper part of rectum perforated by ulceration, the opening is capable of admitting the forefinger, also extensive ulceration of the remainder of the mucous lining. MS. Cat., Vol. II, page 84, No. 159.

From James Dockerell, aged 47, 6th Regiment; had suffered while in India from dysentery. For some time after his arrival at Fort Pitt, he had no symptom which called for his admission to hospital. Soon after breakfast, on the morning of the 14th June, 1839, he suddenly complained of severe abdominal pain, which he conceived to arise from colic. During the day the pain became agonizing. The bowels were not moved by turpentine enemata, although these were retained. Towards evening, the symptoms still became more severe, and an attempt to perform V.S., failed in obtaining blood. He died, after much suffering, about 11 o'clock, p.m., of the day of his admission. Fourteen hours after death, fœtid air escaped from the abdominal cavity on division of its parietes. The castor-oil, administered as an enema, was found diffused in the cavity of the peritoneum. The portion of that membrane covering the posterior surface of the abdominal muscles was of a leaden hue. A large perforation sufficient to admit the forefinger, existed at the upper part of the rectum, by which a free communication was opened between the cavity of the gut, and that of the peritoneum. The descending colon was extensively ulcerated—other abdominal organs appeared healthy.

1044. Extensive ulceration of the colon and rectum, which at one spot is perforated through all the coats. Print. Cat., page 105, No. 99.

From James Blackledge, aged 44, 65th Regiment, admitted into Fort Pitt, from the West Indies, in the last stage of debility and emaciation. He had served in the West Indies 16 years, and suffered from remittent fever, of which the dysentery was a consequence. His symptoms were characteristic of diarrhœa rather than of dysentery; the dejections being unmixed either with pus or blood. He died after a few days. After death, the abdominal cavity was found to contain a quantity of sero-purulent matter. The colon on right side was adherent to the parietes, and gave way on attempting separation. The transverse arch adhered to the liver, with which an ulcerated opening communicated with the liver substance.

FISTULOUS OPENINGS.

1045. Numerous fistulæ in the cellular substance at each side of the anus; about one inch and a half from the verge, there is a short stricture and a communication between the gut and the prostatic portion of the urethra, capable of admitting a tolerably large goose quill. MS. Cat., Vol. II, page 73, No. 110.

From James Barclay, aged 36, 79th Regiment, who was admitted into Fort Pitt Hospital, 12th December, 1831, on account of fistula in ano, and a communication between the rectum and the prostatic portion of the urethra. It appears from the documents, that his complaints had commenced with hæmorrhoids and stricture of the urethra. From the period of admission his health gradually declined, and he died on the 24th February, 1832.

It was found, after death, that a short stricture of the rectum existed about one and a half inches from the verge of the anus; at this point there was a communication between it and the prostatic portion of the urethra, capable of admitting a tolerably large goose quill (no mention is made in documents of purulent matter being discharged with the urine). There were, also, several other sinuses in the neighbourhood of the rectum, one in particular passed up between it and the bladder, and opened on the left side of the *cul de sac* of the peritoneum, and several others were in the cellular substance near the extremity of the rectum, but did not communicate with that gut.

1046. Extensive ulceration of the rectum; the ulcers burrow beneath the mucous membrane which presents a reticulated appearance, and there are several wart-like excrescences attached to it. Print. Cat., page 94, No. 17. (See also Preparations Nos. 924, page 245, and 959, page 254.)

Fort Pitt.

1047. Extensive ulcerations of all the coats of the rectum which communicate by two fistulous openings with the fundus of the bladder—one of them a small circular opening capable of admitting a common probe situated immediately behind the prostate gland, the other a little posterior will admit a quill; coats of the bladder thickened. MS. Cat., Vol. II, page 83, No. 157.

From M. Lackey, 51st Regiment, who was admitted into the General Hospital, Fort Pitt, on account of phthisis pulmonalis, fistula in ano, and chronic diarrhœa, and died a few days after admission. After death there was found general tubercular peritonitis, with agglutination of the intestines.

1048. A fistulous sinus extending up along the coats of the rectum for about an inch and a half where it opens into the gut. MS. Cat., Vol. II, page 83, No. 155.

From a soldier of 18th Regiment, whose history may be found under Preparation No. 176, page 50.

1049. Rectum showing an ulcer on the inner membrane at the verge of the anus, minutely injected. Print. Cat., page 101, No. 79.

From a female child, aged 5½ years, who died of tubercular consumption, and scrofula of the mesenteric and other glands.

Donor—Mr. Gulliver, Asst.-Surg., 71st Regiment.

MALIGNANT GROWTHS.

1050. End of descending colon, sigmoid flexure, rectum and bladder, with some large glands all closely matted together. The lower end of the colon is constricted, and in its sigmoid flexure is a large carcinomatous tumour of epithelial type. The new growth is seen to be making its way through the posterior wall of the bladder. At the upper part of the preparation an abscess cavity may be seen which communicates with the gut above the stricture.

From a patient, a man aged 40, who had frequent blood and mucous discharges, with a slowly increasing obstruction, with hæmaturia and grumous urine during the latter part of his illness. No growth could be felt by the anus, and no tumour could be felt in the pelvis until the last six months before death, when a rapidly growing swelling could be felt in the left iliac region, which seemed to be making its way to the surface through the peritoneum and abdominal walls with much pain. Posterior colotomy was performed by Mr. Bryant, six months before death, and about 18 months after commencement of illness. (See *Abstract of Reports*, Vol. III, No. 196, March, 1887.)

Donor—Brigade-Surgeon William Hensman, M.S.,
Station Hospital, Taunton.

1051. A large tumour (size of fœtal head) in the centre of the mesentery, having its origin in the mesenteric glands. About fourteen inches from ilio-cæcal valve there is great thickening with infiltration of the wall of small intestine by a new growth. Its lumen was so stenosed that one's finger passed through with difficulty. The gut was also kinked or turned on itself and adhered to the bladder. The mucous membrane at the strictured part was ulcerated. The large intestines were matted together.

From Private John Lauder, aged 25, of $4\frac{3}{12}$ service, who was invalided from South Africa for dysentery. He had been a collier by trade, and had served in the West Indies and South Africa. He deserted from Pietermaritzburg to the gold fields, where he remained and rejoined after six months. He had diarrhœa at the gold fields; and being imprisoned on rejoining he had a second attack of diarrhœa. He then had an attack described as true dysentery, and was admitted to hospital, September 14th, 1889. For three months

he passed on an average six stools daily, frequently bloody. He gradually improved, and was invalided to Netley on 8th February, 1890. Shortly after leaving Cape Town, he complained of colicky pains across the abdomen, and he occasionally vomited after meals. On the voyage home the doctor in charge discovered a "lump" on the left side of abdomen. Since admission to Netley, on 9th April, 1890, he has suffered from dull aching pain across the loins and down the back, across the stomach, with exacerbation of a cutting stabbing pain. He was considered to be suffering from a malignant growth in the abdomen, taking its origin from the peritoneum or glands of the mesentery, or a cancerous mass of sarcoma springing from the walls of the descending colon and sigmoid flexure. His general appearance was pallid and wasted, eyes sunken, and cheek bones prominent, weight only 7 stone 8 pounds, as compared with 11 stone, his weight on enlistment. Complains greatly of pain in back and loins; and of sleeplessness due to pain; pulse 120, weak and soft. Tongue dry and coated with a yellow fur; sordes on the teeth. Fulness and flatulence after food, with colicky pains and sometimes vomiting. The abdomen was tense and swollen, giving a sensation of fluctuation; the superficial veins distended. In left iliac region a hard nodulated mass could be felt extending upwards towards the ribs, and across the middle line in front. It was painless except at one spot about two inches above the centre of Poupart's ligament, which is very sensitive to pressure. Over the umbilicus is a small subcutaneous nodule. Some fluid in peritoneum. 13th April—Loss of strength and weight rapid. Temperature normal, pulse 118. Vomited a pint of ill-smelling vomit, and had great pain relieved by morphia subcutaneously. Passing one stool daily of normal character and amount. Tumour increases in size, towards middle line. 14th April—Intense pain; veins over abdomen more distended, and those on the arms are also swollen from impediment to circulation. April 16th—Much worse, collapse during the night, legs swollen and œdema increasing. Pain intense round the loins, and down the legs. Continues to pass one stool daily, very loose, of yellow colour, and very offensive smell. Abdomen more tympanitic, ascites increased so that tumour is not so easily felt. Died April 29th. After death much yellow serum existed in the peritoneum. The whole peritoneum, parietal and visceral was granular and covered with short polypoid growths.

Medical Case Book, Vol. 99, Netley Hospital, April, 1890.

MALFORMATIONS.

1052. Imperforate anus, the cul de sac in which the rectum terminates was found loose in the pelvis, pointing downwards and following its natural course. MS. Cat., Vol. II, page 84, No. 158.

From a Negro infant, who died 48 hours after birth; vomiting and hiccough preceded death. The anus seemed perfect, and a probe could be passed in to a distance of half an inch only.

Donor—Mr. Allman, Apothecary to the Forces.

1053. A diverticulum of the ileum laid open and the mucous membrane at its orifice, and that of the intestine in its immediate neighbourhood is ulcerated. MS. Cat., Vol. II. page 33, No. 137.

From a man who died of phthisis pulmonalis.

Donor—Mr. Lightbody, Surgeon, 80th Regiment.

1054. Diverticulum, about the size of a plum, of a portion of the ileum.

Donor—Mr. Montgomery, Asst.-Surg., Staff.

1055. Portion of small intestine with a diverticulum about the size of a pigeon's egg, with several ulcers on its mucous surface and a small tumour projecting from it. MS. Cat., Vol. II, page 26, No. 110.

From a man who died of phthisis pulmonalis. Previous to death ulceration had taken place, both in the large and small intestines.

Donor—Mr. O'Brien, Asst.-Surg., 7th Regiment.

1056. Diverticulum of a portion of the same intestine as the previous case.

1057. A small digital appendix, attached to a portion of the jejunum, continuous with the calibre of the intestine.

1058. Appendix vermiformis shorter than usual, attached to the lower part of the ileum and bound down to its coats by the peritoneum. Print. Cat., page 105, No. 98.

From a soldier who died of phthisis pulmonalis.

Donor—Mr. Fiddes, Surgeon, 85th Regiment.

SERIES XII.

HERNIA OR RUPTURE, AND OTHER DISPLACEMENTS OF THE INTESTINAL CANAL AND OMENTUM.

INJURIES.—DIAPHRAGMATIC HERNIÆ.

1059. A dried preparation showing a diaphragmatic hernia, the result of a gun-shot injury. The greater part of the stomach, the transverse arch of the colon and omentum are seen in the left pleural cavity. The left lung adheres very firmly and closely to the walls of the chest, as low as the ninth rib; it is pushed to the upper part of the cavity, and is compressed into a thin layer which lines the walls of the thorax. The heart is also displaced and lay behind and a little to the right of the sternum. The large curvature of the stomach lies in front, and first showed itself on opening the chest; the transverse arch of the colon is to the left of the stomach, and between it and the ribs, the stomach reaches a little higher in the chest than the colon. There is an opening in the diaphragm with rounded margins 2½ inches in diameter, situated 2 inches to the left of the œsophagus, the peritoneum lining the diaphragm proceeds through the aperture and is continuous with the pleura; the serous surface around this opening, although smooth and uninterrupted, yet there is some thickening and an

appearance of old cicatrization. In the pleural sac, close to the opening in the diaphragm, on its posterior and external margin, the stomach, colon, and omentum adhere firmly to the pleura covering the diaphragm and ribs, to the extent of a few inches; there are also two broad, thin, and loose bands of adhesion about 8 inches in length, stretching from the omentum to the base of the lung and side of the pericardium. The stomach and colon are, however, loose and free in the pleural sac, the parts in the aperture of the diaphragm are free from adhesions and not constricted, and the fingers were easily introduced through it, from the abdomen into the thorax. The œsophagus, after penetrating the diaphragm in the usual place, takes a sharp turn to the left side; the stomach then enters the thorax, a portion of the cardiac extremity of which still, however, lies in the abdomen, in front and to the right of the spleen, the larger part having entered the chest, curves round and descends to the opening in the diaphragm, the pyloric orifice lies immediately in the aperture; about a foot and a half of the transverse arch of the colon with the omentum attached are also in this cavity. On the skin, exactly opposite and corresponding to the opening in the diaphragm, are two old cicatrices on the left side of the chest, one situated between the eighth and ninth ribs, three and a half inches from their cartilages, where the musket ball had entered, and the other its exit between the eleventh and twelfth ribs close to the transverse processes of the vertebra. The ball in its course through the thorax must have wounded the diaphragm and permitted the hernia of the stomach and colon.

From Thomas Fletcher, aged 40, an Irishman, a weaver, height 5 feet 6½ inches, stout and healthy frame, total service 20 5/12 years, of which 19 6/12 years in India, where he had two or three attacks of remittent fever. He was wounded at Sabraon by a musket ball in the left side of the thorax; which, entering between the 8th and 9th ribs, and about four inches from their cartilage, made its exit close to the transverse process of the 11th dorsal vertebræ, and between the 11th and 12th ribs. Landed in England on the 13th January, 1847, in good general health, admitted into Fort Pitt General Hospital on the 20th January, under observation for the wound in his side. He was discharged well on the 2nd February. On the 11th, immediately after his dinner, he was attacked with vomiting and pain in the left side over the spleen; this continued until the evening of the 12th, when he was admitted into Fort Pitt Hospital; he could not account for his sickness, had been quite well in the morning, and his bowels had been acted on. His skin was cold, pulse 90, small and wiry, respiration natural, pain over the spleen increased on pressure. On the 13th the pain had left his side and shifted to the shoulder and clavicle, it was not acute. He was free from all other pain, and all inflammatory symptoms to the hour of his death; neither was there any pain on pressure in the region of the stomach, nor any tension of the belly; on the contrary, an extraordinary hollowness, or drawing in about the umbilicus, resembling very much what is seen in a person suffering from Asiatic cholera. His bowels could not be acted on, and the irritability of stomach, and vomiting of all things swallowed continued to the last.

He began to sink on the afternoon of the 16th, gradually became weaker and died on the 18th of February, it being eight days from the time he was first attacked with vomiting, and twelve months from the time he was wounded. The cause of the irritability of the stomach and the torpidity of the bowels was as observed on admission. The treatment consisted at first of an emetic, with a blister over the spleen. Afterwards full doses of calomel and opium, morphia, and hydrocyanic acid being frequently repeated; castor oil combined with croton oil, both by the mouth and injections; turpentine injections and fomentations to the abdomen; hot bath, and hot bottles to his feet; beef tea injections were the remedies administered. Thirty hours after death, the body appeared stout and well formed; skin shrivelled, more particularly that of the hands and feet; features contracted and indicative of a person having died under great suffering. The muscles were rigid. On tracing the small intestine, five intussusceptions were found at five places, the first was situated a foot-and-a-half from the duodenum, and the four others were generally from 8 to 10 inches apart; the portions intussuscepted were in each case about two inches long, and there was no vascularity or congestion in the intussusceptions, or in any of the abdominal viscera. Both portions of the stomach, viz.: the part in the chest, and that in the abdomen, contained a quantity of dark fluid mixed with portions of food and medicine. The duodenum and upper part of the jejunum as far as the first intussusception was distended with flatus, the small intestines below the invaginations, although not distended were coated with mucous tinged with bile. The caput cæcum and ascending colon to where it entered the chest, were distended and contained a quantity of fluid and hardened fæces. The transverse arch of the colon was distended with flatus, and some floculent matter. The descending colon and rectum were empty. Liver healthy, weight 4 lbs. 4 oz. Spleen healthy. Kidneys healthy, weight of right, 6 oz., left 6 oz. 2 drms. (See Preparation 1088, page 287.)

Mr. Guthrie states in his work on "Gunshot Wounds," that "Wounds of the diaphragm, in consequence of the motion of the parts, never unite, but always have an opening with rounded edges, through which herniæ of the stomach or intestines are apt to be formed, and sometimes become strangulated."

1060. Displays the whole of the stomach and greater part of the transverse arch of the colon (both rather small) with the omentum, situated in the lower and anterior part of the left cavity of the thorax. The anterior surface of the stomach is firmly attached to the lower lobe of the lung; the lung of this side, as might be expected, has become much reduced in size, and occupies the superior and posterior part of its proper cavity. The right lung is smaller than the left, from the circumstance of the heart being much displaced by the stomach and colon, and instead of extending across from the second rib of the right side to the sixth of the left, as this viscus naturally does, it now lies nearly parallel to the spine, having the apex almost on a line with the coronary ligament of the liver, and being of natural size, must have proved much less yielding during inspiration than the stomach and colon on the other side of the chest. The opening in the diaphragm extends in a transverse direction near to the centre of the dorsal attachments of the left side of this muscle, and the objects forming the hernia have contracted adhesions with the diaphragm and other parts, and the peritoneum lining the former is in many places continuous with that covering the colon.

From Sergeant Dennis Barry, 88th Regiment, who died 4th January, 1833, in consequence of gangrene of the left lower extremity occurring in the course of severe rheumatic affection of the larger joints (supposed metastasis). On the day preceding the Battle of Fuentes d'Honore (which occurred in 1811), Sergeant Barry with his Company being at skirmishing, one of the enemy posted on the top of a steep hill, fired as he (the Sergeant) was in the act of ascending the same, and wounded him in the chest. The ball entered close to the nipple of the left breast, and passed out at the back between the eighth and ninth ribs, as was evident by the scar seen at the *post-mortem* examination. It is stated in the document that the anterior opening of the wound soon healed, but the posterior one did not do so for a considerable period. After the latter closed he became affected by such severe cough, with expectoration, that his medical attendant deemed it proper to lay the wound open again. Being kept open the symptoms were relieved, and portions of his shirt and jacket were discharged. After this, his health improved so rapidly that he was soon enabled to rejoin his corps. It appears, however, that the wound of the back repeatedly opened and healed afterwards, generally at intervals of 12 or 14 months, but for the last 5 or 6 years it ceased to do so. It is stated that his appetite was very small and delicate, flatulency was much complained of, and, if at any time the stomach happened to be overloaded, vomiting occurred. Bowels generally regular. The chief bad effects which this person himself attributed to his wound were, that, since receiving it, he never had been able to wear his knapsack with ease, and his breathing became much affected whenever he walked at a quick pace or ascended a hill.

1061. A large diaphragmatic hernia (omentum and transverse colon) in consequence of perforation (by a stab) of the the diaphragm from above, which caused (nine years afterwards) a strangulation of the bowel which proved fatal.

From a Convict in Chatham Prison, who was admitted to Hospital, 19th November, 1873, with stoppage of the bowels, which had existed four days. There was slight general tenderness over the abdomen, but no localised pain. He stated that on lifting a heavy shovelful of earth he overstrained himself—feeling a violent jerk at the time. Everything taken by the mouth was forthwith vomited; and nothing passed with the enemata of turpentine and castor oil. After two days the accumulation of flatus distending the small intestines caused great pain; and the diagnosis was intussusception of the transverse portion of the colon. The flatus was allowed to escape by puncture, and gave great temporary relief. He died on 22nd November—three days after admission to Hospital. Inspection after death showed contraction of the chest cavity, and the lungs compressed. A large tumour existed over the diaphragm, which contained a portion of the colon firmly attached to its interior. The walls were about half-an-inch in thickness, chiefly of fat, the presence of which had evidently existed for a long time; and the bowel was distended with fluid fæces. In the abdomen the knuckle of colon could be readily seen entering the opening in the diaphragm together with a portion of the great omentum. This opening through the diaphragm into the pleural cavity must have long existed; and it is probable that when he felt the sudden jerk it was the occasion of the omentum suddenly entering the cavity, and causing the permament stoppage. At the inquest, his wife stated that he had been stabbed in the left side by an Italian nine years previously, and her statement was corroborated by the existence of a scar under the left breast, and no doubt caused the original opening through the diaphragm. He was treated in St. Bartholomew's Hospital for this injury, but was soon discharged, and had excellent health up to the period of his attack in prison. His body was well developed, strong and muscular, and his wife said he never had any complaint.

Donor—Dr. T. D. Burns, Surgeon to Convict Prisons, Chatham.

1062. Diaphragmatic hernia, the greater part of the transverse arch of the colon with the omentum are situated above the diaphragm, the opening in which is in the muscular portion, and is about an inch in diameter.

Not known whether this hernia is congenital, or the result of an injury, as in the preceding cases.

UMBILICAL AND INGUINAL HERNIÆ.

1063. An umbilical hernia about the size of an orange, a large portion of the omentum is contained in the sac, to which it at some parts firmly adheres.

Donor—Mr. Fagg, Asst.-Surg., Staff.

1064. Direct inguinal hernia, the spermatic cord lies on the outer side of the sac.

Donor—Mr. E. Stanley, Surgeon, St. Bartholomew's Hospital.

1065. Oblique inguinal hernia of the left side, a bougie is passed into the internal epigastric artery which hooks round the neck of the sac, the fibres of the cremaster muscle are seen descending nearly to the lower part of the scrotum enveloping the testicle.

1066. A small oblique inguinal hernia.

Donor—Mr. E. Stanley, Surgeon, St. Bartholomew's Hospital.

1067. Oblique inguinal hernia of the right side, the contents of the sac consisted of omentum only, a portion of which is seen passing through the abdominal ring. Print. Cat., page 89, No. 94.

From Fred. Field, aged 23, 30th Regiment, a patient in the lunatic asylum.

1068. Double oblique inguinal hernia.

Donor—Mr. E. Stanley, Surgeon, St. Bartholomew's Hospital.

1069. Scrotal hernia of the right side, which commenced as an oblique inguinal hernia, the vas deferens and spermatic vessels behind the sac, and the epigastric artery winds round its neck and runs along its inner side. MS. Cat., Vol. II, page 77, No. 132.

From William Schopper, aged 60, a Chelsea pensioner, who died at Fort Clarence, insane.

1070. Oblique inguinal hernia (female).

Donor—Mr. E. Stanley, Surgeon, St. Bartholomew s Hospital.

1071. Congenital, inguinal hernia.

Donor—Mr. E. Stanley, Surgeon, St. Bartholomew's Hospital.

1072. Shows the manner in which the peritoneum forms the sac of a hernia; at the posterior part is the appendix vermiformis of unusual breadth and thickened, but not more than half the usual length, the walls of the cæcum

are also much thickened. MS. Cat., Vol. II, page 27, No. 113.

From a Maltese, aged 98, who died of peritonitis.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

1073. Sac of a congenital inguinal hernia with testicle lying at the fundus.

Donor—Mr. E. Stanley, Surgeon, St. Bartholomew's Hospital.

1074. Sac of congenital hernia suspended *in situ* from the abdominal wall with testicle lying in the fundus.

1075. Sac of a congenital hernia. The commencement of the hernia at the interior abdominal ring is shown with the internal epigastric artery coursing along its pudic border.

Donor—Mr. E. Stanley, Surgeon, St. Bartholomew's Hospital.

1076. Femoral hernia, omentum lying in and adhering to the sac (female).

Donor—Mr. E. Stanley, Surgeon, St. Bartholomew's Hospital.

1077. A portion of ileum of a horse showing hypertrophy of its muscular tunic and hernia or protrusion of the intestine between the muscular fibres. The mucous lining is dissected from the muscular tunic. MS. Cat., Vol. II, page 41, No. 168.

Taken from a horse, aged four years, who died with symptoms of obstruction of the bowels, after 32 hours' illness. The lower part of the ileum was found in a semi-contracted state, and the gut above the obstruction was much dilated and hypertrophied. Similar cysts existed throughout the ileum. The horse had ailed nothing up to the fatal attack.

INTUSSUSCEPTION.

(1) *Of the Small Intestine.*

1078. A large portion of ileum intussuscepted and protruding through an extensive ulcerated opening in the inferior part of the gut. MS. Cat., Vol. II, page 29, No. 123.

From a woman, aged 24, who died after 10 days' illness.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

1079. Intussusception of a portion of the ileum.

1080. Intussusception of a portion of the ileum. Print. Cat., page 76, No. 4.

From William Hunt, aged 42, 69th Regiment, admitted into General Hospital, Fort Pitt, on his arrival from India, labouring under chronic hepatitis; he had also cough, and copious expectoration. He died on the third day after admission. After death the pericardium was found to be adherent to the heart; the liver enlarged and indurated; the colon ulcerated; and the ileum intussuscepted.

1081. Intussusception of a portion of small intestine.

Fasciculus II, Plate 7, Fig. 6.

Donor—Dr. Burke, Inspr.-Genl. of Hospitals.

1082. Intussuscepted portion of intestine withdrawn, to show an adhesion between the peritoneal coats covering the two portions of gut. Print. Cat., page 76, No. 7.

From John Briggs, aged 23, 65th Regiment, admitted into Fort Pitt Hospital, complaining of severe pain in his loins, aggravated by extension of the trunk of the body, face flushed, eyes suffused, tongue white, appetite impaired, bowels confined. He died after two days' illness. After death two intussusceptions were found at two different points of the small intestine. The lower end of the ileum was vascular.

1083. Portion of intussuscepted ileum. Print. Cat., page 77, No. 9.

From the same case as the previous preparation.

1084. Intussusception of a portion of ileum, and a layer of coagulable lymph on the mucous membrane of the inverted portion.

1085. A portion of an ileum illustrating intussusception of the gut, nearly two inches in length. At one end of the specimen is seen the extreme portion of the invaginated intestine, with granular lymph studding the mucous membrane; at the other end is the gut greatly contracted in calibre, and the canal all but impervious.

From Bombardier Smith, Royal Horse Artillery. Had suffered from chronic diarrhœa for many months with progressive emaciation and tenesmus, the stools never containing the smallest solid material; he died of exhaustion with no indication during life of the intestinal invagination. The small intestines were in a state of ulceration throughout, in the intussuscepted portion firm adhesions existed between the foldings of the gut showing this condition to have been of some duration, the canal would hardly admit of the passage of a small probe.

Donor—Staff Asst.-Surg. W. H. Corbett.

1086. Intussusception of a portion of the jejunum.

1087. Intussusception, about two inches in length, of a portion of jejunum. MS. Cat., Vol. II, page 45, No. 188.

From James Harrison, aged 25, 19th Regiment, who died of phthisis; no symptoms were present during life that could have led to the supposition of intussusception of the intestine, the usual symptoms of phthisis were present with diarrhœa. Both lungs were very extensively diseased, some parts occupied with large cavities, others in a state of red hepatization and studded with advanced tubercles. In the small intestines were found two portions of intussusception, one at the commencement of the jejunum (as shown in preparation), the other about the middle of the ileum without adhesion, or the slightest appearance of inflammation in their whole course. They probably occurred at or just after death.

1088. Portion of small intestine showing an intussusception.

From Thomas Fletcher, aged 40, whose case has been already given under 1059, page 281.

(2) *Of Small and Large Intestines.*

1089. Cæcum and a considerable portion of the ileum intussuscepted into the colon. Print. Cat., page 94, No. 20.

From Robert Reilly, aged 22, 59th Regiment, who, being under orders for embarkation for India, it was, "at first supposed that his complaints were unreal." They consisted of diarrhœa, at times sanguinolent, flatulence, and acidity of stomach, which symptoms continued till his death.

Fort Pitt Hospital.

1090. A large portion of the colon intussuscepted, with thickening of the coats at this part; below the inverted portion there are two irregularly perforated openings through all the tunics; a partial rupture also exists at the lower part of the preparation, which was re-put up by Dr. Peter Davidson in 1866. MS. Cat., Vol. II, page 85, No. 162.

From Cornelius Daly, aged 50, who died in hospital after seven days' illness. He suffered from no urgent symptoms; and complained only of pain in bowels which had been constipated for several days previously to admission. The exhibition of purgatives excited irritability of the stomach, which the repetition of them in different forms increased. Enemata were returned saturated with bloody mucus, singultus ensued, the abdominal pain increased, although no symptoms of inflammation existed, and pain was little affected by pressure.

Donor—Dr. Caw, Asst.-Surg., Staff.

1091. Portion of ileum and cæcum intussuscepted into the colon. Print. Cat., page 93, No. 14.

From a child, 14 months old, whose complaint was not understood till after death.

(3) *With Tumour of the Inverted Bowel.*

1092. Small intestine showing a very large intussusception. The portion invaginated is about a foot in length. A polypoid (epithelial warty) tumour is visible at the upper part of the preparation. The whole of the intestine, but particularly the mucous membrane, was of a deep purple colour and much congested.

From Thomas Payne, aged 30, 51st Regiment, total service 13 $\frac{6}{12}$ years, of which four years in New South Wales. He was admitted into General Hospital, Fort Pitt, 25th April, 1846, complaining of acute pain in the abdomen, attended with vomiting and tenderness on pressure. He had an inguinal reducible hernia on the right side, for which he wore a truss. Depression and debility became daily more and more apparent with aggravation of the symptoms till his death on the 28th August, 1846. On opening the cavity of the abdomen some fluid flowed out, and the omentum was seen to be covered with lymph, and conjested towards the pubis, and adhering to the walls of the abdomen on the left side. The intestines generally were distended, more particularly the duodenum and jejunum, which were of a bright coffee-brown colour, and on further examination the intussusception presented here was found at the junction of the jejunum and ileum. The lower intestines were of a very dark brown colour, with a greenish tinge, and containing a dark, thick, bloody fluid.

Donor—Dr. Williamson, Staff-Surgeon.

1093. The caput cæcum and a considerable portion of the small intestine with their mesenteric connections. The cæcum has been opened upwards towards the ilio-colic valve, so as to expose an invaginated portion of the small intestine, which, having slipped through the valve, has been swallowed up, as it were, in the caput cæcum. The containing bowel has been opened up to the reflected part of the valve, so as to expose the mucous surface of the included bowel, covered (in the recent condition) by a white, creamy (leucorrhœal-like) exudation, and greatly corrugated by the dragging of its mesentery into the serous pouch of peritoneum which forms a *cul de sac* between the includ*ed* and includ*ing* parts. The sacculi of the caput cæcum were now fully exposed, and numerous hard scybala lay impacted in their folds, and imbedded in the creamy secretion, amongst which coils of numerous parasites (*trichocephalus dispar*) were to be seen, numbers of which were washed away in cleaning the preparation. The *appendix cæci* was free and normal. The portion of ileum which had passed into the cæcum measured about 10 inches; and the whole invagination measured over five inches in extent, and has the usual curved appearance of an intus-suscepted gut, as it lay exposed in the cavity of the great intestine. At the reflection of the exposed mucous surface (*i.e.*, at the distal end of the invagination) a large rounded mass was seen to protrude (of about the same diameter as the gut), which was found to be a periform polypoid tumour attached by a narrow neck to the mucous surface of the intestine. It grew from the sub-mucous tissue of the bowel, at a spot about six inches from the ilio-colic valve. It measured two inches in length by an inch and a half thick.

"From Private W. R., 4th Battalion 60th Royal Rifle Brigade, who had seven years' service when he died on the 25th of July, 1865, at Montreal. He was then thirty years of age; had been a hard liver, intemperate, and frequently a prisoner. He had married without leave, and had been four years at the station (Montreal), at which he died. In 1859 he suffered from hæmorrhoids, but generally was at his duty and not sickly. Early in July of this year (1865) he complained of diarrhœa, which was prevalent among the men at the time. For this affection he had medicine on two or three occasions, and reported himself relieved thereby.

"On the morning of the 14th of July he was admitted into hospital. His face was blanched, his lips bloodless, and his general aspect that of a man in the first stage of cholera. He complained then of nausea and diarrhœa. A diaphoretic stimulating draught containing an anodyne was administered, and the patient put to bed. The next day he complained of tenesmus and a feeling of fulness in the rectum. He had been two or three times during the night to the night-stool, but had passed only six ounces of fluid blood.

"The examination of the abdomen by manipulation caused no pain, nor revealed any abnormity; and I was unable to detect any signs of hæmorrhoids. The day following admission some feculent matter was passed. It was consistent in substance but pale in colour, and with it came away another discharge of blood. On the 17th (fourth day after admission) a large enema of lukewarm water was injected into

the rectum, and an enormous discharge of fæces followed. The matter passed was pale, somewhat of the consistence of thick oatmeal porridge. In quantity it more than half filled the night-pan, and it was accompanied as before by a large flow of blood. During the three following days the symptoms were very mild. He still passed blood, and on two occasions scybala, but he had no pain nor sickness of stomach, nor other symptoms which led me to suspect the real nature of his disease. Astringent medicines, such as *pil. plumb. acet. c. opio*, and enemata of warm water, together with purgatives, such as *pil. Rhei co.* with taraxicum were administered to check the bleeding, and bring on a healthy motion from the intestines. The bowels got rid of small portions of hardened fæces: but every effort was accompanied with the usual flow of blood.

"On the morning of the 23rd (tenth day after admission) the symptoms were the same. A small piece of hardened fæces had come away, and blood also as before. A dose of castor oil and turpentine was given; but the dose was followed by no satisfactory result. The bleeding certainly did not return; but in the afternoon vomiting set in, which before had been absent; and on the morning of the 25th (twelfth day after admission) the patient died.

"The vomites contained nothing that could be called stercoraceous. There was dark green bile mixed with the beef tea, or milk, or wine, or whatever he had swallowed beforehand, but no feculent matter.

"About twelve hours before death head-symptoms set in. The pupils became enormously dilated, the bladder refused to act, jactitation ensued, and the vomiting, which had abated for some time, returned. He died comatose.

"*Post-mortem Appearances Seven Hours after Death*:—On opening the head about five ounces of sanious fluid escaped, and about three ounces more were found at the base of the brain. Recent lymph was to be seen in detached portions on the surface of the brain, and its blood vessels were full; but the contained fluid was thin and watery. The brain itself was soft, so that it was with difficulty lifted. The lungs were healthy. The pericardium contained about three ounces of serum. The heart was firm, and the left ventricle felt as if in a state of tonic contraction. The right ventricle contained a very large coagulum which had attached itself closely to the walls of the ventricle, and (chiefly anteriorly) to the *columnæ carnæ* and the *chordæ tendiniæ*. This coagulum filled very nearly the whole of the ventricle; and a similar coagulum was in process of formation in the left ventricle.

"The liver was enlarged, evidently the result of fatty degeneration. Its substance was shining, smooth and friable. The gall-bladder contained a quantity of thick dark-green bile, similar to that which had been observed in the *vomites* during life.

"The stomach and small intestines were normal, except at the cæcum, where there was a large intussusception. The intestine was found pervious to a probe; and, although it was particularly pale, it had no external signs of inflammation; but in the part immediately about the seat of strangulation the mucous membrane had a raw look. It was thought desirable to preserve the intestine in as unmutilated a state as possible, and the parts involved were removed and forwarded to the office of the Army Medical Department for examination and preservation in the Museum at the Royal Victoria Hospital."—*Abstract of case forwarded to Netley by Dr. R. C. Todd, Surgeon, 60th Rifles.*

The case is one of great interest from several points of view.

I. Cases of intussusception *in the adult* are rare; so rare, indeed, that in the extensive experience of one of the largest civil hospitals in London (Guy's) Dr. Wilks records that "he has never seen but one case of intussusception *in an adult*, and in this case the obstruction was never complete, and death did not occur for some weeks." *Pathological Anatomy*, p. 292. In the Transactions of the Pathological Society of London, extending over the first fifteen years of its existence, there are only seven cases of intussusception *in the adult* on record—no two of which occur in the individual experience of any one man. The ages of these seven cases are respectively as follows:—

namely, 18, 25, 32, 34, 41 and two at 44 years. In one case the symptoms continued for three months, and at last ended in recovery after the passage of a portion of ileum (*containing a polypoid tumour*) by the rectum. Peacock, *Path. Soc. Trans.*, vol. xv., p. 114. In another case the symptoms continued during four months and terminated fatally by exhaustion. In my own experience I have never made a *post-mortem* examination of a case of intussusception *in an adult*, nor have I ever seen a case of intussusception *in an adult* during life. In the Museum of the Army Medical Department at Netley there are preparations showing the lesions and morbid relations of the parts preserved, from at least eight cases occurring in soldiers at ages varying from 20 to 42 years of age.

II. The case recorded by Dr. Todd is of great interest, inasmuch as the dissection of the parts made at Netley shows that the intussusception was associated with a large polypus growing from the mucous surface of the small intestine. The history of the case further shows that it was preceded and accompanied by intense and severe diarrhœa; and in the course of examination of the parts sent to Netley, Dr. Davidson discovered that the mucous membrane of the *caput cæcum* was infested by the minute parasite known as the *trichocephalus dispar*. This parasite is a very minute round worm, with its head-end of hair-like fineness, usually firmly fixed to the mucous membrane of the intestines, while the rest of the body is generally coiled upon itself and hidden amongst the mucous secretion of the gut. The natural history of this entozoon shows that it has oftentimes been associated with severe epidemics of diarrhœa. Indeed, its discovery more than 100 years ago (1760-61) was made during the prevalence of a severe epidemic of diarrhœa (*morbus mucosus*) amongst the soldiers of the French Army, associated with the presence of this parasite in the *caput cæcum* of those who died of the disease. (See examples of this parasite *in situ* in Preparation 1025A.)

The parasites in the case of intussusception now under consideration were coiled up amongst an abundant white secretion, and amongst small hardened portions of fæces which were impacted in the folds of the *caput cæcum*.

Long-continued sources of irritation are thus shown to have existed in this patient both above and below the ilio-colic valve, through which the small intestine passed to form the intussusception; and doubtless to such sources of irritation the proximate cause of the affection is to be ascribed. The occurrence of polypoid tumours of the intestine, associated with an intussusception, is of still more rare occurrence as a source of irritation than other circumstances which may bring about this lesion. Only five cases of intussusception are recorded in the *Transactions of the Pathological Society*, vol. i., pp. 95–97; vol. xiv., p. 173; and vol. xv., p. 114, which are associated with polypoid tumours of the intestine at or near the site of lesion. The latter case, referred to in these Transactions, terminated favourably after the passage of the invaginated portion of gut (containing the polypus); the symptoms having continued for three months.

The previous preparation of intussusception is also associated with an epitheliomatous polypoid tumour (numbered 1092, page 288, of this Catalogue).

III. The case related by Dr. Todd is one of great interest from the practical lessons which it teaches, especially when compared with the records of similar cases. The symptoms and phenomena of the case are as typical of intussusception as they ever are; and when such phenomena occur they are sufficient to justify the conclusion that the case is one of invagination of the gut, a simple incarceration, rather than obstruction of the bowel or internal strangulation, such as that which happens when the bowel gets twisted round a band of lymphy peritoneal adhesions, causing a stricture with complete obstruction, like that which takes place in a strangulated hernia. In cases of complete strangulation of the gut by such strictures the symptoms are sudden, and, if the stricture be not relieved, the case proves speedily fatal.

On the other hand, in cases of intussusception the symptoms of the incarceration are by no means sudden nor rapid in their progress;

or, rather, they are comparatively slower in their development and progress to a fatal issue than cases of complete obstruction by strangulation.

In cases of intussusception the impediment from the first is partial, and in some cases the obstruction is never complete, although the symptoms may extend over many days, or weeks, or even months. One case is on record in the *Transactions of the Pathological Society* (Dr. Hare, vol. vii., p. 193) in which the symptoms of incarceration were present during four months, and although adhesions had formed between the serous coats of the invagination, yet obstruction of the intestinal canal was never complete.

A summary of the prominent phenomena in the case recorded by Dr. Todd may be stated as follows, showing the comparative slowness and incompleteness of the obstruction, as well as bringing together those phenomena which (when weighed with other symptoms) may be regarded as pathognomonic of intussusception. On the authority of Dr. Todd's examination it is to be observed that the hæmorrhoids from which the soldier suffered in 1857 had nothing to do with the symptoms of intussusception which proved fatal. Diarrhœa early in July, 1865, is the first indication of illness, and it is reported to have been prevalent at the time amongst the troops at the station. In connection with this diarrhœa and its prevalence, the existence of the parasites in the *caput cæcum* must not be overlooked, inasmuch as their existence in one man renders it probable that they may have existed in others as a cause of the prevalence of such diarrhœa in an epidemic form.

On the 14th of July the patient was admitted into hospital collapsed and suffering from nausea and diarrhœa.

The following day he had tenesmus—a feeling of fulness in the rectum; and after going two or three times to stool during the night, he was observed *to pass blood only*.

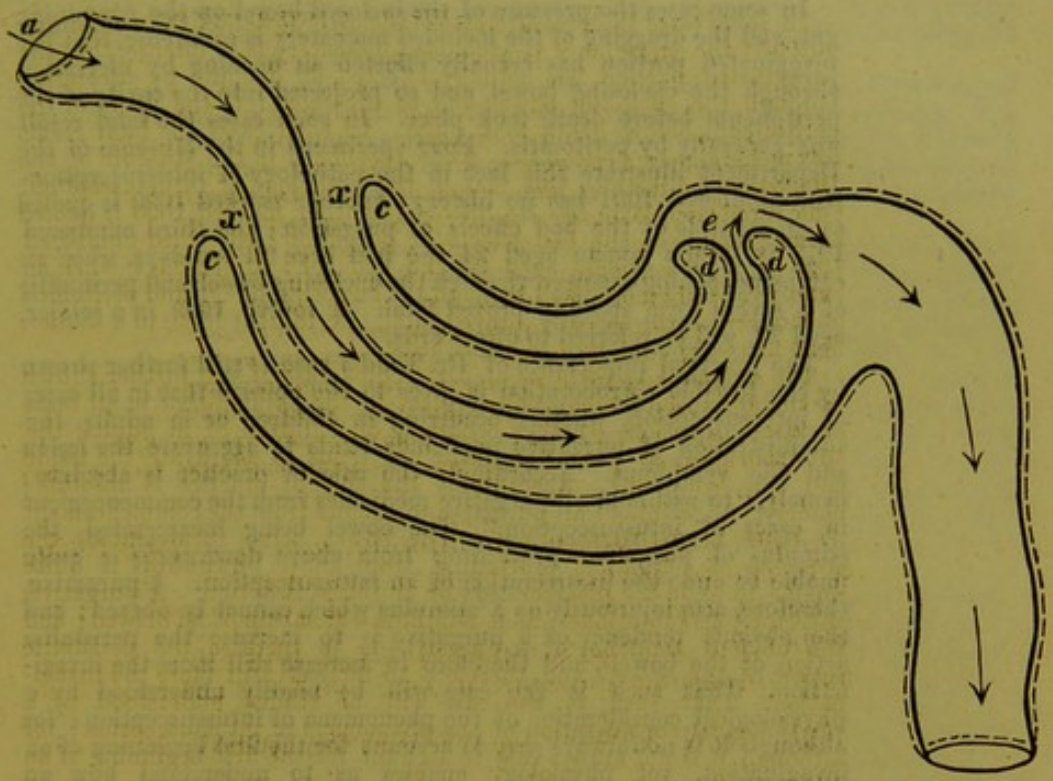
On the 16th some pale but consistent feculent matter was passed, and *a similar discharge of blood*.

On the 17th an enormous discharge of fæces took place after an enema, but again accompanied by *a large flow of blood*.

On the 18th, 19th, and 20th of July, *he continued to pass blood at stool;* and on two occasions scybala. Small portions of hardened fæces were continued to be got rid of, but every effort was attended by *the usual flow of blood*. Purgative remedies obviously aggravated the symptoms; and on the 23rd July, after a dose of castor oil and turpentine, vomiting set in.

On the 25th the patient died comatose, the coma most probably having been due to the comparatively sudden and extensive subarachnoid effusion which the *post-mortem* examination showed within the cranium. Death was thus comparatively slow; and hence the extensive coagula also found in the cavities of the heart. No signs of inflammation of the serous coats of the involved intestine are to be seen in the parts sent to Netley, and the canal of the bowel is pervious. The affection is shown not to have progressed rapidly, and the soldier lived eleven days after symptoms of intussusception set in.

As it is not always easy to follow the anatomical relations of the several layers of structures composing an intussusception, it may be of use to give here a diagramatic outline of the relation of the serous and mucous coats of the intestine in such lesions, because it is of practical importance to remember that although the parts are greatly displaced in such cases, yet the anatomical relations of the serous and mucous surfaces of the intestine to each other are never altered. Textures of the same anatomical character are always in contact one with another, and the channel of the gut along its mucous surface is always open. That such is the case may be understood by taking the leg of a long stocking from which the toe-end has been cut off, so that the stocking may be thus converted into a continuous tube open at both ends. If one portion of the stocking be then drawn into the other a correct imitation of the relation of surfaces in an *intussusception* will be obtained.



In the diagram, the tube *a*, *b*, may be traced to be continuous as indicated by the arrows. The dotted line is meant to correspond to the *serous* surface, and the thick dark line to represents the *mucous* surface of an intestine comprehending an *intussusception*. From the outer to the *innermost* surface at the site of lesion, on cutting through one layer, *the first* of the enclosing gut, a MUCOUS SURFACE is reached, which has a *cul de sac* reflection at *c*. Thus, the MUCOUS surfaces of the including and the included portions of intestine are in constant apposition, rubbing against each other. On cutting through the *second* layer of the *intussusception* a SEROUS SURFACE is reached, which has a *cul de sac* reflection at *d*. Thus, the SEROUS surfaces of the including and the included portions of intestine are in constant apposition, rubbing against each other. At *e*, the mucous canal is always more or less open in cases of simple *intussusception*; but the orifice is invariably turned to one side, and may be so firmly applied against the mucous surface of the including intestine (by the dragging of the mesentery which has been included) that the orifice may be closed, like a valve, by simple apposition and compression. In consequence of the lateral attachment of the mesentery to a line along the serous surface of the intestine, a portion of mesentery equivalent to the extent of the serous surfaces in apposition is also dragged into the containing gut, and exercises a most important influence upon the nature of the lesions. In consequence of the one-sided attachment of the mesentery, and the dragging of its parts, the included gut necessarily takes the form of a curve. It thus appears highly corrugated over its mucous surface, dragged to one side and curved upon itself as it lies exposed on cutting up the outermost layer of intestine. The orifice of the contained or invaginated intestine is thus turned upwards, and is not to be found at what appears to be the lowermost part of the extreme end of the included portion of bowel. This great dragging of the mesentery necessarily also obstructs the mesenteric vessels, and leads to the gradual effusion of blood between its layers. This effusion is seen after death in the form of compact indurated masses of a dark colour. Blood is also gradually effused from the mucous surface of the gut, which becomes slowly strangulated; and, combined with other symptoms, this persistent effusion of blood is almost pathognomonic of incarceration of a bowel in the form of intussusception.

In some cases the pressure of the inclosed bowel on the containing gut, and the dragging of the included mesentery is so intense, that the invaginated portion has actually effected an opening by ulceration through the enclosing bowel, and so projected into the cavity of the peritoneum before death took place. In such cases the fatal result was generally by peritonitis. Four specimens in the Museum of the Department illustrate this fact in the pathology of intussusception. One numbered 1091 has no history; another marked 1090 is quoted as an example of the bad effects of purgation; the third numbered 1078 is from a woman aged 24, she had been ill ten days, when an extensive opening occurred through the enclosing bowel, and peritonitis of a severe form speedily proved fatal. A fourth, 1089, in a soldier, aged 22, will be referred to afterwards.

The practical importance of Dr. Todd's case is still further shown by the forcible corroboration it gives to the opinion that in all cases of intussusception, whether occurring in children or in adults, the administration of purgative medicines tends to aggravate the lesion and the symptoms. Accordingly the rule of practice is absolute; namely, "to withhold all purgative medicines from the commencement in cases of intussusception." The bowel being incarcerated, the stimulus of purgation proceeding from above downwards is quite unable to undo the incarceration of an intussusception. A purgative, therefore, acts injuriously as a stimulus which cannot be obeyed; and the obvious tendency of a purgative is to increase the peristaltic action of the bowels, and therefore to increase still more the invagination. That such is the case will be readily understood by a physiological consideration of the phenomena of intussusception; for although it is not always easy to account for the first beginning of an invagination, yet physiology enables us to understand how an invagination once begun the lesion tends to increase:—(1) From the peristaltic action of the bowel, greatly stimulated and increased by irritation of every kind, so long as tonic irritability continues; (2) from the spasmodic action of the part of the gut *above* the invagination preventing spontaneous return; (3) from the invagination being thus completed it continues permanent, tenesmus occurs, and the violent and repeated contractions of the abdominal muscles tend still more to maintain and increase the lesion. The constant motion and pressure of parts one upon another in some cases is so great, that the end of the invagination has been known to penetrate through the walls of the enclosing bowel, so as to appear in the cavity of the peritoneum. Three specimens in the Museum of the Army Medical Department at Netley, in illustration of this, have been already noticed; and there is one specimen of intussusception, 1089 (from a soldier, aged 22) in which a very large mass of gut is involved, and which is very significant of the injurious influence of purgation in such cases. Although this soldier is recorded to have had persistent diarrhœa, flatulence, bloody stools, and other symptoms of intussusception, he was nevertheless alleged to be a malingerer. He was treated with purgatives, and lived long enough for the end of the included gut to wear a hole, by pressure and rubbing, through the substance of the containing bowel. No one can doubt but that such a lesion would be greatly aggravated by purgative remedies.

The injurious tendency of purgative medicines will be also still more apparent from the teachings of morbid anatomy. *Post-mortem* examination, combined with a study of the phenomena of intussusception during life, show that the increase of the lesion takes place mainly at the expense of the *external containing* portion of the bowel; and therefore, also, it can readily be understood how some fixed point in the bowel is the first starting-point of an invagination. Most frequently it is the ileum which passes into the colon, then the colon passes into itself, so that the *appendix vermiformis cæci* becomes included. Two orifices then exist at the extreme end of the invagination:—one is that of the bowel, the other is the entrance into the *appendix cæci*.

Causes.—In all the dissections of invagination into whose history Professor Aitken has examined, they have either been associated with the diarrhœa of irritation (as from worms, undigested masses of food); or

with cerebral lesions (as in the cases of children in whom invaginations are very common); or with ulcers of the intestines, or polypoid growths as in this case.

In the fifteenth volume of the *Transactions of the Pathological Society of London*, Dr. Peacock gives an account of the passage of a large piece of bowel by the rectum in a case of invagination, followed by recovery; and in that paper he refers to eighty-eight cases of intussusception in which portions of bowel are reported to have passed by the rectum.

In giving a summary of these cases, Dr. Peacock finds that, while in some cases no cause could be assigned for the affection, in others, the disease appeared to have been excited by accidents, taking injudiciously large meals or improper food, by the irritation of drastic purgatives, the presence of worms, &c. In the cases which he has analysed, "in one instance the disease followed a kick, in another the carrying of a heavy weight, and in a third the taking of a large meal; in one an active purgative had been taken a few days previously, and in one there were worms in the bowels." In the case he particularly records to the Society, "the predisposing cause might possibly be the small polypus which was found attached to the mucous membrane, near what appeared to be the upper end of the invaginated portion." (Vol. xv, page 117.)

As to how the lesion first commences some notion may be obtained, and the physiology of the process may, to some extent, be comprehended by experiments on the intestines of animals while under chloroform, or just after having been killed. If a portion of the small intestine be pinched with a pair of forceps, active circular contraction and constriction of the gut immediately commences at the site of irritation. This constriction continues for some time, and is transmitted, or advances onwards, under the influence of the usual peristaltic action of the intestines. Wave upon wave of constrictions may be made in this way to follow each other in succession, so long as the vital irritability of the intestine continues. If the advance of the constriction onwards is impeded by any cause, such, for instance, as an undigested mass of food, a scybalous portion of fæces, a foreign body, or a polypoid growth, or even another constriction, and if the onward motion of the bowel fails to dislodge the obstruction, a partial invagination very readily occurs; but where the obstruction is necessarily localised (as from ulcers, polypoid growths, or fixed parasites) permanent invagination commencing in the vicinity of such local lesions is more readily induced. The mere weight of a polypoid growth, like the one in the case related here, would necessarily favour the occurrence of invagination; and situated only a few (six) inches above the ilio-colic valve, having made its way through the valve, the spasmodic contraction of the valve would effectually prevent the spontaneous return of the invagination.

The cases of most serious import are those which, commencing in the small intestine, involve the ilio-colic valve; and the majority of fatal cases are those in which (as in this case) the cæcum and ascending colon has swallowed up, as it were, a large portion of the small intestine; and the danger may not be at first appreciated, because the obstruction is never complete in the first instance, as we know from the nature of the lesion as well as from the accurate history of cases. The bowel, at first, is merely incarcerated by the invagination, and it is not until the middle and internal portions, with their contained mesentery, become compressed, constricted and ultimately strangulated, that complete obstruction ensues. Inflammation and sloughing thus commence as the parts become subjected to more and more increasing pressure.

Two forms of inflammation prevail, namely, one—serous—between the opposed peritoneal surfaces, and commencing at the angle of reflection (*x*, in the diagram, page 293) of the middle on the external layer, at the part where the one portion slips into the other. It is here that the peritoneal surfaces of the invagination commence to adhere; and up to this period of the affection the ancient remedy inculcated by Hippocrates, of injecting air into the great gut by a long tube, introduced *per rectum* has effected the greatest number of

cures—forcing, by gentle, persistent, and equal pressure, the invagination backwards, and so causing it to be undone. The other form of inflammation takes place between the two opposed mucous surfaces (*c*, *c*, in the diagram). At this angle of reflection an abundant white leucorrhœal-like secretion commences very early to be discharged by the rubbing of the opposed surfaces, and eventually the inflammation (mucous and serous) may be so destructive that ulceration and sloughing of the whole invagination may be the consequence. In this way continuity of the canal may be restored—the invagination having passed, *per rectum*, as a slough. Of such cases eighty-eight are on record, an analysis of which, by Dr. Peacock, has been already referred to. (*Pathological Society Transactions*, vol. xv, page 114.)

Another efficient and increasing cause of obstruction exists in the included mesentery. By its inclusion, it causes such a drag upon the included portion of bowel, that the mucous surface of the bowel is not only greatly corrugated, but by apposition against the containing bowel, the narrow canal through the invagination becomes completely closed. The anatomy of the parts at once shows how this is effected, for the mesentery being attached only to one side of the gut, it drags the intestine to that side; and the greater the amount of bowel invaginated, the greater will be the curvature of the included portion upon the mesentery as an axis; and the greater and earlier will be the completeness of the obstruction.

Thus, when a case of intussusception is examined after death, the invaginated portion of bowel is always seen in the form of a curve lying within the including intestine; and thus the extreme end of the invaginated portion comes to be so turned upon itself, that the canal by apposition is completely shut up. The blood-vessels of the impacted mesentery thus undergo great and increasing congestion; and as strangulation and obstruction become complete, indurated masses of blood may be found effused within the folds of the mesentery; and, as this strangulation increases, blood exudes from the mucous surface of the intestine, so that small flocculi of blood, as well as fluid blood mixed with mucous and free from fæcal matter, continue to pass *per rectum* as long as the canal remains open, and such symptoms (hæmorrhoids excluded) are justly regarded as pathognomonic of incarceration of the bowel from an intussusception.

Professor Aitken in *Army Medical Department Report* for 1866, page 528.

SERIES XIII.

INJURIES AND DISEASES OF THE LIVER.

INJURIES.

1094. Extensive laceration of the convex surface of the right lobe of the liver; from a gun-shot wound.

No history.

1095. Rupture of a portion of the right lobe of the liver, about an inch from the suspensory ligament, the lesion on the

surface is about four inches in length and extends far into its substance, the section of which shows a small quantity of coagulated blood; the result of a blow by the pole of a waggon on the abdomen near the scrobiculus cordis; the patient lived thirty-six hours after the accident and had constant vomiting till death. There was no discolouration over the seat of the blow, but a few fibres of the rectus muscle were found torn. Much blood was found effused into the peritoneal cavity. The peritoneum itself was partially torn; and about an inch of the pancreas had been completely separated from the body of that viscus. The donor stated that some torn branches of the portal vein were the chief source of the hæmorrhage.

Donor—Dr. Dyce, Asst.-Surg., Medical Staff.

1096. Rupture of the liver, in consequence of a fall from a height of forty-five feet on board ship, right side having come in contact with some packing-cases on deck. The patient died six hours after the accident.

Donor—Dr. Stewart, Asst.-Inspr. of Hospitals.

1096A. An extensive circular rupture of the diaphragm on the right side, about five inches in diameter, through which a large portion (about one third) of the liver protruded into the cavity of the thorax and was there firmly strictured, the portion so encircled was much congested and some recent adhesions had taken place between the stricture and the diaphragm. The peritoneum, covering the strictured portion of the liver, was ruptured in various directions. The gall-bladder was also strictured, one-half being in the thorax and the other in the abdomen.

From John Short, aged 40, 6th Inniskilling Dragoons, admitted September 23rd, 1856. He was an Irishman, and a sawyer by trade, had twenty years' service, of which eight months were spent in the East, and the remainder in the United Kingdom. He was brought to the camp (Shorncliffe) hospital in a cart, from Folkestone, having about 11 o'clock the previous day fallen from a viaduct, in that neighbourhood, a depth of 40 or 50 feet. It would appear that he was a long time in a state of insensibility. He had four superficial wounds on the face, just beneath the frontal protuberances and over the malar bone; the nose is slightly injured, and there appears to be some depression of the nasal cartilages. The fractured ends are depressed. Emphysema and crepitation are to be felt. The liver is painful on pressure and the whole abdomen somewhat tympanitic. The right hand was found dislocated at the wrist laterally towards the radial side. The head of the ulna of the same arm was fractured, also more obliquely and extensively. There was also fracture of the neck of the femur and bruises existed on almost all parts of the body. On the evening of admission he complained of sharp pain in the immediate vicinity of the gall-bladder, but no injury of the organ could be detected. Percussion was impossible from excessive pain and the surface of the abdomen generally is painful on pressure; the bowels have not been opened, neither has he made any water since the accident happened. He has been perfectly sensible since arrival in camp, but was so much collapsed that it was necessary to apply warmth, and to administer

stimulants, before applying bandages and splints; when he had somewhat recovered, the right leg and thigh were bandaged, and the limb placed in position on a double inclined plane and splint. The dislocation of the wrist was easily reduced, the hand and arm bandaged nearly up to the shoulder. The limb was extended and two straight splints applied in the usual manner to the hand and forearm; cold water dressings were applied to the injuries of the face. After this was effected, a cup of warm tea was given. On the evening of September 23rd, large poultices were applied to the abdomen. He slept only about an hour-and-a-half during the night, and has no inclination for food, but complains very much of thirst. About midnight there was evidence of some collapse, which continued to morning of 24th, when he passed a large quantity of urine, the first he has made since the accident. On the evening of the 24th, the arm is seen to be much swollen and a gangrenous odour is perceptible, apparently due to his breath. September 25th, continues to get weaker, and more collapsed, with mucous rattle in throat, the gangrenous odour is stronger, and, on removing the bandage from the arm, the limb was found discoloured with bullæ on the surface and emphysema up to the shoulder joint. The blood vessels of the limb were imperceptible in the whole extent and could not be detected even in the subclavian, while in the sound limb they were easily perceptible at the wrist. The saphena vein of the left leg appears through the skin enlarged and hard in its upper portion. It should have been mentioned that on being brought to hospital, in camp, there was complete loss of sensation in both the injured limbs. In the evening of the 25th he was rapidly sinking, the gangrene had extended, and, on examination of the right foot, it is found slightly discoloured. Patient continues sensible, bowels freely opened about 4 p.m., and the bladder evacuated naturally. He complains only of thirst. September 26th, continued sensible, and much the same as in last report until about five minutes previous to his death. Examination 32 hours after death; the body was seen to be discoloured almost all over the surface, particularly on the posterior aspect of the arm which was green and black in colour, to about 4 inches above the elbow, covered with bullæ, filled with putrified blood and ichor; the cuticle and nails were removed from the hand in a mass. The right thigh was also larger than natural, and shortened; the foot and leg, nearly as high as the knee was discoloured and presented an appearance as though it would have soon become gangrenous. On examination of the thorax the fourth and fifth ribs were found to be fractured about 1½ inches from the cartilages, and the cartilages connecting the sixth, seventh, eighth, and ninth ribs also broken, about 2 inches from the sternum. The lungs generally were congested, more particularly the lower lobes, the right lung was quite free, but the left somewhat bound down by old adhesions. Both pleuræ were congested throughout their whole extent and in their cavities, especially the right, was found a large quantity of sanguineous fluid. The heart was dilated and flabby in its structure, both ventricles and the aorta containing pale fibrinous clots. In the abdomen the liver was thrown out of its natural position as shown in preparation, the spleen was also thrown towards the right side, almost covering the cardiac orifice of the stomach, and nearly approaching the rupture of diaphragm, the whole peritoneum was congested, and in its cavity was about a pint of sanguineous fluid. The stomach and large intestines were much distended by flatus. The right kidney very much congested and appeared to be slightly enlarged. The right arm was found emphysematous in its whole extent, and infiltrated with an ichorous fluid, particularly in the vicinity of the large vessels which, however, were permeable in their whole extent. The forearm quite gangrenous. The inferior extremity of the radius was broken in about a dozen pieces, one of which was lying on the head of the ulna, and led to the supposition during life that that bone was also fractured, which was found not to be the case. The muscular structure of the thigh was black in colour and loaded with thick black blood. The acetabulum and head of the femur were uninjured, but the neck, from the capsular ligament, down to both trochanters was found fractured into about twenty

pieces of various sizes. The trochanter major was also found to be ruptured longitudinally and across its base. In the left thigh the vena saphena was found permeable in the whole extent, but the surrounding cellular tissue was infiltrated with serum.

Donor—Dr. Baxter, Surgeon, 2nd Dragoon Guards.

1097 A cavity, the size of a walnut, in the lower part of the right lobe of the liver, in which lay a needle of a dark colour, two and a half inches long, having its point upwards, and embedded in the substance of the liver: the cavity communicates with the duodenum immediately below the pyloric orifice of the stomach, through which a probe has been passed. It is stated that the patient swallowed a needle two years previous to his death.

From Daniel Mahon, 87th Regiment, who had pneumonia, in England, in April and May, 1838, and embarked for the Mauritius in October. He had cough, with muco-purulent expectoration, and pain in the chest during the voyage, and was sent from the transport to the hospital at Port Louis, on the 3rd January, 1839, he then complained of pain in the epigastrium and right hypochondrium, with occasional vomiting. Colliquative diarrhœa came on and he died 31st January, 1839. After death, the right lung was found adherent to costal pleura, and contained a large cavity in its apex, as well as several tubercles in various stages. Liver rather large and hard with traces of peritoneal inflammation on its surface. There were slight traces of ulceration of stomach. Mucous membrane of large intestine sloughy.

Donor—Mr. Allan, Asst.-Surg., Staff.

DEGENERATIONS.

(*a*) Fatty. (See also under "Cirrhosis.")

1098. Section of a slightly fatty liver injected. The portal veins are filled with red (vermilion); the hepatic veins blue; the hepatic artery yellow.

Donor—Dr. Monro, Asst.-Surg., Coldstream Guards.

1099. Section of a fatty liver injected. The portal veins red; hepatic veins blue.

Donor—Dr. Monro, Asst.-Surg., Coldstream Guards.

1100. Section of a fatty liver injected. Hepatic arteries white; hepatic veins yellow; portal veins red.

Donor—Dr. Monro, Asst.-Surg., Coldstream Guards.

1101. Section of a fatty liver injected. Hepatic arteries white; hepatic veins yellow; portal veins red.

(*b*) Lardaceous. (See also under "Syphilis of Liver.")

1102. Section of a waxy, or lardaceous, liver. The serous coat is opaque, and puckered in some parts; and the several patches of lardaceous deposit give a mottled appearance. The colour, generally, was a pale yellow. The hepatic

cells, in the opaque parts, were loaded with fat, and atrophied in the lardaceous portions. (Dr. Thom.)

(See *Abstract of Cases*, Vol. II, No. 28, Pathological Museum, Netley.)

From the Grant Medical College Museum, Bombay, February, 1864.

1103. Section (antero-posterior) throughout the whole extent of the liver, showing a highly characteristic appearance of lardaceous degeneration, similar in character to the previous specimen.

From Private James Needham, aged 33, of 103rd Regiment, and 13 years' service. He died on 24th June, 1863, and had records of acute rheumatism, intermittent fever, chronic dysentery, phthisis pulmonalis, and syphilis. There were deep cicatrices of ulcers on the penis. Calvarium was thickened, especially in frontal region. Cicatricial loss of substance of external table and diploe on each side of frontal bone, more advanced on the left than right side; irregularly congested spots throughout the calvarium; an iodine reaction, with solution of iodine in blood-vessels, in the vicinity of the cicatrices; and small nodular deposits near the centre of right parietal bone. The liver was enlarged—measuring in breadth 10½ inches, greatest thickness 4·3 inches, antero-posteriorly 8·4 inches—with some cicatricial loss of substance on surface; ascini enlarged, and showing an intense reaction with iodine solution throughout the whole substance. Microscopic examination showed very abundant fatty degeneration, with much interlobular increase of fibrous connective tissue in masses. The degeneration seemed to be most marked towards the posterior aspect.

Post-Mortem Records, Netley, Vol. III, No. 26.

1103A. Section of a waxy, or lardaceous, liver, showing what has been called hypertrophy of its white substance. It is most frequently observed at this place (Fort Pitt?) in subjects who have died of chronic dysentery contracted in tropical climates. (See also No. 944, page 248.)

From John Singleton, who died of dysentery contracted two years previously in India. There was abundant deposition of fatty matter in the abdomen, and on the heart.

See *Fasciculus II*, Plate IX, Fig. 2.

1103B. Liver enormously enlarged from lardaceous degeneration, its section giving a strong reaction to the iodine solution. Its substance was very firm, capsule quite smooth. Gall bladder collapsed, but containing about two teaspoonfuls (℥ii) of a reddish yellow fluid. The liver extended across the whole abdominal cavity. Its dimensions were—transversely, 12·5″; thickness, 4·5″; antero-posteriorly, 10″. Weight, 7 lbs. 11 ozs. It displaced 227 cubic inches of water, and had a specific gravity of 1·029.

From Private A. Wilby, aged 23, of six years' service, who died, at Netley, of phthisis, on 4th January, 1877. He had been nearly two years in India. He died eight days after admission. He had suffered much from diarrhœa, was extremely weak, and much emaciated. Skin was dry, and had a bronzed appearance on the face. He complained of dyspnœa and cough, with a considerable amount of purulent sputa, streaked with blood. Evidence of softening in

both lungs. His temperature varied from 101·2° Fahr. to 95° Fahr. while at Netley.

After death, a well-marked cicatrix was seen on glans penis syphilitic (?), the pleural cavities were obliterated by adhesions, easily separable. Both lungs were irregularly nodulated by hard masses, and cavities existed in upper lobes posteriorly, with miliary growths diffused throughout the upper parts. Lower lobe of right lung much engorged. Caseous masses in left apex. A decolourised clot filled the right auricle of the heart, extending into right ventricle, and thence into pulmonary artery. The lower margin of liver on right side extended to within 5½ inches of os pubis; and on left to within 9 inches of that bone. Its lower margin extended in middle line 4¼ inches below the cuniform cartilage. No fluid in peritoneal cavity. Diphtheritic exudation, easily separable, extended over mucous surface of ileum. The surface of colon resembled a mass of boiled sago-grains, with here and there small ulcerations; and the lymphatic glands were much enlarged. The spleen was firm, and its section showed extensive lardaceous degeneration. It measured 4·5″ × 3¼″ × 1¼″, with a specific gravity of 1·042.

Pathological Reports, Netley, Vol. XIII, Case No. 99.

INFLAMMATIONS.

(1.) *Cirrhosis or Chronic Interstitial Hepatitis.**

1104. Liver small, weight 2 lbs. 15 oz., structure condensed from the growth of fibrous tissue, external surface very irregular from numerous projecting rounded eminences, varying in size from a pea to a cherry. The cut section shows numerous islets, closely packed throughout, the liver substance being enclosed by the new fibrous tissue causing its strangulation. In the recent condition, these islets of liver tissue are of a bright yellow colour, and hence Laennec invented the name cirrhosis (from κιῤῥός, yellow) for the disease. The posterior part of the convex surface of the right lobe is adherent to the diaphragm, and shows other evidence of perihepatitis. MS. Cat., Vol. II, page 171, No. 45.

No history.

1105. Liver small, weight 2 lbs. 5 oz., and having similar anatomical characters to the preceding preparation.

From a man, aged 30, a hard drinker, who had a pulmonic complaint of 8 months' duration, of which he died. No history.

1105A. Small portion of a liver, with the characteristic hobnail-like eminences, and having attached to its external surface a globular mass of a similar cirrhotic structure.

From a man, who died of chronic dysentery.

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* An insidious and very chronic inflammatory process, unattended by fever, never tending to suppuration, but to the production of fibrous tissue, which shrinking, strangles the secreting parenchyma. The condition is also known by the names of "granular disease of the liver," "hob-nailed liver," or, more familiarly, "gin drinker's liver." The early embryonic new tissue lies in the angles between the hepatic lobules, and surrounds the terminal branches of the portal vein, forming fibrous rings surrounding hepatic lobules. This new fibrous tissue, white and bloodless to the naked eye, is seen, by injection, to be abundantly supplied with blood from the hepatic artery.

1106. A very small liver, weighing only 1 lb. 3 oz., and having anatomical characters similar to the preceding preparation.

From Private George Powell, aged 24, 37th Regiment, who was brought to hospital, at Manchester, 27th December, 1864, in a state of extreme debility from vomiting of blood, and dropsy. His abdomen was swollen from fluid in the peritoneal cavity. The scrotum, penis, and lower extremities were anasarcous. Respiration was short and hurried, pulse small, tongue dry and brown in centre, bowels constipated. He had been on furlough for a month, and had been ill the whole time. Paracentesis was performed on arrival, with much relief, and hæmatemesis ceased till the day before death. The operation was followed by jaundice, and blood was occasionally seen in the alvine discharges. During a return of the hæmatemesis, he suddenly expired.

Donor—James Hannan, Asst.-Surg., 49th Regiment.

Abstract of Cases, Vol. II, No. 21, January 30th, 1864.

1107. Right lobe of the liver small, and anatomically similar to the previous preparation. Weight unknown. Print. Cat., page 111, No. 38.

From Private Patrick Donaghue, aged 38, 37th Regiment, who was invalided from India, on account of hepatic disease of two years' duration. On admission to Fort Pitt Hospital, Chatham, he suffered from bowel complaint, and was beginning to show signs of general dropsy, finally dying from hydro-thorax.

1108. Portion of a cirrhotic liver, from which a large quantity of oily matter has exuded, which is seen floating on the surface of the spirits; such livers having generally undergone fatty degeneration. The cirrhotic "hob-nailed" appearance is shown on section; and the external surface presents a tuberculated appearance.

No history.

1109. Section of the common tuberculated liver of hard drinkers; the round bodies are of a firm texture, and of a brownish or dirty yellow colour; external surface presents numerous elevations from the size of a pea to that of a bean (improperly termed "tubercles"), with shreds of lymph attached.

From a man who died of acute dysentery.

Fasciculus II, Plate IX, Fig. 4.

(2.) *Abscess, or Acute Suppurative Hepatitis.*

(I) Single Abscesses of Liver.

1110. Sac of an hepatic abscess (dried), which contained seven and a half pints of pus. Print. Cat., page 111, No. 36.

From John Crump, 66th Regiment, admitted into Fort Pitt Hospital, Chatham, on return from St. Helena, suffering from chronic rheumatism. Four days after admission, he showed symptoms of hepatitis and dysentery, and died after nine days' illness. He stated that he had no hepatic ailment while at St. Helena.

1111. Sac of an hepatic abscess (dried), which contained seventeen pints of purulent matter; the abscess became perceptible externally, and was opened, when three pints of serous fluid flowed out, but no pus; he died two days afterwards of peritonitis. Print. Cat., page 111, No. 37.

From Richard Palmer, aged 26, 19th Regiment, admitted into Fort Pitt Hospital, Chatham, on arrival from Ceylon, with intermittent fever, from which he had suffered during the previous twelve months. He had also had hepatitis while abroad. After having been some time suffering from ague, symptoms of liver abscess appeared, which became so perceptible to external examination, that an attempt was made to open it, when three pints of a serous fluid escaped, but no pus. He died two days afterwards of peritonitis.

1112. Sac of a large abscess taken from the liver, and everted to show its internal surface, which is lined by a smooth membrane; the walls are thick and fibrous. Print. Cat., page 112, No. 40.

From John Davies, 3rd Veteran Battalion, of 26 years' service, chiefly in the West Indies and Mediterranean Stations, who was admitted into Fort Pitt Hospital, Chatham, suffering from hydrothorax and catarrh. He had been under treatment, eight years previously, for pain in the right side, which had continued almost ever since. He died three months after admission.

1113. Part of the sac of an abscess taken from the inferior portion of the right lobe of the liver; its inner surface is rough and granular, its walls a quarter of an inch in thickness; it contained two pints of viscid matter. Print. Cat., page 118, No. 96.

From a soldier of the Rifle Brigade, who died at Malta, and who, at one period, had laboured under dysentery, but latterly had dropsical symptoms.

Donor—Dr. Scott, Surgeon, Rifle Brigade.

1114. Portion of liver, exhibiting the sac of an abscess, the internal surface of which is rough, with shreds of lymph attached to it.

No history.

1115. Portion of liver having the sac of an abscess situated in the right lobe, near its convex surface.

Donor—Mr. Davy, Asst.-Surg., 7th Regiment.

1116. Portion of the left lobe of the liver, showing a sac about the size of a plum, which contained fluid resembling pus, but without its globular characters. MS. Cat., Vol. II, page 137, No. 131.

Donor—Mr. Melvin, Surgeon, 60th Regiment.

1117. A portion of liver showing part of an abscess cavity, the walls of which are more "regular and compact" than usual.

No history.

Presented by the Grant College Museum, Bombay.

1118. A portion of liver showing part of an abscess with "loose flocculent" walls, no pyogenic membrane being present.

No history.

Presented by the Grant College Museum, Bombay.

1119. Sac of an abscess situated in the right lobe of the liver, near its convex surface, which contained one pint of yellowish-brown pus; the gall-bladder was filled with vitiated bile; shreds of lymph on the peritoneal coat. Print. Cat., page 108, No. 9.

From William Walsh, aged 33, 46th Regiment, who was received into hospital, at Fort Pitt, Chatham, on arrival from India, in an advanced stage of bowel complaint, of which he died five days after admission. After death, the mucous membrane of the colon was ulcerating and sloughy (necrotic dysentery).

1120. Sac of an extensive abscess in the right lobe of the liver, near its convex surface, and lined by a distinct firm membrane; peritoneal coat thickened and covered with lymph.

1121. Sac of a large abscess situated in the right lobe of the liver, near its convex surface; inner surface rough and broken up; weight of liver eleven pounds. Print. Cat., page 106, No. 1.

From Sergeant Rowell, aged 39, 31st Regiment, admitted into York Hospital, Chelsea, suffering from pain of chest, increased by full inspiration, cough, and difficult breathing, dull pain over region of liver, increased by pressure, and with bowel complaint of six months' standing. He died 13 days after admission.

1122. Cavity of a large abscess in the upper part of the right lobe of the liver; surrounding structure broken down, with portions of it hanging from the inner surface of the sac, which is covered with granular lymph. The patient died of acute hepatitis after ten days' illness.

Donor—Mr. Cathcart, Surgeon, 38th Regiment.

(*a*) Single Abscesses of Liver, adherent to or penetrating Diaphragm.

1123. Liver showing the sac of an abscess, situated in the thin margin of right lobe, lined by a firm fibrous membrane with shreds of lymph attached to it; the diaphragm adheres to the convex surface, and also to the base of the lung.

1124. A large sac of an abscess in the right lobe of the liver, which contained seventeen ounces of a thick yellow purulent matter (the abscess cavity has been stuffed with cotton wool); peritoneum lining the inferior surface of the diaphragm adheres to that covering the liver, and on detaching a small portion of the adhering diaphragm, the peritoneal coat of the liver was found completely

absorbed, and at a nipple-like process, which projects into the thorax, both peritoneal coats are destroyed; the abscess must have made its way through the diaphragm to the base of the right lung to which it adhered. MS. Cat., Vol. II, page 154, No. 198.

From Richard Norry, aged 38, 90th Regiment, 17$\frac{1}{2}$ years' service. Admitted for chronic dysentery, May 6th, 1843. Mediterranean, 3 years, Ceylon, 6$\frac{1}{2}$ years. Sent home on account of perforate palate and general debility. He had been treated since 1835 for all manner of syphilitic and pseudo-syphilitic complaints. On admission, had all the appearances of a man completely worn out, complaining of pain all over the abdomen, especially on right hypochondrium, of a distressing frequent cough, with much expectoration and muco-purulent discharges from the bowels. Twelve hours after death 10 ounces of serous fluid, intermixed with flakes of coagulable lymph, were found in the right cavity of thorax, and 6 ounces of straw-coloured serum in the pericardium. Both lungs partially adherent by loose bands to the chest and more closely to the diaphragm. On upper surface, right side of diaphragm, a portion, 2 inches in diameter, of a yellowish white colour, surrounded by a speckled red, broad margin, distinctly projected above the level of neighbouring parts, and a fluid in the liver could be felt through it. On removing the liver an abscess could be traced externally, which resembled exactly, in shape and size, a female's breast during lactation. Weight, previous to evacuation, 5 lbs. 1 oz. 1 dr. An opening, 2 inches in length, was made into the abscess from the lower surface of the liver, and about 17 ounces of thick yellow purulent matter discharged. The inferior surface of the diaphragm, corresponding to the point of adhesion examined by the finger, passed into the abscess was felt to be soft, and on detaching a portion of the adherent diaphragm within the abdomen, the peritoneal coat of the liver was found to be completely perforated at the adherent spot. Trachea and bronchi were of a natural colour, and the latter contained some muco-purulent matter. The lungs were healthy. The heart sound, weight 9 ounces. Weight of lungs without trachea, 2 lbs. 15 ozs. Kidneys healthy, weight of right, 4 ozs.; weight of left, 3 ozs.

Donor—Dr. Williamson, Staff Asst.-Surg.

1125. Sac of an abscess (or of a hydatid cyst) the size of a billiard ball, removed from the convex surface of the liver; the diaphragm adheres to it and forms its anterior wall.

Donor—Dr. Strachan, Inspr.-Genl. of Hospitals.

(*b*) Single Abscesses of Liver, opening into Pleural Cavities of Lung through the Diaphragm.

1126. An oval opening, about one inch in diameter, through the diaphragm, from the convex surface of the liver into the right pleural cavity; the result of the bursting of an hepatic abscess, which contained a sero-purulent fluid; the fluid, after finding its way into the cavity of the chest, was confined in a limited space by an adhesion of the pleura pulmonalis to the diaphragm; a small portion of lung is attached.

Donor—Mr. Fiddes, Surgeon, 85th Regiment.

1127. Sac of a large abscess, situated in the right lobe of the liver; cyst of a dense fibrous structure, and secreting surface coated with layers of flocculent lymph; abdominal surface of diaphragm adhering to convex surface of liver, while the thoracic aspect is coated with lymph, and a portion of lung adheres; there is likewise an opening through the diaphragm, by which the abscess communicated with the right pleural cavity. MS. Cat., Vol. II, page 138, No. 132.

From Peter McColl, aged 26, 72nd Regiment; robust, plethoric, and long addicted to the free use of ardent spirits; had been twice in hospital in the early part of the year with dyspepsia and other derangement of the digestive function. On 3rd May had been exposed during several hours in an open boat, to heavy rain, and on the 19th was sent to hospital, from detachment, with well-marked symptoms of acute hepatitis; venesection, emetics, mercurials, and aperients, followed by blisters, and tonic medicines were employed, and on the 6th of June, he was considered convalescent; on the 17th, however, he again complained of dull pain in the right hypochondrium, which afterwards extended along the side of the chest, and he was unable to rest on the left side. Respiration became impeded, attended with cough and mucous expectoration; his strength rapidly declined, night sweats, and subsequently diarrhœa supervened, and he died on the 9th August. After death the pericardium, heart, and left lung were found to be healthy, the right pleural cavity contained two quarts of thick, ropy pus, the lung being as seen in Preparation 540, page 153, and the serous membrane, coated with lymph, which, when removed, exhibited a highly vascular surface. The portion of diaphragm attached to the liver shows the opening through that muscle by which the purulent fluid found its way into the chest. The liver was much enlarged, the right lobe protruding considerably upwards, and projecting far below the margins of the ribs, while the left extended across the epigastrium, so as to overlap the spleen; its structure externally was firm and dense, its capsule being thickened, and easily separated, internally granular, friable, and of a rusty red colour, the large abscess shown in preparation occupying the centre of right lobe, the external surface of which adhered closely to the diaphragm. Gall-bladder, filled with attenuated bile of dark green colour. The small intestines contained a quantity of slimy mucous mixed with dark green bile, and the villous coat of the colon and rectum exhibited superficial ulcerations of various size.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

1128. Vertebral column divided through its centre, and carrying the ribs on right side, including the liver lying under the diaphragm, and showing the sac of an enormous abscess occupying the whole of the right lobe of the liver, which contained four pints of pus mixed with blood; structure softened, and the white (fibrous) texture preternaturally developed. The organ is very much enlarged; it extended across the epigastric into the left hypochondriac region downwards below the umbilicus, and upwards into the chest as far as the fourth rib. The most prominent point of it was at the seventh rib, which is displaced from its cartilage, and a portion of it carious. An opening in the diaphragm, capable of admitting a common quill, leads from the sac into the cavity of the chest, which contained three pints of pus. Ascending

colon intimately connected with the sac of the abscess, the pus of which has penetrated its outer coat. MS. Cat., page 129, No. 105.

From Matthew Wilson, aged 29, 55th Regiment, who returned from India on the 4th October, 1832, having the usual symptoms of chronic hepatitis, but with no indications of abscess in the liver. Early in November, however, considerable tumefaction was remarked in the right hypochondriac region and the patient complained of an aggravation of pain, both in this part and in the right shoulder, accompanied by a quick hard pulse, a severe dry cough, tenderness of the abdomen on pressure, and obstinate diarrhœa, with occasional vomiting. It being judged inexpedient to open the abscess, palliatives only were employed. The tumour, therefore, gradually acquired a larger size, and his debility became so extreme, that he expired on the 15th December. After death the right lung had the vesicular tissue almost obliterated, was softened in its texture generally and much reduced in size, in consequence of the presence of three pints of pus in the pleural bag of that side and a vast abscess of the liver, which had pressed up the diaphragm. The mucous membrane of the stomach was remarkably softened, and in some parts thickened, but had no appearance of congestion. The small intestines healthy. The ascending portion of the colon was intimately connected with the abscess of the liver which had penetrated its outer coat. There was also contraction of its descending part and sigmoid flexure, and the whole of its mucous membrane exhibited ulcerated patches.

Fasciculus II, Plate IX, Fig. 1.

(*c*) Single Abscesses of Liver discharging through the Lungs.

1129. Sac of a large abscess situated in the right lobe of the liver, near its convex surface, which penetrates the diaphragm and communicates with the right lung; a bougie is passed from a large bronchial tube into the cavity, the inner surface of which is rough and lined with lymph; liver enlarged. MS. Cat., Vol. II, page 154, No. 197.

No further history.

1130. Sac of an abscess in the right lobe of the liver, near its convex surface, surrounding structure broken up. Print. Cat., page 107, No. 6.

From John Ludwick, received into Fort Pitt Hospital, Chatham, on arrival from India, suffering from severe pain in the right side, with frequent short cough and difficulty of breathing. During a violent fit of coughing he expectorated a quart of matter (from the liver) and died in two months.

1131. Cavity of an abscess in the right lobe of the liver, communicating by an ulcerated opening through the diaphragm with the base of the right lung. The upper surface of the liver, and the inferior surface of the lung, adhere intimately to the diaphragm, and around the passage of communication in each organ there is induration from effusion of lymph.

No history.

Fasciculus III, Plate I, Fig. 8.

1132. Sac of a large abscess in the right lobe of the liver, communicating with the right lung, the base of which forms a large part of the walls of the sac, its internal surface is rough and covered with lymph. Print. Cat., page 107, No. 2.

From Nicholas Bonalvert, aged 38, 60th Regiment, admitted, complaining of pain in the right hypochondriac region, augmented on pressure or deep inspiration. A degree of fulness and induration was observable on examination of this part. He had been 5 years in the West Indies, where he had suffered much from remittent fever. He was carried off by an attack of dysentery.

Fort Pitt.

1133. Abscess cavity in upper surface of right lobe of liver adjacent to diaphragm and opening into right pleural cavity.

No history.

(*d*) Single Abscesses of Liver discharging through Pericardium.

1134. Sac of an abscess in the right lobe of the liver, near its convex surface, communicating with the right lung, which adheres to the diaphragm, and also with the pericardium by a large irregular aperture. Serous surface of the heart and pericardium covered with granular lymph.

No history.

1135. Abscess of the convex surface of the right lobe of the liver which has burst into the pericardium through the diaphragm. The opening through which the pericardium has been perforated in some respects resembles the *os uteri*. The membrane is thickened, especially that covering the heart, from the deposition of lymph of a granular form.

From Robert Smith, 78th Regiment, who was admitted into Garrison Hospital from the barracks on the 17th April, 1851, suffering from acute pain in the epigastrium, skin was covered with moisture, pulse quick, but soft. He stated that he went to bed in his usual health, but having occasion to go to the rear at 3 a.m., was suddenly seized with pain in the epigastrium. Some relief was afforded him by the administration of an opiate draught, but he complained of great debility, the pulse was feeble and intermittent, the countenance pale and sunken, and after having had one natural evacuation shortly before death, he expired at 10.30 a.m. He had served 10 years in India and had been of intemperate habits. Was invalided for chronic hepatitis, but improved so much during the voyage home that he was ordered by a medical board to do duty with his depôt. From the appearance of the lymph it was (in part at least) of pretty old formation, the irritation excited by the pressure of the matter contained in the abscess having probably given rise to inflammatory action, and rupture took place through the previously attenuated portion of the membrane by the act of straining at stool. After death the pericardium was found much distended, and, being carefully opened, 20 ounces of serous fluid, mixed with blood, were evacuated. The liver was much enlarged and a section presented a nutmeg appearance. On cutting into its upper surface a large cavity was found passing into the right and left lobes. The upper wall of this cavity was formed by the diaphragm through which the opening into the pericardium had taken place. The walls of the cavity were much thickened, it was evidently of old standing, for the sides in some parts were cartilaginous. It contained thick lymph and a few drops of blood. The intestines, stomach, and kidneys were healthy.

1136. Sac of a large abscess, capable of containing a pint of fluid situated in the left lobe of the liver, and communicating with the pericardium by an aperture large enough to admit the finger. Serous surface of the heart and pericardium coated with lymph, more particularly the former, and, in the recent preparation, it was slightly inflamed. The abscess cavity was lined by a distinct, firm, semi-cartilaginous membrane. It is probable that the pus of the hepatic abscess had been oozing into the pericardium for some hours before death, so that the inflammation and effusion of lymph on the heart probably took place some days before death, from irritation produced by the abscess.

From Cunnia, aged 35, native of Bombay, who had been in the Mauritius one year, working as a field labourer, when he came into the Immigration Depôt on the 21st December, 1844, for the purpose of entering into a new engagement, having walked 7 or 8 miles that day. He remained in apparent good health until 6 o'clock on the morning of the 26th, when he began to complain of pain at the pit of the stomach and died at half past 10 a.m. About 2 pints of reddish pus and serum were found in the pericardium, and thick yellowish green pus was seen oozing from the aperture through the diaphragm.

(*e*) SINGLE ABSCESSES OF LIVER DISCHARGING THROUGH THE STOMACH.

1137. Portion of liver, showing the sac of an abscess, which communicates with the stomach by a large irregular opening about three inches in diameter; stomach and part of the transverse arch of the colon adherent, the coats of the former surrounding the opening much thickened and the mucous membrane granular.

From Sergeant M'Gahan, admitted into hospital in a state of great debility and emaciation, with loss of appetite, and subject, particularly after meals, to flatulence, pains in the præcordia, and vomiting. He stated that his health and digestive powers had been declining for some years.

Fort Pitt.

1138. Cavity of an extensive irregular abscess in the liver, situated between the two lobes, with shreds of membrane and lymph hanging from its inner surface, communicating inferiorly with a cavity formed by adhesion of the concave surface of the liver to the upper surface of the stomach.

From Corporal William Girling, aged 28, admitted to hospital on 23rd November, 1839, and died on 8th December, from gastritis and acute hepatitis. Of spare habit, but generally in good health, he complained on admission of severe pain, partly of a spasmodic character at epigastric region, accompanied by extreme tenderness on pressure, which he said had been more or less present for five days. Had had some slight relief from brandy, which he took before admission. Tongue white, thirst great, with nausea and flatulence. Bowels free by medicine. Pulse 90, moderately full and firm. Countenance expressive of suffering, and there was much restlessness. Leeches, fomentations, calomel, and on the following day v.s. to 20 oz. with considerable relief. Evening of 25th there was vomiting, pulse frequent and small, surface pale and cool, pain not violent but tenderness continues with expression of suffering. Leeches, blisters, calomel and opium were administered, and mercurial friction on thighs. From this date

pain was less violent, but more diffused, extending over left lobe of liver, with extreme tenderness on pressure. Pulse 100, small, surface generally cool and dry, want of sleep, constant murmuring. 28th great relief from warm bath, which continued till evening, when increased pain, restlessness, and delirium took place. Pulse 130, small and easily compresed. Head hot, general surface dry and of natural temperature. These symptoms continued with more or less urgency up to the time of his death, about 3 o'clock on the morning of 8th December, 1839. After death the liver was found considerably enlarged, transversely extending considerably into left hypochondrium. its outward free edge adhered to upper surface of stomach from near the pylorus to cardiac extremity, and from thence the free edge of remainder all round its left side continued to adhere to the peritoneum reflected from the cardiac extremity of the stomach. The liver contained a very extensive abscess, which communicated below with the space naturally bounded by its lower surface on the one hand, and by the reflection of the peritoneum from its transverse fissure to the lesser curvature of the stomach and upper surface of this organ on the other, thus preventing extravasation into peritoneum. Right lobe natural, gall-bladder thickened and contained bile, mucous membrane of stomach and intestines more easily torn than natural and in many places more vascular.

Necrological Register, Vol. VI, page 47.

Donor—Dr. Burrell, Surgeon, 77th Regiment.

(*f*) Single Abscess of Liver discharging by the Colon.

1139. Section of liver, showing a portion of the sac of a large abscess, capable of containing a pint of matter which was situated in the right lobe, and communicated with the corresponding angle of the colon; structure surrounding the cavity soft, and broken up. Print. Cat., page 95, No. 24.

See history of Patrick Cahill, under Preparation 893, page 239.

(II) Multiple Abscess in the Liver.

1140. Section of a large liver, showing numerous foci of multiple abscesses in various stages of necrosis of tissue and pus infiltrations varying in size from a pea to a walnut, the result of advanced suppurative hepatitis consequent upon or concomitant with dysentery.

From Private William Marmion, aged 24, who was admitted into Netley Hospital on 28th January, and died on 24th February, 1887. After death the liver was seen to completely fill the upper part of the abdominal cavity. It weighed 6 lbs. 4 ozs. Slight adhesions connected it with the omentum and colon; and on the right side through the 9th intercostal space, and slightly anterior to the axillary line, an opening had been made into the liver through which pus had been removed; and round the seat of the operation the liver was firmly adherent to the parietes and diaphragm. Section disclosed numerous deposits of purulent infiltration and necrosis of tissue, which could be seen shining through the capsule. The drainage tube led through about two inches of hepatic tissue into a large abscess cavity, containing 3 or 4 ounces of bile-stained pus. The walls of the large intestine were much thickened, throughout its whole length; and there were numerous ulcers in some of which the floor was formed by the muscular coat. In others the orifices of the solitary glands were filled with a small clot of blood. Irregular ulcerations existed

everywhere. The last three inches of the rectum was claret coloured, and its surface resembled an indolent ulcer. In the ileum, just above the cæcum, Peyer's patches were very pigmented, as if the orifices of the glands had been picked out with ink.

Pathological Reports, Netley, Vol. XV, No. 88.

1141. Section of liver, softened in texture, and containing several cavities of small abscesses. Print. Cat., page 112, No. 47.

From Thomas Golding, admitted into hospital with acute hepatitis, which proved fatal in forty-one days. He had been addicted to the use of ardent spirits.

Donor—Mr. Colclough, Surgeon, 9th Lancers.

1142. An irregular sac of an abscess in a portion of the liver with evidence of multiple foci.

No history.

1143. Sac of an abscess situated in the convex surface of the right lobe of the liver; the peritoneum covering it is thickened and coated with lymph. On opposite surface are numerous multiple necrotic foci of purulent infiltration.

No history.

1144. Cavities of abscesses of various sizes in both lobes of the liver; structure surrounding them soft, broken up and hanging loose.

No history.

1145. Several cavities of abscesses in both lobes of the liver, with shreds of lymph on its peritoneal covering. Print. Cat., page 119, No. 98.

From a soldier of 1st Regiment who returned from India labouring under chronic hepatitis of which he died.

1146. Cavity and foci of multiple abscesses in the liver; surrounding structure broken down and hanging in loose shreds.

No history.

1147. Cavity and foci of multiple abscesses in the liver; the surrounding parenchyma is broken down, and hangs in loose shreds.

No history.

1148. A portion of liver, showing the cavities of two abscesses, the inner surfaces of which are rough and granular.

No history.

Donor—Dr. Hodson, Surgeon, 95th Regiment.

1149. Portion of a liver, showing two cavities of abscesses situated in the anterior part of the right lobe, lined by a distinct firm membrane, and communicating with each other by an opening capable of admitting a common quill.

Donor—Mr. Turnbull, 98th Regiment.

1150. Cavity and foci of multiple abscesses, the larger abscess (size of an orange) was situated in the right lobe of the liver, about an inch from its convex surface, which was filled with liquid and curdled pus, inner surface of sac rough and covered with lymph. There is much necrosed tissue in shreds. MS. Cat., Vol. II, page 155, No. 201.

From Martin Hannigan, aged 29, 4th Regiment, of five years' service in India, sent home from his regiment on account of dysentery and chronic rheumatism. Admitted into Fort Pitt Hospital, 28th July, 1843, for chronic catarrh. His left testicle was much enlarged, and had been so for 2 years, with a superficial ulcer on the scrotum. Discharged 12th September, and readmitted 23rd January, 1844, with severe cough and purulent expectoration. He died on the same day at 6 o'clock p.m. Both lungs adhered universally to the walls of the chest, loose and cellular anteriorly, close posteriorly. Lower lobe of left lung condensed by very minute crude tubercles dispersed throughout; and from the section of the bronchial tubes of this lobe, muco-purulent matter escaped, the other lobes of both lungs generally were red, and in some parts slightly œdematous.

1151. Numerous large cavities of abscesses in the liver, which was of an enormous size, and projected so high into the right thoracic cavity as to compress the lung, and thrust the heart far to the left side. In removing the viscus one large abscess burst; the remaining solid and fluid parts weighed fourteen pounds, whereof probably nearly three-fourths consisted of purulent matter. Print. Cat., page 117, No. 87.

From John Marr, aged 19, 26th Regiment. This youth, having been eighteen months in India, during which time he had been in good health, with the exception of a slight dysenteric affection, was suddenly attacked with hepatitis in its most ardent type, which ran into extensive suppuration, and the case proved fatal in twenty-five days.

Donor—Dr. Thomson, Asst.-Surg., 26th Regiment.

1151A. Section of a liver, showing small abscesses, the result of purulent infection (septicæmia). Numerous small deposits were studded throughout the left lobe. The cæcum was covered with dark green sloughs; and some were also seen in the colon and rectum.

From a middle-aged Mussulman.

Presented by Grant Medical College, Bombay.

1152. Liver much enlarged and weighing five pounds four ounces; left lobe indurated, and the cavity of an abscess in the right which contained two pints of pus, surrounding structure broken down and hanging in loose shreds. A section through the left lobe shows necrosis of tissue and focus of another abscess. The peritoneal covering coated with lymph (perihepatitis). Print. Cat., page 113, No. 50.

From John Kelly, 67th Regiment, admitted with general dropsy and hepatic disease, contracted in India. The operation of paracentesis abdominis was performed below the umbilicus, and two quarts of turbid fluid obtained, after which high irritative fever set in, attended

with delirium, and lastly, death. On dissection, the viscera of the abdomen were found to be glued together with lymph, and that cavity contained about two quarts of fluid.

Fort Pitt.

1153. A very large liver, which, on removal, disclosed deep fluctuations over the whole convex aspect of the right lobe. Several small yellow spots were also seen about the size of sixpenny pieces scattered over the surface of the left lobe. These were all abscesses. On cutting into the larger cavity displayed in the preparation, it gave exit to 68 ounces of yellow half-bloody purulent matter—the cavity involving nearly the whole of the right lobe; the other smaller abscesses being scattered throughout the substance of the left lobe.

From Private J. Smith, aged 24, who died at Netley Hospital, of phthisis pulmonalis, of two years' duration, contracted at Umballa. He had completed 4½ years' service, chiefly in the East Indies, at Barrackpore, Peshawur, Multan, and Umballa. His weight on enlistment was 9 stone 5 lbs., with a height of 5 feet 5¾ inches. He had suffered from gonorrhœa and simple bubo, 36 days in hospital. At Peshawur he had continued fever in 1862, and remained in hospital 42 days. At Multan he had orchitis during 31 days; intermittent fever for 12 days, and again gonorrhœa for 25 days. He was admitted to Netley Hospital in August, 1865, and died on 25th July, 1865. He had first suffered from hæmoptysis at Umballa, in August, 1864, which continued at intervals for several days, and latent tubercles were developed in the lungs. On admission to Netley he was much emaciated and very weak, with distressing vomiting and diarrhœa, skin dry and furfuraceous. Body temperature, 100° Fahr. He complained especially of dyspnœa and pain in the chest, especially on exertion. He expectorated much purulent-like sputa. There was dulness with evidence of cavities in the lungs. After death an excavated ulcer was seen in the larynx immediately above the right vocal chord. Right lung infiltrated with miliary tubercles, and considerably increased in volume. The left in a similar condition, and in several places softening into cavities. There were remains of extensive ulceration at the lower portion of the ileum, with intensely dark congestion surrounding extensive ulceration of the ileo-colic valve, and commencement of the cæcum. Ulceration generally throughout the colon as far as the rectum. In the descending colon the ulcers were smaller and less frequent, except in the sigmoid flexure when they were larger. The solitary glands were very prominent in the colon.

Pathological Reports, Netley, Vol. V, No. 4.

(*a*) Multiple Abscesses tending to point through the Diaphragm.

1154. Liver showing two abscesses, one of a large size, situated in the concave aspect of the right lobe, lined by flocculent lymph which contains sixteen ounces of thick pus; the other, about the size of a walnut and situated near the convex surface, is coated with lymph, and adhered to the diaphragm; a long groove on the upper surface running from the anterior to the posterior margin. MS., Vol. II, page 129, No. 104.

From Richard Stone, aged 40, 42nd Regiment, who suffered from dysentery 12 months after leaving the Mauritius, where he had been stationed for 12 years, and had suffered severely and frequently from hepatitis at that station. He landed at Chatham in a state of extreme debility, with a continuous flux of ill-conditioned matter from the bowels, tenesmus and great emaciation. He lately passed coagula of blood by the anus. After death the small intestines were ulcerated in many places.

Fort Pitt.

1155. Liver exhibiting the sac of an abscess of considerable size, and evidence of necrosis of liver tissue commencing another abscess; the diaphragm adheres to the convex surface; a bougie is passed through an incision in the integuments into the cavity of the abscess; the evacuation of the matter gave temporary relief.

Donor—Mr. Lightbody, Surgeon, 80th Regiment.

1156. Cavity of a large multiple abscess in the right lobe of the liver, with a strong band of hepatic structure passing across it; inner surface rough, and lined with lymph; diaphragm adherent. The patient died hectic.

Donor—Mr. Frazer, Asst.-Surg., Staff.

1157. A very large liver which extended quite across the abdomen, and downwards to an extent of 5½ inches below the ensiform cartilage. The upper margin on the right side extended to the lower border of the 4th rib, and on the left side to lower border of 5th rib. There is shown considerable perihepatitis, through which its upper surface adhered to the diaphragm, and its lower edge and under surface to the colon, the duodenum and pancreas. The measurements on removal were:—

Right lobe, transversely, 7·6 inches; left lobe 4·2 inches.
„ „ antero-posteriorly, 9·4 inches; left lobe 8·2 inches.
„ „ greatest thickness 3·6 inches; left lobe 2·6 inches.

The liver displaced 160·4 cubic inches of water, and it weighed 12 lb. 2 ozs. and 6 drams. Its specific gravity was 1·051.

The right lobe is especially enlarged. On its upper surface are three large abscess cavities, which were exposed on removal of the liver from its attachment to the diaphragm. They are closely contiguous, but do not communicate, and are oval in shape. The largest cavity measures 3·2 inches by 2·2 inches by 2 inches deep. The smaller cavity measures 2·7 inches by 1·6 inches by 1·5 inches deep. The other cavity is intermediate in size. The upper boundary of these abscess cavities is formed by disintegrating diaphragm and thickened pleural adhesions. One cavity tended to open into the base of the right lung; while the other two cavities tended to open into the cavity of the right pleura, into which their contents

escaped on removal (no evidence of any escape before death). These contents were made up of thick pus, with disintegrating hepatic tissue. There seems to be no inner lining to these cavities, in which the vessels are seen ramifying and still untouched. On the outer lateral margin of the liver is another cavity the size of a filbert and distinctly isolated. On the under surface of the right lobe is another abscess cavity of an elongated, irregular form and near the transverse fissure. On the upper surface of the left lobe two large abscesses, irregularly oval, each measuring about 2·2 inches by 2 inches. They tended to open into pleura, and one was firmly connected to the pericardium and tending to open into it. On the under surface are two large abscesses, each 3 inches by 1·8 inches in size. One extends through nearly the whole thickness of the lobe. Another (the outer on the left) had its lower boundary adherent to the tail of the pancreas and the œsophagus end of the stomach. It did not open into peritoneum. Another cavity had its lower boundary formed by the stomach and omentum, and tended to open (but did not) into peritoneum. In the substance of the liver is another abscess, the size of a walnut, the only abscess not peripheral. All the abscesses had similar contents. In one is a large slough of a yellowish green colour. The general structure of the liver appears of a fawn colour, with numerous smaller deposits of a yellow colour, with a distinct central spot, as if necrosis or softening had commenced in them, and varying in size from a pin's head to a millet seed. Microscopically the liver was fatty, with some evidence of commencing lardaceous disease.

From Corporal Charles Boskett, aged 37, of 17 years' service, for the most part in China, Cape of Good Hope, Ceylon and India, where he contracted chronic dysentery at Indore, for which he was invalided and admitted to Netley Hospital, on 8th April, 1871, and died ten days afterwards. He had been ill for 177 days. His habits are recorded as intemperate, and especially in alcohol. On admission he appeared to be in great suffering, and was much emaciated. His countenance was very sallow, the abdomen enlarged, and parietes tense. His respiration was hurried, sighing, and thoracic. Pulse 94. Veins (cutaneous) of abdomen prominent. Tongue furred; appetite bad, with much thirst. Abdomen painful, especially in the hepatic region, where there is much prominence as of a large firm mass. Area of hepatic dulness greatly increased. Bowels moved eight to ten times in the 24 hours, with tenesmus. Stools were offensive, consisting of slimy mucus, scybalæ, blood clot, fluid blood, and dysenteric sloughs, and generally of a greenish colour. Profuse perspiration at night. Urine diminished in quantity, high coloured, no albumen. Temp. 102·2, latterly his temperature fell, and the motions improved in character, until the last day of life, when he passed very dark motion with much blood. On 16th April deep-seated fluctuation was detected in the hepatic region, where a trocar was introduced between 7th and 8th ribs, and 2 ounces of thick pus withdrawn. On the 17th the operation was repeated in another situation with a similar result. Some relief followed, but he expired suddenly the following day. After death, universal and firm

adhesions obliterated the pleural cavity on the right side; the base of right lung was firmly adherent to the diaphragm, and so also adherent to upper surface of liver which bulged upwards. There was purulent infiltration into this part of the thickened pleuræ, limited to a space of 2½″ × 3″, and surrounded by a line of demarcation, marked by recent lymph. The lower lobe of the right lung was condensed, but softened at the base, and disorganised. It was void of air and greatly congested. The mucous surface of the duodenum was congested, with enlargement of Brunner's glands; congestion also of jejunum and ileum. Peyer's patches were atrophied, but no ulceration in small intestines. The caput cæcum was the seat of extensive dysenteric ulceration. The whole of the mucous membrane was in a state of necrosis, and extensively destroyed by ulceration. The ulcers were of irregular shape, superficial, and surrounded by intensely injected blood vessels. In the ascending colon there were the cicatrices of numerous ulcers, most of which had healed; some were nearly healed, and a few were still in the condition of ulceration. The cause of the abscesses may be referred to the prior congestion and enlargement of the liver during previous malarious attacks, the morbid condition being kept up and aggravated by the intemperate habits of the man, and his excessive use of alcohol in a hot climate. A liver in such an impaired condition would be prone to suppurative inflammation in a subject attacked by dysentery. Clot in the pulmonary vessels was the immediate cause of the sudden death.

Pathological Reports, Netley, Vol. XII, No. 1.

1158. Liver weighing 8 lbs. 9 oz.; a portion of diaphragm, and some very condensed (right) lung tissue are adherent to it. The right margin and upper surface were firmly united to the parietes of the chest, which are shown in the preparation. On the under surface of liver and densely incorporated with inferior wall of an abscess cavity were—the right kidney, flattened out, but its secreting substance not absorbed, also the pancreas and portion of duodenum and transverse colon. During removal a quantity of shreddy purulent fluid escaped from an opening in the abscess. The whole of the right lobe, together with the *lobus quadratus* was the seat of a large abscess, contained in a sac of dense fibroid tissue, half an inch thick in some parts. The internal diameter of this abscess measured 10″ × 7″, its internal wall being shreddy. It contained 80 ounces of shreddy, purulent fluid, tinged with blood. The thinnest portion of the sac was adherent to the chest wall, where the operation of paracentesis had been performed. Numerous small purulent depôts pervaded the remaining portions of the liver, varying in size from a millet seed to a walnut. The liver capsule was thickened and opaque from perihepatitis, and cicatricial markings were apparent on the liver surface. The measurements of the liver were:—antero-posterior diameter, 9 inches; transverse diameter, 20 inches; thickness, 4 inches.

From Private John Graham, aged 24, of 4½ years' service, mostly at Bellary and Secunderabad in India, where he suffered from tonsillitis, primary syphilis, bubo, dysentery, hepatitis, and bronchitis. He was invalided to Europe in September, 1867, on account of chronic hepatitis and dysentery, contracted at Secunderabad, and was

admitted to Netley Hospital on 18th January, 1868. He had a pale, anæmic appearance, complaining of cough and pain of right side over the region of the liver, which, during January and February, never ceased, and was attended with great tenderness under the false ribs. The region of hepatic dulness was considerably increased, but with no great bulging of the side. These symptoms increased rapidly, during March, and towards the end of that month there was marked prominence throughout the entire hepatic region and obliteration of the intercostal spaces. There was occasional rigor, great tenderness with a sense of fulness, and all the symptoms of deep-seated liver abscess. On 27th of March, the small trocar of Dr. Bowditch's exhaustion syringe was introduced over the most prominent part, between the 10th and 11th ribs on the right side, and on a line from the right nipple to the anterior superior spine of the ilium. Fourteen ounces of dark purulent matter were extracted, deeply tinged with blood. Great relief to the patient was thus obtained; and the operation was twice repeated. On the 2nd April 46 ounces were drawn off, and about 20 ounces on the 7th April. On the last occasion the cavity of the abscess was washed out with solution of carbolic acid (1 to 200). There were also grave symptoms involving the lungs, expectoration was muco-purulent, but never in sufficient quantity to justify the conclusion that the abscess cavity had opened and discharged by the right lung. The pulse during the last month of life was hardly ever below 130; and he died from exhaustion. After death the body weighed 115 lbs. There were cicatrices on the penis. The base of the right lung adhered firmly to the diaphragm. There was a considerable amount of fluid in the peritoneal cavity. The mucous membrane of the small intestines was the seat of lardaceous diseases; great enlargement of the solitary glands near the caput cæcum; and in the cæcum were large patches of ulceration (dysenteric) in process of healing, with cicatrices of healed ulcers throughout the colon.

Pathological Reports, Netley, Vol. VII, No. 19.

1159. Sac of a large abscess situated in the right lobe of the liver, communicating with the inferior lobe of the right lung by a circular aperture half an inch in diameter, through the diaphragm to which the lung adheres. Print. Cat., page 107, No. 5.

From Francis Calwell, aged 28, 60th Regiment, admitted into Fort Pitt Hospital, on arrival from India. He had been the subject of dysentery for the last three years of his service in that country, but he improved on the passage home. He complained of pain in the hepatic region, aggravated by inspiration and coughing. After admission he had an attack of hæmoptysis, and the dysenteric dejections reappeared. He died at the end of five weeks.

1160. Section of liver of previous preparation showing the cavities of a number of small abscesses having no lining membrane, and the hepatic structure surrounding them is soft and broken up. Print. Cat., page 109, No. 16.

History as above.

(*b*) MULTIPLE ABSCESS OF LIVER OPENING INTO STOMACH.

1161. Abscess of the left lobe of the liver, which has burst into the stomach near the pylorus. The opening is of large size and irregular shape with shreds of mucous membrane along its margin, but the inner surface of the stomach is in other parts healthy.

From John Owen, aged $23\frac{7}{12}$ years, 9th Lancers, arrived at Calcutta, in October, 1846, and enjoyed good health until the following year, when he was admitted into the Regimental hospital

at Meerut, for an acute attack of dysentery, for which he was bled, leeched, and took mercury, until slight ptyalism was induced, he remained for 16 days in hospital, viz., from 15th October, 1847, till 1st November, 1847, when he was discharged cured, and performed all his duties from that period until the 23rd of April, 1850, when he was again taken into hospital at Wuzeerabad, complaining of pain in the epigastrium, which for some days previously was accompanied by liquid purging. On admission his countenance was sallow, sharp and anxious, tongue brown, rather dry and red at the edges, bowels much too full, dejections liquid and of a light yellowish hue, pulse 100 small, soft and weak. Body and limbs somewhat emaciated, skin at one time hot and dry, at another covered with copious perspiration. There was a small globular tumour in the epigastrium, a little to the left of the *linea alba*, which was very tender to the touch, and gave an obscure sense of fluctuation. There was also some fulness of the right hypochondrium, which was dull on percussion as high up as the lower margin of the 4th rib. He had nausea, much thirst and anorexia. On consultation it was not considered advisable to make an artificial opening for the evacuation of the matter; leeches, calomel, and opium were administered, and he continued free from pain and had tolerably good nights up till the 29th May. On the 1st June he was reported to have suffered much from pain in the epigastrium. During the fore part of the day and towards evening he became sick and vomited, which gave much relief. The tumour in the epigastrium immediately after vomiting was much smaller, and continued to diminish for several days, until a deep-seated induration only could be felt. Although he did not vomit again, no pus could be detected in the alvine evacuations, probably from being intermixed with them. His appetite improved under the use of mild tonics and mineral acids, and he continued tolerably free from pain, but slowly became more and more debilitated, and died exhausted on the 27th July, 1850.

Three and a half hours after death, a large abscess of the liver was found adherent intimately to the diaphragm, and pushing it up into the right thoracic cavity as high as the upper margin of the 4th rib. The diaphragm was thin, and the liver was united to the abdominal parietes, by long old cellular bands, in one of which, a little to the left of the falciform ligament, a considerable quantity of moist calcareous-like matter was found. The right lobe contained four abscesses, two large and two small. The former were towards the back part of the viscus; both were full of pus, containing nearly 6 ozs. each; in the one thick and green, in the other thin, watery and brownish. The two small abscesses were more towards the thin edge of the right lobe, the size of an apple, and filled each with thick pus. Convex surface of left lobe was normal, its concave was closely united to the lesser curvature of the stomach from the cardiac to the pyloric orifice, at a short distance from the latter. All the coats of the organ were there perforated by an opening, which would admit 2 or 3 fingers, and led into a thick empty cyst in the left lobe of the liver, capable of containing a small hen's egg. The walls of the cyst were thick and contracted, and the cavity must have been much larger before it burst. About one-third of an inch intervened between the upper part of the cyst and the convex surface of the liver. There was ulceration of the lower end of the *ileum* and of the whole of the *large intestines*.

Donor—Dr. Staunton, 9th Lancers.

Acute Atrophic Hepatitis or Acute Yellow Atrophy of Liver.

1162. A liver very much diminished in size, relatively thin and flaccid. It is of a yellowish colour.

Donor—Surgeon Moffit (through Surgeon H. S. McGill, 1888).

No history.

SYPHILITIC LESIONS OF THE LIVER.

(*a*) Syphilitic Cirrhosis and Perihepatitis.

1163. A liver in an extreme state of syphilitic cirrhosis. Its surface is deeply fissured and lobulated from rounded projections of liver substance of considerable size. A section shows growth of white fibrous tissue which strangles and compresses the liver substance; and which, by its contraction, has given rise to the fissures and lobulation. There is also evidence of much perihepatitis, causing extensive puckering on the surface. These appearances have been described in the old catalogue as marks of "Old Suppurating Cavities;" but it is obviously a syphilitic liver. Print. Cat., page 107, No. 8.

From Richard McClare, aged 36, Newfoundland Veteran Company, who was attacked with continued fever, relieved on the 3rd day; but on the 4th day he complained of pain in the right iliac region, with ardent fever terminating in a state of sudden collapse, for which the operation of transfusion to the amount of 30 ounces was resorted to, but without success—the patient dying a few hours afterwards. After death the peritoneum in the right iliac fossa was found inflamed, and small portions of lymph were irregularly diffused on its surface. The mucous membrane of the stomach was studded with petechial spots. The spleen was enlarged and indurated.

1164. A small much contracted, misshapen liver in the condition of syphilitic cirrhosis. On its anterior surface is a projecting nodule (gummy tumour), radiating from which are extensive puckerings of the capsule. A section has been made into its substance, showing the development of white fibrous tissue. Both surfaces are deeply fissured and lobulated by rounded projections. It weighed 1 lb. 15 ozs. See MS. Cat., Vol. II, page 156, No. 202.

From James Proven, aged 30, 25th Regiment, who died of phthisis pulmonalis; both lungs were found filled with tubercles and cavities.

Donor—Dr. Williamson, Staff Asst.-Surg.

1165. Portion of liver exhibiting a stellate cicatricial loss of substance on its surface, causing a well-marked puckering.

The patient had contracted syphilis in the West Indies, for which he had mercury to a considerable extent. The bones of the cranium were carious; but there is no history of the origin of the hepatic cicatrix. It is obviously due to the retraction surrounding a syphilitic node—the nature of which was then unknown. Print. Cat., page 111, No. 35.

Fort Pitt.

1166. A liver affected with syphilitic cirrhosis and perihepatitis. It is extensively lobulated and deeply fissured, and sections into its substance shows it to be densely indurated from growth of white fibrous tissue.

No history.

1167. A liver showing on its anterior aspect a long white cicatrix-like tissue extending from the posterior border forwards to the extent of 6 inches. At either end of this cicatrix is a depression, indicating loss of substance and corresponding retraction of the surface of the liver, which was attached to the diaphragm by vascular adhesions (perihepatitis). On section the posterior depression shows a mass of deposit about the size of a pea, composed of two substances, one white, the other yellow; which are disseminated. The depression anteriorly is over a similar deposit, which has not come to the surface. Degeneration of liver substance accompanies the cicatrix throughout its whole extent, and extends about three quarters of an inch into its substance. The general mass of the liver was of a pale fawn colour, and the degenerative portion gave a faint reaction with iodine solution. No other part of the liver gave any trace of lardaceous disease. It weighed 2 lbs. 15 ozs.

From Private John Foster, aged 40, of five years' service, three years of which he served in India (chiefly Bengal), where he contracted syphilis; and, through excessive exposure during the rainy season, he suffered from diarrhœa, followed by dysentery. He was admitted to Fort Pitt on 5th of April, 1861, and died on 14th July. He was greatly emaciated and cachectic, with great enlargement of the liver, and some enlargement of the spleen, with tenderness over the abdomen. He had sore throat, and his mouth was sore from the effects of mercury. Dysentery continued unabated, and he rapidly sank.

Pathological Reports, Fort Pitt, Vol. I, No. 35.

1168. Section of a liver altered by syphilitic cirrhosis. Weight 3 lbs. 4 ozs.; dimensions :—9·3″ × 5·4″ × 3·5″. Capsule generally opaque (perihepatitis) a cartilage-like deposit about an inch square on the surface. It is separable from the liver substance and composed of fibrous plates, but no cartilage cells. The substance of the liver is mainly increased from the growth of white fibrous tissue in greatest amount between the ascini, with deposits of amyloid degeneration in the midst of this tissue, but none in the lobules, which are congested. The liver cells were granular from fatty degeneration to a considerable extent.

From Private Henry Williams, aged 27$\frac{1}{2}$, of 4 years' service in England and Gibraltar, of strumous habit and delicate physique. In Autumn of 1861 he was admitted to hospital at Gibraltar on account of sore throat, consequent on syphilis; and, whilst under treatment, he was attacked with dropsy for which he was invalided to England. He was admitted to Fort Pitt Hospital on 30th October, 1861, greatly emaciated, with crepitation at base of right lung anteriorly. Abdomen greatly distended with ascitic fluid. Urine highly albuminous sp. gr. 1010, containing waxy casts and fat granules, passes 1,200 C.C.'s in 24 hours. 6th December, symptoms of uræmia set in. 11th December, paracentesis abdominis and death on 10th January, 1862.

(*b*) Syphilitic Gummata or Nodules in Liver.

1169. A portion of a liver (which weighed 5 lbs.) exhibiting on its surface numerous puckered depressions from subjacent loss of substance, and various sections show yellow nodular masses corresponding to these cicatrices and also similar morbid material scattered throughout the parenchyma.

From Private Arthur McGuinness, 82nd Regiment, of 17 years' service. He had a history of syphilis followed by rheumatism and chronic hepatitis. Associated were, syphilitic thickening and ulceration of the cranium, deposits in the lungs similar in nature to those in the specimen. Extensive atheroma of the aorta, and lardaceous disease of the intestinal villi, spleen and kidneys.

Post Mortem Records, Fort Pitt, Vol. III, No. 34.

1170. Section of a liver showing extensive perihepatic lesions with loss of substance in cicatricial-like puckerings, and studded with yellow nodular growths. It cuts tough, showing in section a yellow colour, and atrophied, with 6 or 8 nodular growths interspersed throughout its parenchyma, some of which project on its outer surface, from the largest of which extensive hæmorrhage has taken place. No reaction with iodine solution.

From Private Eakin, aged 29, of 10 years' service, admitted into Netley Hospital for chronic hepatitis, where he died on 28th June, 1863. He had suffered from syphilis, followed by rheumatism and secondary syphilis, splenitis and chronic hepatitis. There was found, after death, great thickening of the internal table of the skull corresponding to the frontal prominences. There was also cicatricial loss of substance of the external table, a patch of yellow nodular tumour about $\frac{3}{4}$ of an inch in diameter, developed in the pericranium, which is easily separable from the skull. Absorption of the external table had commenced, corresponding to the site of this node. There was also extensive ulceration, with loss of substance of the tissues surrounding the tonsils; and at the root of the tongue there was a large crucial cicatrix, surrounded by ulceration. Cicatricial loss of substance at the aortic curve, with yellow soft deposit in the wall of the aorta. A large quantity of bloody serum (116 ounces) was found in the cavity of the peritoneum. The kidneys were lardaceous. There was ulceration with softening of the right sterno-clavicular articulation, the interarticular cartilage of which was softened, with general pulpy degeneration of the joint, all of which communicated with a sinus opening into the inferior triangle of the neck. There was softening of the substance of the sternum.

Pathological Reports, Netley, Vol. III, No. 28.

1171. Three sections of liver substance, showing gummatous nodular growths, in a liver which weighed 11 lbs. 5 ozs.; it measured 14·8″ × 21″ × $6\frac{1}{8}$″ thick. The left lobe overlapped the spleen; and its lower edge extended $6\frac{1}{2}$ inches below the ensiform cartilage. There were extensive perihepatic adhesions fixing its surface to the peritoneum. The surface was marked by numerous depressions about the size of split peas. At the centre of the right lobe anteriorly (where it adhered to the peritoneum) there is a deep cicatricial loss of substance at the fundus

of which was a white nodule (compare with Preparation 1165). There were extensive peripheral deposits underneath the capsule. The gall-bladder was entensely distended with bile, also the bile-ducts, but no biliary concretion. The lymphatic glands at portal fissure were greatly enlarged.

From Joseph O'Loughlan, aged 32, of 10 years' service, who was admitted to Netley Hospital, on 18th November, 1862. He suffered from syphilis in 1854, followed by constitutional symptoms. He also suffered from dysentery in Bulgaria, followed by chronic hepatitis. Nine months before admission his abdomen began to swell, and continued gradually to increase with pain in the hepatic region; loss of appetite, with progressive emaciation continued, with vomiting of blood. He began to get drowsy, and the skin deeply yellow. He coughed up some purulent matter, mixed with blood, which exhaled a fœtid gangrenous odour, and he died in a typhoid condition on 15th December, 1862. There was sloughing of the penis (a line of demarcation commencing) and also of the point of the nose. There was ulceration found after death along the edge of the epiglottis. The upper portion of the right lung was softened. The left lung adhered to the diaphragm and at its base posteriorly was a spot of gangrene about a cubic inch in size. The spleen weighed 14½ ounces, and its substance was infiltrated with yellow gummata, similar to those in the liver.

Pathological Reports, Netley, Vol. III, No. 6.

1172. Portions (two) of a section through right lobe of the liver showing soft cherry-like masses of the size of a walnut. Several smaller nodules are also present, firm to the touch; and with dense fibrous tissue passing inwards from the convex surface which was nodular with adhesion of its upper border to the diaphragm (perihepatitis). Several large gall stones were present in the gall-bladder. A puckered deep cicatrix is seen in the upper part of the left section, which is transfixed by the glass rod. Considerable amount of pigment is present.

From Private Peter Keir, aged 27, 1st Dragoon Guards, of 9 years' service, admitted to Netley Hospital, 6th May, 1865, and died on the 12th May. He had served in India from August, 1857, to January, 1865. His habits were intemperate, and he had repeatedly suffered from venereal disease, in the form of ulcers, abscesses, caries, bubo, and orchitis; 496 days in hospital for these affections, chiefly at Bangalore. His latest admission for ulcer on penis was 15 months before admission, which was succeeded by induration of the inguinal glands, and enlargement of the right testicle. About July, 1864, on arrival in Madras, for invaliding, his feet and legs had begun to swell, followed by ascites and dyspnœa; anasarca became general, and in 1865 he was invalided to England. During the voyage he suffered from great prostration and diarrhœa, and was admitted to Netley moribund, from Bright's disease. Urine scanty, almost suppressed; sp. gr. 1031, and contained albumen in large amount. Vomiting, diarrhœa, and general prostration increased, and he died seven days after admission. Cicatrices of ulcers were present in the penis. The right testicle was enlarged, dense, and fibrous, containing a gummatous deposit partially softened. The calvarium was generally dense and thickened with much porosity over its inner aspect, and cicatricial loss of substance at two parts of the frontal bone. Loss of substance of right tonsil; and large cicatrices with puckering existed in the place of the left. The spleen contained yellow cheesy deposits; the kidneys were enlarged, the left adherent to spleen and pancreas.

Pathological Reports, Netley, Vol. IV, No. 39.

1172A. Section (antero-posteriorly) through the right lobe of the liver, showing a deep depression in its external (anterior) surface, at the base of which is a yellow nodular growth. The capsule shows extensive perihepatitis. The organ is dense and firm and gave a well-marked reaction with iodine.

From Private Joseph Ansan, aged 25, of 7½ years' service, mostly in India, where he contracted syphilis, in June, 1861, followed by secondary and tertiary symptoms. In 1863 he had bubo, said to be of constitutional origin, after which he had ulcerated sore throat and an abscess in the axilla. A node appeared on the left shin, and as there was general decline of strength and loss of flesh, he was invalided. He arrived at Netley, June 10th, 1864, extremely emaciated. His weakness gradually increased, and he died 15th June, 1865, from pulmonary complications. The throat was extensively ulcerated and velum pendulum palati was almost gone.

Pathological Reports, Netley, Vol. IV, No. 45.

1173. A portion of liver showing two large nodular growths, slightly softened and broken up, situated in a portion of the liver, and with bands of thick white fibrous tissue radiating from them into the liver substance. The section shows the character of waxy disease—amyloid or lardaceous degeneration, and the whole preparation is typical of syphilis. Print. Cat., page 115, No. 67.

From Samuel Harvey, 1st Regiment, who had served many years in India, and was invalided on account of visceral disease and dropsy, of which he ultimately died at Fort Pitt. After death the lungs were found to be indurated, and many large deposits (gummata) existed in the liver. The gall-bladder was greatly distended with pale bile; and a biliary calculus was impacted in its neck. See also Preparation No. 1275, page 348.

1174. Section through an isolated gummatous syphilitic nodule from the liver, preserved in glycerine in the stage of contraction, and showing the characteristic puckering of fibrous tissue radiating from the circumference of the nodule. The preparation is enclosed in a cell, and put up in a stoppered bottle for easy handling and reference.

From a case of well-marked syphilis.

1175. Section through an isolated gummatous syphilitic nodule from the liver preserved in glycerine. Its circumference is irregular from the radiation of fibrous bands and their contraction. The preparation is similarly enclosed like No. 1174.

From a case of well-marked syphilis.

1176. Section through an oval isolated gummatous syphilitic nodule preserved in glycerine, and similarly enclosed as in 1174 and 1175.

From a case of well-marked syphilis.

(*c*) Lardaceous Degeneration in Syphilis.

1177. Section (antero-posteriorly) through an intensely lardaceous liver which weighed 7 lbs. 11 ozs., which also showed intense pigmentation in parts. There is great increase of fibrous tissue in masses, and in bands mapping out the lobules.

From Private James Needham, aged 33, of 13 completed years of service, admitted to Netley Hospital, invalided from Cape of Good Hope, and died 24th June, 1863. He has a record of acute rheumatism, intermittent fever, chronic dysentery, and terminating in phthisis pulmonalis. Syphilis is not recorded, but his records are imperfect; and deep cicatrices existed on the penis; and there was irregular thickening of the calvarium, especially in the frontal region, with cicatricial loss of substance of the external table of the skull, on each side of frontal bone; and also small nodular swellings on right parietal bone near its centre. There was a large cavity in the apex of the left lung and a second cavity in process of formation. Both lungs were extensively consolidated, and especially (at lower and posterior portion of both) by a deposit of a semi-cartilaginous consistence. The apices were comparatively free. There was cicatricial loss of substance of the inner coat of the aorta, at its curvature; intense atrophy of the stomach and intestines with lardaceous degeneration of the villi; and tubercular, or lardaceous, ulcers throughout the small intestines; also ulceration throughout the colon with cicatrices towards the rectum. The *spleen* was enlarged, weighing 15¼ ozs., and measuring 6·6″ × 4·1″ × 1·7″. Its substance was firm and showed lardaceous reaction with iodine solution.

Pathological Records, Netley, Vol. III, No. 26.

1178. Liver very much enlarged and misshapen from interstitial hepatitis (syphilitic cirrhosis). It weighed eight pounds, fourteen ounces. Its structure is very firm and in all respects resembles a liver in a condition of lardaceous disease. Print. Cat., page 164, No. 147.

From John McMahon, 1st Regiment, admitted into Fort Pitt Hospital, Chatham, with chronic dysentery, of which he died. Two years previously he had been affected with syphilis, and subsequently had fever, after which numerous ulcerations broke out in various parts of his body, followed by disease of the tibia, radius, and ulna.

Tubercle or Scrofulous Lesions in Liver.

1179. Portions of liver containing tuberculous matter, minutely injected.

Donor—Mr. Partridge, King's College, London.

1180. A large well-defined tuberculous deposit, slightly softened towards its margin, situated in a portion of the liver.

1181. A well-defined tubercle, of a cheesy consistence, and about the size of a cherry, situated in the right lobe of the liver, near its convex surface; peritoneal covering coated with lymph.

Necrological Register, Netley, Vol. VI, page 356.

1182. Portion of liver, showing several tubercles of a caseous consistence near its surface.

1183. Portion of liver, showing two caseous tubercles.

From a man, ætat. 25, who died of phthisis.

1184. Portion of liver, containing four well-defined tubercular deposits, the layers of which are arranged concentrically. A biliary duct passes through one of these masses. Preparation No. 1248, MS. Cat., Vol. II, page 150, No. 186.

From John Macloughlin, aged 19, 11th Regiment, of 18 months' service, and who died at Fort Pitt Hospital from hepatic disease, dilated bile-ducts. Similar tubercles were found in the lungs and spleen.

1185. Portion of liver, showing two tubercles in their second stage of development. No tubercles were found in any other organ of the body. MS. Cat., Vol. II, page 135, No. 122.

From Michael Cadden, aged 29, 97th Regiment, who died, 27th January, 1835, of hepatic disease.

1186. Portion of liver infiltrated with tuberculous matter, also containing several cavities having distinct lining membranes.

Donor—Mr. Turnbull, Surgeon, 98th Regiment.

1187. Portion of liver, showing a cavity filled with softened tubercular matter; a strong band of adhesion unites it to the diaphragm, and its peritoneal covering is coated with lymph.

1188. Liver showing a large scrofulous deposit in a state of softening situated near its convex surface, there are also many others of a smaller size and firmer consistence throughout the substance of the gland.

From a soldier, aged 32, total service $6\frac{6}{12}$ years, of which $5\frac{4}{12}$ in India, where he suffered from dysentery and rheumatism, was attacked with bowel complaint, in September, 1845, which continued to his his death, 4th July, 1846, the immediate cause of which was from an attack of acute bronchitis. The mucous membrane, at the termination of the ileum, was highly vascular; large intestines healthy.

Fort Pitt Hospital, Chatham.

1188A. Left lobe of the liver contracted from interstitial cirrhosis so as at first sight to appear altogether absent, right lobe also similarly contracted and attached to the diaphragm, by many scrofulous bands; structure dense and studded with scrofulous nodules; weight of liver, with a portion of diaphragm, 2 lbs. 5 ozs.

From a man, ætat. 34, who died of ascites.

Donor—Mr. Nicholson, Surgeon, 42nd Regiment.

1189. Liver adherent very firmly to the diaphragm and surrounding parts, by scrofulous deposits, seen beneath its peritoneal covering. It was of the usual form and its structure seemed healthy. Weight 2 lbs. 2 drachms.

From a Bushman boy, see Preparations 42, page 12; 768, page 211; 797, page 217.

1190. Portion of the liver, of the Macacus Rhesus, pervaded by tubercles in their first and second stages of development; minutely injected.

Donor—Mr. Gulliver, Asst.-Surg., Royal Horse Guards.

Malarious Enlargement of Liver.

1191. Liver enormously enlarged, lobulated, and having a deep notch separating the two lobes posteriorly; with large scrofulous tubercles deposited in its substance; weight ten and a half pounds. See a Preparation under Kidney, from a patient of same name and regiment. (See also large livers already described under lardaceous degeneration.) Print. Cat., page 113, No. 51.

From Thomas Wood, aged 41, 38th Regiment, who was admitted into Fort Pitt Hospital, Chatham, and who died from ascites after seven weeks. He had suffered from the Walcheren fever, from the effects of which he never recovered. He was of intemperate habits.

Donor—Dr. Howell, Surgeon to the Forces.

MORBID GROWTHS.

(*a*) Medullary.

1192. Section of liver injected, and containing numerous medullary growths of various sizes.

Donor—Mr. Partridge, King's College, London.

1193. Sections (antero-posteriorly) of liver showing similar malignant growths.

History did not reach Netley, 6th December, 1869.

Donor—Dr. Bredon, Asst.-Surg., 97th Regiment.

1194. Section of a malignant growth, preserved in glycerine, and in a stoppered bottle. Similar to Preparations 1174, 1175 and 1176.

No history.

1195. Portion of liver, showing injected medullary tumours in its substance.

Donor—Mr. Stanley, St. Bartholomew's Hospital, London.

1196. Portion of liver, showing many large white medullary deposits in its substance, the intervening structure soft and of a black colour.

Donor—Dr. Lander, Surgeon, 7th Hussars.

1197. Right lobe of the liver indurated and condensed; a large encephaloid tumour in its thin edge which adhered to the arch of the colon and communicated with it by two ulcerated openings; the tumour when recent was of a melanotic colour externally, the surface having several openings through which some dirty brown-coloured fluid

exuded; internally it consisted of masses of light coloured caseous or tubercular pulp, intersected by dark brown melanotic-looking matter, the whole contained in a well-defined cyst of dense texture; gall-bladder enlarged and distended with bile; peritoneum covering the liver thickened and coated with lymph. See Preparation 738, page 206. MS. Cat., Vol II, page 139, No. 133.

From James Nobit, aged 28, 72nd Regiment. For history, see page 206.

Donor—Mr. Ford, Asst.-Surg., 72nd Regiment.

1198. Portion of liver infiltrated by flattened growths; also two larger growths, the size of walnuts. Similar growths were found in the brain and also in the duodenum. (See No. 839, page 226.)

From Private W. Fox, whose history is there recorded.

Pathological Reports, Netley, Vol. XII, No. 106.

1199. A large cerebriform tumour, embedded in the upper and posterior part of the right lobe of the liver, portions of the mass are softened and broken down. MS. Cat., Vol. II, page 148, No. 177.

From Charles Sidney, 15th Hussars, a tall man of rather spare habit, who, in August, 1838, received a kick from his horse over the region of the liver, from the immediate effects of which he appeared to recover in a week after the injury. He enjoyed tolerable health until a short time before his admission to the General Hospital, Fort Pitt, on the 14th April, 1839, when he suffered under the following symptoms:—pain, with sense of fulness in the epigastrium; yellowness of skin; clay-coloured evacuations; urine deeply tinged with bile. These symptoms alternately underwent remissions and exacerbation, the bowels continued regular, although the evacuations presented in a marked degree the absence of bile in them. About 2 o'clock on the morning of the 26th April, he was found complaining of acute abdominal pain, attended by all the symptoms of internal hæmorrhage, and died at 3 o'clock a.m. On examination, eight hours after death, the contents of the cranium were found of a deep yellow tinge. On division of the abdominal parietes, about three pints of bloody fluid issued from that cavity. A large coagulum, amounting at least to one pint of blood, was removed from the cavity of the peritoneum. The liver was enormously enlarged, encroaching considerably on the capacity of the right side of the chest, and extending downwards in a corresponding degree, whilst the left lobe extended in an unusual degree, and nearly filled the left hypochondrium. In the right lobe contiguous to the lobulus spigelii, and between it and the gall-bladder was found a cavity containing a small quantity of clotted blood; and in the upper and posterior part of the same lobe, a cerebriform tumour, with a cavity in the centre, containing softened matter, apparently consisting of softened cerebriform structure. The gall-bladder contained some viscid mucus of a green colour.

1200. Portion of liver, filled with medullary tubercles of various sizes, all the masses are softened and broken down in their centres, leaving large cavities. Injections of different colours were thrown into the vessels of the liver, some of each are extravasated in and around the tubercles,

but the medullary structure itself is only imperfectly injected, and chiefly from the hepatic artery. The liver was much enlarged.

From a middle-aged woman, in whom the disease progressed very rapidly.

Donor—Mr. Moon, Guy's Hospital, London.

1201. Portion of liver, containing several medullary tumours, injected.

Donor—Mr. Howship, London.

1202. Portion of the liver with stomach adherent to each other. The liver was dense, and had on section cancer-like nodules, varying in size from a pea to a walnut, studding its substance at intervals throughout, and forming projections on its surface, and also on the peritoneal surface of the stomach. The morbid condition appears to have commenced in the pylorus.

From Corporal R. Woolon, aged 31, of 8 years' service, at home, Gibraltar, and Malta. About the beginning of August, 1875, he began to complain of pain in the stomach after eating, which continued until vomiting took place. The pain became constant about the middle of September, and for months before admission to Netley on 28th of December, 1875, he had not been able to take any solid food. A gnawing pain over the whole of the stomach, pains in loins and middle of back, (with the vomited matter sometimes containing blood), and ascites were the prominent symptoms till death. The mesenteric glands were found enlarged after death, and full of cancer-like masses. The pyloric end for 1½ inches was contracted to the size of a quill, its walls hard and cartilaginous, and thickened to half an inch. The mucous membrane of the stomach was ulcerated.

1203. Portion of liver much nodulated, and adherent to omentum, stomach and duodenum, infiltrated here and there with cancerous masses.

From Thomas Taner, aged 39, Royal Artillery, of 15 years' service, who was admitted into Netley Hospital, on 12th November, 1869, and died on 19th March, 1870.

Pathological Reports, Netley, Vol. IX, No. 32.

(*b*) Melanotic Tumours of Liver.

1204. Portion of liver, showing melanotic degeneration; the deposits are of various sizes, from that of a pea to that of a cherry, the intervening structure is of a dirty white colour.

Fasciculus II, Plate IX, Fig. 3.

1205. Portion of liver highly melanosed, the section of which shows that many of the deposits are of a deep black colour, others of a bluish-brown hue, and the intervening substance of a dirty cream colour; the peritoneal surface presents numerous black elevations.

From John Houston, aged 51, a shoemaker from the Clinical Wards of Dr. Home, in the Edinburgh Royal Infirmary, who complained of

pretty severe symptoms of pleurisy, for which he was "blooded, blistered, and purged," with considerable relief on the 18th March, 1823. Up to the 23rd March, the symptoms diminished daily, but cough continued, which gradually improved. On 1st April, he complained only of debility, and died in the course of the night. It was ascertained that Houston, in the course of the spring of 1822, laboured under a severe affection of the right eye, attended with headache and pain in the orbit, for which extirpation was necessary. After which the patient remained free from any painful feelings referrible to that organ. On examination, after death, the first incision exposed a number of black globular bodies, lying in the areolar tissue between the pectoral muscle, and 3rd and 4th ribs of the left side, about the size of peas, and some of them adherent to the periosteum. The substance of the rib itself was black, as was also the sternal third of the clavicle on the same side; but these bones were in no other way altered from their natural state. Upon opening the chest the pleura was found studded with similar tumours, here and there insulated, but in general aggregated, so as to resemble clusters of purple grapes. This appearance was particularly remarkable on the right lung, along the bodies of the vertebræ on both sides, and upon the upper surface of the diaphragm on the left. Many of the tumours were hardly raised above the pleura, but others had long slender necks so as to resemble polypi. In colour, most of them were jet black, others of a deep purple or even reddish hue, while a third sort seemed to contain portions of a peculiar white colour, blended with black. The lungs were extensively beset with these tumours, and several of an exceedingly small size were detected under the mucous membrane of the bronchi. The pericardium and the very substance of the heart were also studded with melanose bodies. Upwards of three pounds of fluid were found in the cavities of the pleura, and there was a thin pellicle of albuminous matter covering the surface of the lungs. In the abdomen, the liver, spleen, kidneys, omentum, and peritoneum in different places, were affected in the same manner; but the tumours in the liver contained a considerable portion of white cerebriform matter. Similar tumours were also found connected with the internal table of the skull where they formed for themselves little excavations. In the sub-cutaneous cellular substance of the thorax and abdomen, they were discernible through the integuments; and lastly, they were found amongst the fibres of the intercostal muscles. At the time the eye was removed, it was seen that the site of the vitreous humour was completely occupied by a black-looking fibrous mass, pushing the choroid coat and the retina into the posterior chamber. The sclerotic was everywhere entire; but the cornea had sloughed, probably from the general distension of the globe. A considerable mass of black matter was found lodged posteriorly to the globe, and deep in the orbit, amongst the fat and areolar tissue surrounding the optic nerve. The disease had reappeared in its old situation after the operation. The tumours generally, each consisted of a cyst separated by areolar tissue from the surrounding textures, and containing the peculiar black matter of the disease in different states of consistence. In some of the larger tumours this matter was nearly solid, and, in the smaller ones, nearly fluid. In the liver a remarkable variety was noticed. They were as large as chestnuts, some of them white, consisting of cerebriform matter; others again contained melanose and cerebriform matter, together; but all of them had cysts, tolerably distinct from the surrounding hepatic texture.—Print. Cat., p. 110, No. 25, also William Cullen and Robert Carswell "On Melanosis," in *Transactions of the Medico-Chirugical Society of Edinburgh*, Vol. I, page 271, 1824.

Presented by the Royal College of Surgeons, Edinburgh.

1206. Section through another portion of the liver which furnished the previous Preparation, No. 1205, studded with melanotic deposits, but more widely separated from each other than in the former preparation; the rest of

the substance is of a pale yellow colour and homogeneous texture.

See history of previous case.

1207. Two portions of liver, showing numerous melanotic deposits intermingled with cerebriform matter. In one portion the black melanotic masses are well defined, varying in size from that of a pea to that of a walnut, in different stages of advancement. In the other there are several small, and one very large melanotic mass, the centre of which is soft and broken down; the liver weighed five pounds. A tumour of a melanotic and encephaloid structure was found to occupy the right eye.—See preparation under "Eye." MS. Cat., Vol. II, page 147, No. 173.

From John Houston, 60th Rifles, a patient in Fort Clarence Lunatic Asylum (Chatham), for 17½ years. With the exception of his mental condition, he was generally healthy. In October, 1838, he complained of acute pain in the right side of the head, and soon afterwards in the region of the liver, when, on examination, a hard tumour was felt. From the time of the commencement of these symptoms he began to lose flesh, but suffered from no marked sickness. Digestion was not impaired, and his bowels were easily regulated. On the left side of the neck there was a tumour about the size of a walnut, but it caused him no uneasiness. On examination, after death, the right eye was found to be occupied by a tumour, which, on section, showed melanosis and encephaloid structure. This tumour pressed on the anterior lobe of the right hemisphere of the brain, and was adherent to the right side of the *sella Turcica* where the *dura mater* was thin and vascular. The right optic nerve was hard, dark coloured, and smaller than the left. The liver weighed five pounds and showed tubera on its surface. In its substance bodies similar to the external tubera were disclosed on section, and the central portions of the viscus were entirely disorganised.

1208. Portion of liver filled with large black melanotic tumours; the liver weighed 15 lbs. See Preparations No. 80, page 23, 193, page 56 and No. 1336, page 362.

From the body of a Greek in whom the heart, pancreas, aorta, and integuments were affected with the same disease.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

1209. Portion of liver, studded with melanotic and cerebriform deposits.

Donor—Mr. Stanley, St. Bartholomew's Hospital, London.

1210. Portion of liver studded with melanotic deposits from the size of a pea to that of a cherry, injected.

From a middle-aged woman who had a melanotic tumour on the right side, which was removed by operation; there were a few tubercles in the lungs and sternum.

Donor—Mr. Partridge, King's College, London.

1211. Section of the liver of a horse, showing what looked like effusion of blood in its substance, but which seems to be a form of melanosis. The liver was four times its natural

size, generally very soft and immensely distended with dark material. MS. Cat., Vol. II, page 148, No. 175.

The horse was found dead in his stall in the morning. For several weeks before death he had been seen to look ill; but, as he took his food well, nothing was done for him.

PARASITES AND PARASITIC LESIONS OF LIVER.

(1) Echinococcus Hydatidosus Simplex.

1212. Cyst about the size of a large plum, situated in the thin margin of the liver, and lined by a distinct smooth membrane. MS. Cat., Vol. II, page 131, No. 106.

From James Thain, 67th Regiment, who died of cyananche trachealis; no symptoms of hepatic ailment were present before death.

Donor—Dr. Raich, Surgeon, 67th Regiment.

1213. Portion of liver showing a white elastic tumour or cyst of a fibro-cartilaginous consistence, and walls laminated, about the size of a small orange, situated in the superior and posterior part of the right lobe, containing one or more hydatids, much compressed, which, at the time they were discovered, appeared to have been some time dead. Filling up the space existing between the folds of the hydatid or hydatids, is a yellowish matter somewhat resembling the partially broken up yolk of a hard boiled egg, which, on being analysed by Dr. Davy, was found to contain a considerable quantity of cholesterine. The upper aspect of the cyst is connected to the diaphragm by an elongated band of adhesion. The liver weighed 5 lbs., and possessed throughout an unusual density of structure. MS. Cat., Vol. II, page 151, No. 187.

From Frederick Pedden, aged 19, 28th Regiment, who died of phthisis pulmonalis. In the history of the patient's illness no symptoms peculiarly indicative of hepatic derangement appear to have been observed. Imbedded in the upper aspect of the left lobe of the liver was found a smaller cyst, similar in external appearance, but the structure of its walls were thicker than the preceding. The cavity of the latter, however, contained numerous hydatids of various size in the live state, with but little, if any, of the substance contained in the former. The upper aspect of each of these cysts was connected to the inferior surface of the diaphragm, by an elevated band, evidently not of recent formation. The liver weighed 5 lbs., and possessed, throughout, unusual density of structure.

1214. A thick fibro-cartilaginous cyst, found in the left lobe of the liver, which contained several hydatids in a live state; a portion of the diaphragm is attached by a long narrow band of adhesion. MS. Cat., Vol. II, page 151, No. 187.

From the same subject as Preparation No. 1213.

1215. A very large fibro-cartilaginous cyst, rough and irregular internally, situated in the posterior and convex aspect of the right lobe of the liver, which contained a large hydatid. See Preparation No. 1216.

From a patient who died of ascites, with which he had been afflicted for four months.

1216. A large hydatid from the surface of the liver. In previous Preparation, No. 1215.

1217. A fibro-cartilaginous hydatid cyst, about the size of an orange, situated in the thin margin of the liver, containing an hydatid.

1218. A large, thick, fibro-cartilaginous sac, the interior of which presents a number of irregular elevations and depressions; it contained a large hydatid. See Preparation No. 1219.

Donor—Mr. Bace, Asst.-Surg., 45th Regiment.

1219. Hydatid of large size, from the liver; the surface of the hydatid is rough and granular, from a number of small ash-coloured concretions beneath its outer membrane. See previous Preparation, No. 1218.

Donor—Mr. Bace, Asst.-Surg., 45th Regiment.

1220. Fibro-cartilaginous cyst removed from the substance of the liver, containing a number of hydatids; interior rough and granular from the effusion of lymph.

From a man who died of fever, complicated with jaundice.

Donor—Mr. Bardin, Asst.-Surg., 53rd Regiment.

1221. A small cyst containing an hydatid, situated near the convex aspect of the liver. Print. Cat., page 119, No. 101.

From Joseph Wheeler, aged 31, 4th Regiment, who died of peripneumonia; but no symptoms existed during life, of any liver ailment.

1222. A very firm old cyst in the liver, which, being opened, was found to contain echinococci. It occupied the entire thickness of the thin edge of the organ, causing bulging of its capsule on the upper and under surface of the liver.

From John Dennison, aged 29, 80th Regiment, who died of phagadenic dysentery at Dinapore, on 23rd April, 1851. Lesser multilocular cysts are also shown. This preparation should be studied in connection with Preparations numbered 1230 to 1239.

Donor—Dr. Taylor, Surgeon, 80th Regiment.

1223. Cyst in the thin margin of the liver containing several hydatids. Print. Cat., page 109, No. 17.

From William Pearce, aged 42, 48th Regiment. He laboured under acute pain in the chest, referred to the left side, extreme dyspnœa and cough, with livid countenance, and general rigors. Any symptoms of the hepatic lesion appear to have been lost in those of the more grave disease of which he died, after having been two weeks in hospital. On dissection, it was found that effusion had taken place into the chest.

1224. A very distinct fibrous cyst, about the size of a walnut, containing hydatids, situated near the convex surface of the right lobe of the liver.

From a man who died of hæmoptysis.

Donor—Dr. Renny, Surgeon, 67th Regiment.

1225. Cyst of an hydatid in a portion of liver.

Donor—Mr. Martin, Surgeon, 73rd Regiment.

1226. Portion of liver containing a large hydatid cyst, lined by a distinct smooth membrane.

1227. Liver (to which is attached a portion of cardiac end of stomach) showing a tumour which projected from its left lobe, extending towards the side of the chest as high as the upper margin of 4th rib; and to this portion the base of the left lung is firmly adherent. A cavity existed in the right lobe, containing hydatid cysts and pus, and not communicating with the larger cavity in the left lobe, but forming a tumour projecting downwards, below the foramen of Winslow, which was obliterated by adhesions. The larger cyst contained a quantity of exceedingly minute cysts, like roe of fish. The whole of the left lobe was converted into one large cavity, containing hydatid cysts of every size, and also purulent matter. This cavity communicated with the stomach by a small orifice about the size of a threepenny piece, a little below the cardiac orifice; extensive perihepatic adhesions glued the liver to the diaphragm and the colon. The right lobe antero-posteriorly measured 11 inches; thickness 3·3 inches; its breadth uniformly 6·4 inches. The left lobe transversely and antero-posteriorly measured each 6·6 inches, forming a globular tumour. The cysts enclosed within the liver tumours exhibited the characteristic lamination of the echinococcus cysts, and contained in abundance the embryos of that parasite. Calcareous degeneration had commenced in the wall of the cyst in the left lobe.

From Private William Brooks, age 22, having six years' service, who was admitted to Netley Hospital on 5th June, 1864, and died on the 27th. He went to Malta, Fort Recasali, in December, 1858, and to Gibraltar in 1863 from Malta. He had repeated febrile attacks, on which icterus supervened at Gibraltar. On admission at Netley there was considerable emaciation with jaundice, and he was very weak The liver was found to be enormously enlarged, especially the right lobe, which extended to within two inches of the crest of the ilium. Ascites was present, and there was tenderness over the abdomen, especially about 1½ inches below the ensiform cartilage to right side. One pint of urine only passed in 24 hours, sp. gr. 1025, and containing much bile. He vomited during two nights previous to death. Cyst containing echinococcus embryos were found in the vomit. He died in a state of collapse, with great abdominal tenderness.

Pathological Reports, Netley, Vol. IV, No. 22.

1227A. Cysts about the size of a duck's egg, filled with hydatids, situated in the posterior part of the concave surface of the liver.

From a man who died of phthisis.

1228. Hydatids from the liver of a cow; the parent cyst is unopened and the second cyst appears through its diaphanous texture.

Donor—Dr. Athill, Asst.-Surg., Staff.

1229. Portion of liver of a sheep, containing a number of cysts filled with hydatids; hydatids were also found in the lungs and spleen. (See Preparation No. 684, page 189).

(2) Echinococcus Multilocularis.

1230. This and the following nine preparations to 1239 inclusive, were all described in the MS. Catalogue as examples of a "cribriform or reticulated state of the liver"; but, having been carefully examined in the light of improved knowledge of parasitic diseases they are each and all of them found to be examples of *Echinococcus Multilocularis*—a drawing of which has been given at page 624 of "*The Parasites of Man*," by Rudolf Leuckart, translated by William Hoyle, M.A., 1886. Each preparation consists of groups of very small bladders which lie in considerable numbers near each other, imbedded in the substance of the human liver. The sections display numerous small cavities of irregular form, separated from each other by a more or less thick connective tissue mass, and containing gelatinous contents. The proper liver substance in the affected parts has disappeared. The general alveolar structure resembles a colloid growth. They were examined microscopically by Dr. Peter Davidson, Assistant to the Professor of Pathology, and by Professor Aitken, in 1864, and were found to contain echinococcus embryo heads, and the characteristic structure of the cysts, namely, a laminated translucent cuticle of great elasticity and considerable thickness from 0·01 mm. to 0·08 mm. In many of the cysts the heads are not developed. See also Preparation 1222, in which this appearance is associated with a larger simple cyst in the liver containing echinococcus. In the first case (1230), the liver generally is in a state of chronic interstitial hepatitis and perihepatitis. A section shows the characteristic bladders imbedded in its substance. Death took place as a result of excessive drinking.

Donor—Dr. Sillery, Asst.-Surg., Staff.

1231. Portion of a liver, also in a state of interstitial hepatitis; the section presents a slightly reticulated appearance. MS. Cat., Vol. II, page 129, No. 103.

From a man who died in consequence of excessive drinking. There were no symptoms during life of hepatic disease.

Donor—Mr. Bradford, Asst.-Surg., 56th Regiment.

1232. Portion of liver also affected with cirrhosis; in the centre the diseased portions have become absorbed, and present a reticulated appearance. MS. Cat., Vol. II, page 136, No. 126.

From Private Hammell, aged 33, who died at Fort Pitt, on 26th April, 1834. He suffered from interstitial hepatitis; and was sent to England from Bermuda in 1828, on account of ascites. He partially recovered, and joined the service company of the regiment to which he belonged in Nova Scotia in 1831. In 1833 towards the latter end of the year he was again sent to England; but this time on account of pulmonary disease, and he died on 26th of April, 1834. A tumour was found in the right optic thalamus, and tubercles in left lung.

Fasciculus III, Plate I, Fig. 5.

1233. Section of liver showing well defined excavation, and which in the centre has begun to break down leaving small cavities. The case occurred in Ceylon, whence the preparation was received.

No history.

1234. Section of a liver, exhibiting interstitial absorption of its centre, showing also a condition of interstitial hepatitis. The whole of the centre of the specimen resembles an empty honey-comb, owing to absorption of liver structure, the cellular cysts which enclosed hydatids still remaining.

Fasciculus III, Plate I, Fig. 2.

Donor—Dr. Whitfield, Surgeon, Royal Artillery.

1235. Portion of liver exhibiting interstitial absorption.

From Private Hammell, already described under No. 1232.

1236. Section of liver, showing hypertrophy of the white substance (interstitial hepatitis), and containing numerous cavities which present a honey-combed appearance.

From Michael Donegan, aged 30, who died in the General Hospital, Fort Pitt, of peritoneal inflammation, originating probably in ulceration and perforation of the duodenum, shortly after his return from eleven years' service in India. Liver disease not suspected.

Fasciculus III, Plate I, Fig. 4.

1237, 1238 & 1239. Three portions of liver, each presenting a peculiar cribriform or honey-combed appearance, from small cavities in their substance. These cavities were found to exhibit the characteristic structure of the echinococcus hydatid and the hooklets. This structure was soft and homogeneous, and had in the recent state a bluish

or leaden hue. Only in one portion of the liver was there any tuberculated appearance, and that but faintly seen; weight of liver, three pounds and a half. Disease of the liver was not suspected during life. Preparation No. 853, page 230. History, No. 881, page 238. MS. Cat., Vol. II, page 33, No. 141.

(3) Cysticerous Hydatid Cysts.

1240 & 1241. Two sections of the liver of a pig, presenting a peculiar honey-combed appearance, from innumerable small cysts containing hydatids of cysticercus.

Donor—Mr. Partridge, King's College, London.

Lumbrici.

1242. A vast number of lumbrici, in the substance of the liver, around which small abscesses had formed; also in the gall-bladder, biliary ducts, duodenum, and stomach. Numerous small worms (Trichocephalus dispar) were found in the cæcum. Preparation No. 1035A.

From a Maltese boy, ætat. 2, who died of dysentery.

Fasciculus III, Plate II, Fig. 1.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

1243. Portion of liver showing a lumbricus in the *ductus communis choledochus*. The gall-bladder is of large size and contained three drachms of light coloured bile. The common duct and part of the hepatic ducts are much distended by the lumbricus, which is about eight inches long and doubled on itself, having its head and tail ends both up the hepatic duct, and its middle half about an inch from the termination of the duct in the duodenum, which opening is dilated beyond its natural size.

From a Mozambique black, aged 45. For history see 172 B, p. 49.

Donor—Mr. Allan, Staff Surgeon.

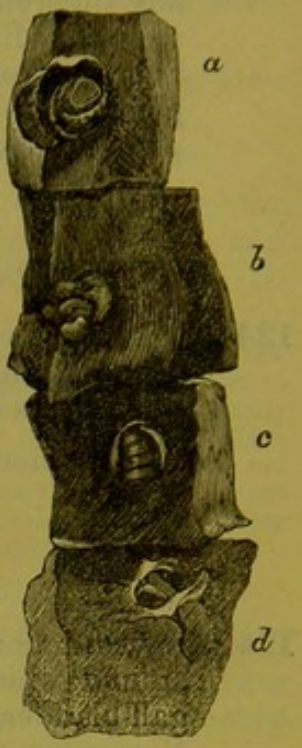
Pentastoma Constrictum.

1244. Four portions of the liver, each containing small cysts, and each containing the *pentastoma constrictum*.

This preparation in the Museum consists of four pieces of liver (fig. *a*, *b*, *c*, *d*). They have been hitherto a puzzle to all who have examined them. The preparation appears in the previous Catalogue with the following description:—

"Portions of liver, containing numerous small cysts (evidently

some jointed entozoon), taken from Private George Sutton, 1st West India Regiment, who died at Bathurst, Gambia; and for the history of the case reference is made to the quarterly report of sick and wounded from that station, dated March, 1854."



Professor Aitken has been able to identify this preparation as an example of lesions produced by the *pentastoma constrictum*. At *a*, in the cyst where the larva has been, there is contained the débris of integumentary exuviæ; at *b* the head end of the parasite is seen peering out of an ulcerated opening in the serous covering of the liver. The edge of the opening is rounded and indurated, as if a good deal of local irritation had been maintained at the part previous to penetration of the serous covering. At *c* the ring-like constrictions of the parasite are seen shining through a very thin portion of serous membrane; and the portion of liver at *d* represents an empty cavity—whence one of these larvæ has passed out, probably into the peritoneum. The cicatricial-like contraction and puckering of tissue in the vicinity shows that considerable irritation has existed previous to the exit of the parasite.

Through the kindness of Dr. Crawford (now Sir Thomas Crawford, K.C.B., the then chief of the medical branch of the Army Medical Department), Professor Aitken is indebted for a detailed account of Private Sutton's last illness and death, as preserved in the records of the office in London. From this account it appears that Private Sutton first came under treatment for an affection of the lower dorsal vertebræ. The disease having continued for five months, œdema of the feet commenced, and during the sixth month a fluctuating tumour showed itself over the 8th and 9th ribs, on the right side of the back. A considerable quantity of matter was evacuated from this tumour, after which the patient sank and died. Examination of the body showed an extensive abscess on the right side of the spine. The bodies of the ninth, tenth, and eleventh dorsal vertebræ were denuded of periosteum, and carious. The peritoneum contained sero-purulent matter. A large number of worms were found in the liver. "*These worms varied in length from an inch to an inch and a half, and were found, coiled up like a watch-spring in small sacs scattered through the whole organ.*"

We have no information as to how the *pentastoma constrictum* finds its way into the human body, as an embryo and subsequent larva. Although in this instance the Negro was stationed in Jamaica, it is most probable that he had the germs of these parasites within him when he left his native shores in some part of Africa; for it is known that this parasite is neither endemic in St. Helena nor in Jamaica. Reasoning from what is known regarding the propagation and development of the *pentastoma denticulatum*, it is probable that the ova with the contained embryos are introduced into the human stomach along with uncooked vegetable food (fruits or salads), in regions where the mature animals are endemic. From the stomach the embryos, escaping from the ova, bore their way, and find a resting-place in the liver or other solid viscus, exactly like the embryo of the tænia. In solid organs (like the lungs and liver) they become encysted, and undergo the pupal transformations so well described by Leuckart and Cobbold in the case of the *pentastoma* endemic in Germany.

The drawings which illustrate this and similar parasites in the lungs Nos. 688 and 689, pages 190 and 191, were made by Staff-Assistant

Surgeon Dr. Humphrey C. Gillespie, from the preparations in the Pathological Museum of the Army Medical Department at Netley. See also "*The Parasites of Man*" by Leuckart, translated by Mr. C. Hoyle, pages 14, 77, and 137.

Malformations.

1245. Portion of liver, having numerous nodules and supplementary lobes, probably the result of syphilitic cirrhosis and perihepatitis, and containing a considerable quantity of oily matter.

Donor—Dr. Ingham, Surgeon, 29th Regiment.

1246. Portion of liver having many supplementary lobes, from the size of a pea to that of a plum.

From a man who died suddenly of pulmonary apoplexy.

Donor—Mr. Orr, Asst.-Surg., 95th Regiment.

1247. The left lobe of the liver is wanting. There are, however, two supplementary lobes of the size of walnuts, situated to the left of the longitudinal fissure; and, there is a rim of substance firm to the touch and covered by peritoneum, occupying the site of the left lobe; this is about three inches long from right to left and is connected to the diaphragm by a ligamentum latum. The right lobe was of normal size and tuberculated from cirrhosis.

From a man, ætat. 24, who died of phthisis.

SERIES XIV.

DISEASES OF THE GALL-BLADDER AND BILE-DUCTS.

DILATATION OF HEPATIC DUCTS.

1248. Portion of liver, showing great dilatation of the hepatic ducts, one of which is capable of admitting a large bougie. Preparations and 1290. No. 1184. MS. Cat., Vol. II, page 150, No. 185.

From John Macloughlin, aged 19, 11th Regiment, 18 months' service; on his admission into hospital, he complained of the following symptoms:—dyspnœa, cough on deep inspiration, pain and dulness of left mammary region on percussion, also lower part of right side, anteriorly; tracheal inspiration on both sides of chest, anteriorly and superiorly, respiratory murmur nearly inaudible at the inferior part of chest, anteriorly. Action of heart heard over entire surface, dulness at inferior part of chest, particularly left side, where the respiratory murmur was very indistinct. Pulse 122, feeble. These symptoms, with palpitation, continued without any

perceptible alteration until the 27th of September, when he passed about half a pint of blood at stool. Pulse 150. Great dyspnœa, hectic flush, well marked on the 28th September, there was no return of the bleeding, and from this date, to the day of his decease, the following symptoms were present:—pulse very quick, could scarcely be counted, tongue dry and brown, teeth encrusted with sordes, and great difficulty of breathing. On the 30th, pulsation was visible, and very strongly felt over the anterior surface of abdomen.

1249. Section of liver, exhibiting dilatation of the hepatic ducts: one of those is of a large size, and contains a dark brown biliary fluid of the consistence of cream, and small gritty bodies of a black colour resembling biliary calculi; peritoneum covering the liver coated with lymph. MS. Cat., Vol. II, page 142, No. 154.

From Robert Bryce, aged 20, 60th Regiment, who was admitted to hospital on account of cough, with purulent expectoration, difficulty of breathing, and pain over chest. These symptoms continuing, he became hectic, and died. His lungs were tuberculous, and a mass of enlarged glands was found in the gastro-hepatic omentum, which pressed upon the *ductus communis choledochus*. In the liver there were several cysts similar to that in the following specimen (No. 1250), and they contained a viscid grumous matter, with several black biliary concretions, like those often found in the gall-bladder.

1250. A small portion of liver, in which is an hepatic duct very much dilated, and containing a dark brown biliary fluid; the coats of the duct are firm and fibrous. MS. Cat., Vol. II, page 142, No. 155. (See previous preparation, also *Fasciculus III*, Plate 2, Fig. 7.)

1251. Cyst enclosing a nodule of biliary concretion. There were other deposits of inspissated bile in the liver substance.

From Private Charles Rudd, aged 27, who had completed eight years' service, chiefly in India. He had been five times in hospital on account of syphilis and fever, and subsequently acute hepatitis at Deesa. On admission to Netley, on June 27th, 1866, in an extreme state of prostration from a voyage from India, of eight months' duration, greatly emaciated, and heart very feeble; pulse 130; and harsh respiration over the whole chest. Bronchial breathing and mucous râles were distinct, especially over left lung. The liver was enlarged, and he suffered from night sweats.

Pathological Records, Netley, Vol. V, No. 27.

1252. Two portions of the right lobe of the liver, exhibiting several cysts about the size of beans, having a firm lining membrane. These cysts were the hepatic ducts, much dilated, and contained some biliary fluid.

From John Bates, aged 26, 98th Regiment, who died of phthisis, after nine months' illness. He had six years' service, all at home, and enjoyed good health, until the year 1844. Whilst undergoing imprisonment in Maidstone Gaol, he attempted to efface the letter D from his breast by extensive tattooing, and upon leaving gaol, where he had been imprisoned during 12 months, he was admitted, in September, into the Provisional Battalion Hospital, with a bowel complaint and slight cough. He had, at this time, a large ulcer on left side of chest, in communication with two sinuses extending into the left armpit, the glands of which were enlarged and indurated.

Both lungs were found to be studded with miliary tubercle, and he died hectic on 9th June, 1845. Section of liver presented a nutmeg appearance, the gall-bladder was filled with black viscid bile resembling tar, and convex surface of liver adhered firmly to the diaphragm.

Donor—Dr. Williamson, Staff Asst.-Surg.

BILIARY ABSCESSES.

1253. Section of a liver showing small abscess cavities, and bile-stained broken-down liver structure. These small necrotic centres extended throughout the whole substance of the liver, varying in size from a No. 6 shot, to a large pea; and in many places coalescing to form large irregular-shaped cavities, one of which, 1½ inch in diameter, had burst through the capsule of the liver, causing death by peritonitis.

From Private Allen, aged 28, Medical Staff Corps, No. 7248, who died of jaundice, at Netley, 1st March, 1891, after eleven days' illness. His service was altogether—at home from 27th February, 1886—four years. Admitted on 17th February, suffering slightly from jaundice. He stated that he was perfectly well on the previous day, but woke up in the morning, and observed his yellowness. He had no pain, and had slept well. On examination, the liver was found slightly enlarged, but there was no tenderness whatever. He improved during the first five days—the jaundice slowly disappearing. On the 23rd, he complained of thirst, and of having passed a restless night, but suffered still no pain. The liver was now found to be very much enlarged, and he commenced to suffer from diarrhœa, passing seven or eight stools daily, pale in colour, and containing masses looking like curdled milk. Temperature 99·6° Fahr., tongue dry at edges, and coated with a thick yellow fur. The temperature continued to vary from between 101° Fahr. in the morning, and 104° Fahr. in the evening, up to the 28th February, the other symptoms remaining about the same. His typhoid condition became more marked, and he died on the morning of 1st March—the temperature on the previous night having risen to 104·8° Fahr.; at 3 a.m., it had fallen again to 101° Fahr., two hours before death; and after death, it rose to 102° Fahr.

He was a well-nourished muscular man, weighing 9 stone 8 lbs.

After death, the surface of the liver was seen to be covered with a thin layer of greenish-coloured lymph. The peritoneal cavity contained 3 ozs. of yellowish, opaque, purulent fluid. The liver was so much enlarged, as to extend 5½ inches below the ensiform cartilage. The gall-bladder was much thickened, and contained a quantity of yellowish-coloured semi-solid matter like clay, and 16 gall-stones—two of which were about the size of small cob nuts. The gall-stones were generally of a brown colour, smooth and friable, and evidently composed of a mixture of cholesterine and pigment. The surface of the liver was smooth, but slightly and irregularly tuberculated. Transversely it measured 12·2 inches in thickness (greatest) 3·7 inches; and antero-posteriorly 11·5 inches. Its weight was 8 lbs. 12 ozs. The upper portion of right lobe was soft and pulpy—the softened part about the size of a child's head. Two small excavations into this softened part existed, each about the size of a walnut, in the upper and anterior aspect. The walls of these abscess-like cavities are formed of bile-stained broken-down purulent liver substance, and the colour of the liver-capsule was mottled in patches of greenish yellow. A section through both lobes of the liver, showed many broken-down gangrenous patches of a bright green colour. These small necrotic centres extended throughout the entire substance of

the liver. The smaller contained a thick viscid dark-green matter; while the contents of the larger are of a more yellow green, evidently containing a greater proportion of pus. The liver substance between the abscesses was of a yellowish red colour. The liver tissue has the appearance of being greatly disorganised, and in some places was gangrenous. The spleen was pale, soft, and flabby, somewhat pigmented. It weighed 12 ozs.

Death was evidently due to shock, following on rupture of an abscess of the liver into the peritoneal cavity; and the sequence of events in the case is summed up by Surgeon Captain David Bruce, as follows:—(1) Formation of gall-stones in gall-bladder. (2) Chronic inflammation and ulceration of gall-bladder and ducts. (3) Obstruction of common bile-duct, and retention of bile. (4) Inflammation of a necrotic character in the liver substance with the formation of innumerable small (biliary) abscesses. (5) Commencing peritonitis.

Pathological Records, Netley, Vol. XVI, No. 48.

SACCULATION OF GALL-BLADDER.

1254. An enlarged misshapen liver (from elongation of the left lobe, which covered the stomach and extended into the left hypochondriac region), and showing a large irregular sac about the size of an orange in the thick margin of the right lobe close to its anterior surface—the usual position of the gall-bladder. The sac contained a few drachms of pale yellow bile. It was lined by a thick, firm, smooth membrane; and eighteen biliary ducts of various sizes opened into it. The sac seemed to be mainly formed by dilated ducts, produced by calculi in the tubes preventing the escape of bile. These ducts were much dilated, some to the size of the middle finger; and all of them contained biliary calculi. The hepatic ducts on issuing from the liver are very large, so also is the *ductus communis choledochus*, until within an inch of its entering the duodenum, where a large biliary calculus, about the size of a bean, was impacted. See next Preparation 1255, page 345. The liver weighed 6 lbs. 8 ozs.

From James Beach, aged 40, of 80th Regiment, who had 20½ years' service, at home, the Mediterranean, and New South Wales. Was in hospital at Cephalonia, in New South Wales, several times suffering from rheumatism and cramps in his stomach, and was invalided home from Australia. He was first admitted into the General Hospital, Fort Pitt, 19th August, 1845, still labouring under rheumatism, chiefly affecting the right shoulder and head; there was also some dyspnœa, unaccompanied by cough or expectoration, but on examination of his chest the respiratory murmur was found to be very feeble in the apex of the right while it was found perfectly imperceptible in that of the left. He was discharged on the 16th January, 1846, to perform duty in Chatham Garrison, and was re-admitted into Fort Pitt Hospital, on the 13th April, 1846, being carried in a Sedan chair labouring under the present fatal attack, of which the following were the most prominent symptoms, viz., violent and continued retching, the matter ejected being very copious, varying in character, at first composed of half-digested food, but afterwards dark and peculiar in odour, severe pain in the abdomen recurring in paroxysms and chiefly referred by the patient himself to the right side extending from the pyloric extremity of the stomach round the right hypochondrium, the abdomen was very tense, hard, and

excessively painful on pressing over apparently a defined spot which may be said to correspond to the pylorus, the bowels at the same time being obstinately constipated. The liver seemed greatly enlarged, tongue furred with a broad, dry coating, teeth covered with sordes, lips parched, eyes dull, suffused and fixed, eyelids not covering more than half the eye, and pupils contracted and immovable, features shrunk, cheeks having a dusky tinge, and the whole countenance expressive of great suffering, skin hot and for the most part dry, but afterwards covered with cold, clammy perspiration, at the same time he experienced the sensation of great heat; feet were very cold, urine, which was at first altogether suppressed, for the last 6 days flowed freely and in quantity, pulse continued throughout the attack feeble and steady, being rarely more than 94. On the 2nd day after admission there were in addition to the above symptoms which, with the exception of the vomiting, was checked, all aggravated in degree, signs of extensive pneumonia engorging the right lung, together with "cerebral respiration," and evident congestion of the brain. Percussion elicited considerable dulness over the anterior region of right lung, and also posteriorly in the infra scapular region, the respiratory murmur being perfectly inaudible over the same extent, there was also great resonance of voice and slight sub-crepitation was detected over the apex, respiration was puerile on the opposite side. The heart's action and sounds were perfectly normal. Two days before death, diffusive inflammation attacked the right elbow joint and the patient gradually sunk under these varied complications.

Donor—Dr. Williamson, Staff Asst.-Surg.

1255. The *ductus communis choledochus* dilated to the size of the middle finger, to within an inch of its entrance into the duodenum, where a biliary calculus, about the size of a large bean, is impacted. The duct below this point is of its usual size. There are also two pancreatic ducts, one of which joins the common duct, and the other enters the duodenum separately.

For history see preceding preparation.

Donor—Dr. Williamson, Staff Asst.-Surg.

CARTILAGINOUS OR CALCAREOUS CHANGES IN GALL-BLADDER.

1256. Coats of the gall-bladder thickened and cartilaginous, with bony deposit in its fundus.

From a soldier of 85th Regiment, who died in Malta of dysentery; but no suspicion of disease of the gall-bladder was entertained during life.

Fasciculus III, Plate II, Fig. 4.

Donor—Mr. Fiddes, Surgeon, 85th Regiment.

HYPERTROPHY OF THE COATS OF THE GALL-BLADDER.

1257. Hypertrophy of the coats of the gall-bladder, which contained four calculi. MS. Cat., Vol. II, page 132, No. 110.

From a man of the 7th Regiment, who died of peritonitis produced by the contents of an abscess in the liver, discharged into the cavity of the abdomen.

Donor—Mr. O'Brien, Asst.-Surg., 7th Regiment.

1258. Coats of the gall-bladder very much thickened.

Donor—Dr. Strachan, Inspr.-Genl. of Hospitals.

1259. Hypertrophy of the coats of the gall-bladder.

From a man who had long been affected with jaundice.

Donor—Mr. Duke, Asst.-Surg., 12th Regiment.

PRESENCE OF GALL STONES AND BILIARY CALCULI IN GALL-BLADDER.

1260. Gall-bladder containing two large soft calculi, one is white and composed of cholesterine, the other is also white externally and dark brown internally.

Fasciculus III, Plate II, Fig. 3.

1261. A biliary calculus about the size of a cherry, of a dark slate colour with small white deposits on its surface; impacted in the neck of the gall-bladder.

1262. Gall-bladder containing three large dark brown calculi.

1263. Gall-bladder (a dry preparation) completely filled with numerous small angular calculi.

Donor—Dr. Heisse, Asst.-Surg., 35th Regiment.

MORBID GROWTHS AND SOFTENING.

1264. Gall-bladder divided into compartments by transverse bands, one of these at the fundus contains a fungoid warty tumour, about the size of a cherry; two biliary calculi were also found in the gall-bladder.

From Ensign William Orpe, aged 58, 5th Regiment. Admitted into the Lunatic Asylum, Fort Clarence. Disease amentia; death from ascites. Duration of mental disease 19 years, of the ascites about 2 months. This patient was admitted with amentia, but no history of its origin. He was always perfectly quiet, seldom spoke or paid any attention to external circumstances, but seemed constantly occupied with his own thoughts. He was then observed to look ill, and on examination he was found to be affected with ascites and anasarca of the limbs. The effusion into the abdomen continued to increase, and the œdema in both limbs extended to the upper part of the thighs. He became much emaciated with extreme debility, and suffered greatly from irritability of the stomach. On the 18th of March the distension of the abdomen was so distressing that the operation of tapping was performed, and 17 pints of turbid serum drawn off. This gave much relief and removed the irritability of the stomach. The fluid did not accumulate again with much rapidity, but he declined in strength, and on the evening of the 1st inst. his right arm was observed to be paralytic. Yesterday he had several paroxysms of convulsions, and died 3rd April, 1839. Examination after death showed the dura mater firmly adherent to the bone, and several deep depressions present on the inner surface of the calvarium. The arachnoid was generally opaque, some fluid in the cellular tissue of the pia mater, and some reddish serum in the lateral ventricles.

The former was considerably softened, as also the corpus striatum, likewise there was softening of the optic thalami, the corpora quadrigemina and the walls of all the ventricles, particularly the third.

Necrological Register, Vol. V, page 292.

1265. A number of oblong yellow spots on the lining membrane of the gall-bladder, the largest of which occupies the fundus, and part of the softened membrane hangs loose from its surface. MS. Cat., Vol. II, page 155, No. 199.

From Michael Hughes, aged 20, 26th Regiment, who had lately returned from China, suffering from pectoral symptoms and general debility. On admission he was greatly emaciated, and suffered from diarrhœa, with profuse expectoration of muco-purulent matter, great thirst, with hot and dry skin. He died of pneumonia.

Donor—Dr. Williamson, Staff Asst.-Surg.

PARASITES.

1266. A lumbricus in the *ductus communis choledochus* and hepatic duct.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

MALFORMATION.

1267. Shows a supernumerary hepatic duct, which joins the *ductus communis choledochus* about one inch from its commencement, the biliary ducts are considerably enlarged.

Donor—Mr. O'Brien, Asst.-Surg., 7th Regiment.

BILIARY CALCULI AND BILE CONCRETIONS REMOVED FROM GALL-BLADDER AFTER DEATH, OR PASSED BY STOOL.

1268. Six biliary calculi.

From a woman, ætat. 98.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

1269. A smooth white biliary calculus about the size of a cherry.

From a man who died of remittent fever, and who was attacked with colic shortly before his death.

Donor—Dr. M'Munn, Asst.-Surg., 10th Regiment.

1270. Two calculi from the gall-bladder.

From a man who, after an apoplectic fit, became idiotic, and died so at the end of six years.

1271. Section of a biliary calculus, chiefly composed of cholesterine.

Donor—Mr. Lloyd, Asst.-Surg., Rifle Brigade.

1272. Two gall-stones, the larger presented in section, about the size of a walnut; the other biliary calculi (three) are entire. The former was one of two; the latter, one of seven found in the same gall-bladder—nine in all.

From a patient in University College Hospital, Mason by name, who had died of symptoms of cerebral softening. After death the left cerebral hemisphere presented a large excavation filled with a clot of blood, continued through all the ventricles; and from the 4th ventricle into the substance of the cerebellum. In the right cerebral hemisphere, numerous apoplectic cysts existed; in the substance of the Pons varolii, a multilocular cyst existed, the result of softening.

Donor—T. G. Fitzgerald.

1273. A selection of 138 gall-stones; two of them of large size, and one shown in section.

From H. Barton, Royal Artillery, who died of acute dysentery at Dominica, December, 1845. He never had any symptoms of gall-stones; and the liver was healthy.

Donor—Dr. Johnson, Asst.-Surg., 71st Regiment.

1274. Two biliary calculi (two masses of cholesterine) passed by stool after violent symptoms of colic.

From a soldier of 23rd Regiment.

Donor—Surgeon Bradford, 23rd Regiment.

1275. Biliary calculus which was impacted in the neck of the gall-bladder. Print. Cat., page 115, No. 67.

From Samuel Harvey, 1st Regiment, whose history is given under Preparation 1173, page 324.

1276. Two small white biliary calculi, the lower one was impacted in the commencement of the cystic duct.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

1277. Minute biliary concretions of a black colour, and rough exterior.

Donor—Dr. Knox, Edinburgh.

1278. Small black biliary concretions; when recent their surfaces were regular and highly polished; they are very light and friable.

From a woman, ætat. 90.

Donor—Dr. Stephenson, Rochester.

1279. Numerous biliary concretions of small size and irregular shape.

From a man of 80th Regiment, who died in India.

Donor—Dr. Taylor, Surgeon, 80th Regiment.

1280. Numerous small angular biliary concretions.

1281. Gall-stones of a brownish yellow colour and of considerable size, with several facets on each, found in the gall bladder of a patient who died of apoplexy.

From Sergeant Joseph Daniels, aged 43, 96th Regiment. An English carpenter, of 18½ years' service, who was admitted to hospital, 27th September, 1849, on account of hæmorrhoids, which bled freely whenever he went to stool. After being in hospital 35 days, he was seized at midnight with an attack believed to be epileptic; but, on the following morning at 7.30, his respiration was stertorous, the pupils fixed and dilated, the skin hot, the pulse full and rapid. He was bled to 18 ozs., croton oil was administered, and turpentine enemata given. He was afterwards cupped, and blisters were applied to the scalp; but he never rallied, and died in the evening. An increase of fluid in the lateral ventricles, with some softening were the only lesions found in the brain. The more important visceral organs were healthy.

Donor—Dr. Robertson, Staff Asst.-Surg.

1282. Forty-five biliary calculi removed after death.

From the gall-bladder of an insane soldier, over 70 years of age, at the Military Lunatic Asylum, Yarmouth, in whom there were no symptoms of hepatic derangement during life. He died of capillary bronchitis.

Donor—Dr. W. Parry, Staff Surgeon.

SERIES XV.

INJURIES AND DISEASES AND MALFORMATIONS OF THE SPLEEN.

INJURIES.

1283. Spleen ruptured across its centre.

From a sailor, who fell from the masthead and was killed. The abdomen was found full of grumous blood.

Donor—Mr. Fraser, Asst.-Surg., Staff.

LARDACEOUS DEGENERATION.

1284. Sections of a spleen, its capsule rough from adherent lymph and numerous depressions visible. Its cut surface is very firm, and the glomeruli, acted on by iodine, very apparent. A "sago" grain spleen.

From Private Arthur McGuinness, 82nd Regiment, with a history of syphilis. Specimens from the same subject are seen in 1169, and a section of cranium from the same case.

Post Mortem Records, Netley, Vol. III, No. 34.

1285 & 1286. Two sections of an enlarged and indurated spleen, having a large white tubercle in its substance near the surface, where it is partially softened and contained in a distinct sac. The general substance of the spleen shows enlargement of the glomeruli, having all the characteristics of lardaceous (waxy) spleen, commonly called "sago" grain.
Donor—Dr. Bradford, Surgeon, 56th Regiment.

INFLAMMATION.

Capsulitis.

1287. A large sac which contained pus surrounding the spleen, the interior of which, as also the peritoneum covering this organ, is coated with a thick layer of granular lymph. Print. Cat., page 120, No. 3.

From John McKenzie, aged 47, 41st Regiment, admitted to Fort Pitt Hospital, with common continued fever of three weeks' duration. He died, after being seven weeks in hospital. An abscess was also found between the pleura of the right side, which contained a pint and a half of pus; another, equally extensive, was found between the peritoneum and abdominal muscles; and a third, as represented in the Preparation.

Abscess.

1288. Spleen slightly lobulated, and a large abscess in its substance, near the convex surface of the inferior angle; the interior of the sac is lined by granular lymph. Print. Cat., page 120, No. 6.

From Robert Green, aged 31, 34th Regiment, admitted to Fort Pitt Hospital, on arrival from India, suffering from dysentery of four weeks' duration, said to have been contracted on the passage home. He had served seven years in India, and had good health until the last two years of his service there, when he had syphilis, for which he was treated with mercury. Subsequently, his bones became affected with nodes. He died, after being five weeks in hospital, without any indication of spleen affection. The intestines were found ulcerated.

1289. Several sacs of abscesses near the convex surface of the spleen, each lined by a distinct firm membrane. Print. Cat., page 120, No. 2.

From Arthur Largan, aged 24, 13th Regiment, admitted to Fort Pitt Hospital, for continued fever, said to have been contracted on a march. He died, after seven weeks. After death, effusion was found to have taken place between the dura mater and arachnoid, and into the central ventricles. There was no evidence of splenic disease.

Tubercle in Spleen.

1290. Section of spleen studded with extremely minute miliary tubercles.

From John Maclaughlin, aged 19, 11th Regiment, whose history is already given under 1248, and referred to again under 1184.

1291. Portion of spleen studded with minute miliary tubercles; texture firmer than usual. MS. Cat., Vol. II, page 171, No. 44.

From John Sately, aged 38, whose history is given under Preparation 605, page 170.

1292. Section of spleen containing numerous tubercles about the size of peas; the spleen weighed two pounds.

From a man who died of phthisis; almost every organ of the body showed tubercular degeneration in an advanced stage.

1293. A spleen through which three incisions have been made to show tuberculous nodules in its substance.

From Private J. Marhead, aged 20, admitted to Netley Hospital, 20th December, 1887, and who died on 18th April, 1888, from general tuberculosis. After death, both lungs were found solidified, and infiltrated with nodular tubercles. The pericardium contained 20 ounces of serum, and the membrane was greatly thickened, and covered with lymph on its entire inner surface. The visceral layer was covered with a thick layer of fibrinous lymph. The kidneys were congested, and studded with caseous tubercle.

Pathological Reports, Netley, Vol. XV, No. 112.

1294. Section of spleen showing several tubercular nodules, with lesser and very minute deposits; of flesh-like aspect, and weight 10 ounces. Microscopic examination showed tubercular bacilli in great abundance.

From Private Thomas Crossbie, aged 23$\frac{10}{12}$, of nearly five years' service, mainly at Home, Malta, and Gibraltar. He was admitted to hospital, while at Gibraltar, suffering from cough, debility, anorexia, and general malaise. The apices of both lungs were found to be consolidated, the dulness most marked on the left side. He was admitted to Netley, on October 22nd, 1891, very pale and emaciated. The chest was seen to be flattened superiorly, and respiratory movements on both sides were deficient. Dulness on percussion as low as 4th rib in front, and over the subscapular region behind. Large moist râles and cavernous breathing were heard over the right infra-clavicular region. Moist râles were also heard over both sides of the chest in front and behind. Vocal resonance was increased on both sides. The heart's first sound was weak, but showed no signs of organic disease. A considerable quantity of albumen was found in the urine; but no pain over renal region. Diarrhœa was repeatedly present. There was œdema of the hands on admission. Tubercle bacilli were found in the sputum. Fever temperature very irregular; on one occasion reaching 104° Fahr., and a few hours before death, it fell to 97° Fahr. Night sweats were constant, and often profuse. No hæmoptysis while at Netley; but at Gibraltar, the attacks of hæmoptysis were frequent, severe, and with difficulty stopped. Expectoration muco-purulent and abundant; appetite good till within a few days of death.

After death, tubercular matter infiltrated both lungs; breaking down in many places. Both lungs were universally adherent; the liver enlarged and adherent to diaphragm.

Pathological Reports, Netley, Vol. XVI, No. 63.

1295 Spleen thickly studded with tubercular deposit, varying from the size of a pea to that of a bean. The tubercles are of firm consistence, and of a light yellow colour. The capsule is thickened and opaque.

From a patient, in whom the lungs, bronchial, and mesenteric glands, and pancreas, were also affected with tubercular deposits.

Donor—T. Longmore, Asst.-Surg., 19th Regiment.

1296. Portion of spleen pervaded by large cheesy tubercles.

1297. Spleen studded with large caseous tubercles, which at several places cause elevations on the surface, where they are only covered by the peritoneum.

From a patient, who died of phthisis.

1298. Half of a greatly enlarged spleen. Its structure is very thickly studded with tuberculous matter, portions of which are in a state of softening which, contrasted with the dark red colour of the substance of the spleen, gives it a speckled red and yellow appearance. Patches of coagulable lymph are also deposited on the surface. The spleen weighed 12 ounces.

From William Shell, aged 14, who died of marasmus. He must have been long ill, and was admitted to hospital nine weeks before death. He was much emaciated, and appeared to suffer from visceral disease. His evacuations were unnatural and irregular. Tongue always clean, appetite tolerably good; pulse always quick; skin dry and harsh. The region of the spleen and abdomen, generally, showed no signs of disease.

After death, both lungs were found to be thickly studded with miliary tubercles. Liver large, and adherent to diaphragm; and a dark red mottled appearance, and tuberculated, some of which were softened. The peritoneum was thickly studded with tubercles the size of millet seeds. Mesenteric glands were much enlarged, and several of them were tyromatous.

Donor—S. Lawrence, Esq., Surgeon, Military Asylum, Chelsea.

Thickening of and osseous deposits in the capsules.

1299. Structure of spleen dense and firm; capsule covering its convex surface about three-quarters of an inch in thickness and cartilaginous. MS. Cat., Vol. II, page 170, No. 37.

From Corporal William Macdonald, of 69th Regiment, who died, at Fort Pitt Hospital, on 31st July, 1838, from chronic catarrh from exposure to cold, about nine months before death. He suffered from severe pain, while in his regimental hospital, in the lower part of right side. After death, the pleura was found strongly adherent, and extensive organic disease of the lungs existed with cartilaginous growths on the surface of spleen.

1300. Spleen showing great thickening of its capsule, which at one part is half an inch in thickness and cartilaginous.

Donor—Mr. O'Brien, Asst.-Surg., 7th Regiment.

1301. Structure of spleen firm and indurated, peritoneal covering thickened, with numerous white semi-cartilaginous spots on its surface, and shreds of lymph attached.

1302. A mass, about an inch and a half in thickness, taken from the external surface of the spleen, consisting partly of a dense fibro-cartilaginous substance and partly of bone; a small portion only of the vascular structure of the spleen remains, occupying the concavity of the substance seen in the preparation.

From a very old man.

Donor—Mr. Gulliver, Asst.-Surg., Staff.

1303. Part of 1302, dried and preserved in turpentine, exhibiting the extent of the osseous matter.

Donor—Mr. Gulliver, Asst.-Surg., Staff.

1304. Capsule covering the convex surface of the lower half of the spleen about three-quarters of an inch in thickness and semi-cartilaginous. Spleen enlarged and adhered by long loose bands to the abdominal walls.

Donor—Dr. Muir, Asst.-Surg., 42nd Regiment.

MORBID GROWTHS.

(*a*) *Melanotic Tumour.*

1305 & 1306. Two portions of spleen containing large black masses of melanotic matter; in the centre of some of them there is a deposit of white medullary substance, which is slightly softened and broken down; the spleen was much enlarged and weighed three pounds. The mammæ, sternum, liver and kidneys were affected with the same disease. MS. Cat., Vol. III, page 223, No. 99.

From Miss Horne, aged 25, St. Vincent, March, 1836. This patient states it to be her belief that she was born with a mole over the site of the sternum, which, from the irritation produced by the pressure of the stay-bone, became very annoying to her, and, in order to relieve herself of it, she, by the advice of some friend, tied a thread round the loose part of it, hoping by this means to detach it. Inflammation ensued, and the pain became very intense, she removed the ligature, and, with the removal, the inflammation subsided. The mole, however, increased in size, when she very imprudently clipped it off with her scissors; from this she dates the commencement of the fatal disease, it bled very much, and soon after commenced to assume the fungous growth; the bleeding still continuing, she applied the tincture of myrrh and laudanum, and by the advice of her medical attendant, turpentine for the purpose of suppressing the hæmorrhage. About this period, two small spots were observed on her back, one about an inch below the inferior angle of the right scapula, and the other over the site of the 7th rib. These spots were of a blue greenish colour, very much resembling mildew. The tumour on the breast also assumed this colour, it increased in size, rapidly assuming all the characters of the fungous growths. About this time, it became the opinion of the medical men that it should be removed, which, with the consent of the patient, was effected by passing a double ligature through the base of the tumour, and tying one on each side. The size of the tumour was about two inches in length; in about six weeks, it had entirely sloughed off, but the ulcer never entirely healed, and the fungous growth recommenced and rapidly increased. At this time, the patient came under my charge, and, on examination, I found that the right mamma had become affected with similar spots to those that were observed on the back, which, in a very short time, increased in size and depth of colour. A number of blue streaks running from one spot to another, which I supposed to be the lymphatics running from gland to gland. It is needless to say, that, in a very short time, the disease assumed all the appearances presented by the fungous hæmatodes, and, at the present time, the whole of the lower edge of the right mamma, extending from the nipple to the axilla, is one mass of ulcerating fungus, the tumour between the mamma is about the size of the original one, and is sloughing off.

The left mamma has, likewise, become affected with the blue spots, by which means the disease shows itself. The disease has assumed another form on the back, viz., forming a deep ulcer with a bright edge, and of a circular form, the edges rather undermined, and the ulcer deep enough to admit the point of the finger, and still retaining the blue colour.

After death, liver very much enlarged, hard, and knotty to the touch, and covered with dark livid-coloured spots. Spleen weighed 3 lbs., and was similarly affected. Both kidneys were, likewise, affected. Other abdominal viscera healthy. The sternum was affected with the disease immediately under the centre, but had not been perforated by it, the bone, however, through its whole thickness, had been affected with inflammation, for the scalpel could easily be passed through it. The glands and cellular tissue of the right axilla were likewise much affected.

Donor—Mr. Melville, Staff Surgeon.

(*b*) *Multiple Adeno-Lymphoma* (*Hodgkin's Disease*), *or Anæmia Lymphatica.*

1307. Enlarged and misshapen spleen from multiple growths (adeno-lymphatic) in its parenchyma. Its section was of a pale slaty colour, and numerously studded with the nodules, varying in size from a pin's head to a walnut, and of a whitish yellow colour. They were firm and opaque, resembling those in the lung (see Preparation 677), not unlike "masses of suet in a pudding" or "hard-bake."

From Private D. Malcolm, aged 26, of 8 years' service, mostly in India, whose case is described under Preparation 677, page 185. The growths were very widely dispersed throughout the lungs, the lumbar, inguinal and mediastinal glands, spleen, liver, and under surface of pericardium. In the cancellated texture of the condyles of the left femur and calvarium, small nodules were seen of the same character as elsewhere, and surrounded by higher vascularity. (See also *Guy's Hospital Reports* for 1862—Dr. Wilks; also *Trans. Royal Medical and Chirurgical Society*, 1832, by Dr. Hodgkin.)

Pathological Reports, Netley, Vol. XII, No. 75.

INFARCTIONS OR EMBOLISM.

1308. Portion of spleen showing two irregular calcareous deposits about the size of beans, situated in one of the veins in its substance close to the convex margin.

From a patient who died of phthisis.

Fort Pitt.

1309. Spleen showing well-defined sanguineous coagula in its structure.

1310. Spleen enlarged and weighing 15 ounces; in the section on the left of the preparation, two large embolic "infarcts" are shown.

From Private William Walsh, aged 21 years, 2nd York Regiment, whose case is already recorded under Preparation 96A, page 27.

Pathological Reports, Netley, Vol. XV, No. 70.

1311. Spleen enlarged, weighing 2 lbs. 6 ozs. Its texture was pulpy and in parts diffluent in several spots, like necrosis from embolism, but no plugging of vessels remained visible; and no bacterial organisms could be discovered by Dr. Lewis in its tissue.

From Private Robt. White, aged 24, of 3½ years' service, mainly at home and in India. He suffered from rheumatism at 12 years of age, but had no cardiac troubles until after a long march in India, in 1883. He is said to have suffered also from continued fever in 1883, and again on his way home from India, in 1884. On admission his temperature was 98·5° Fahr. and no eruption on the skin, but he presented a very sickly appearance, with visible pulsation of the smaller arteries with cardiac murmurs. The first rise in temperature occurred two days after admission (10th May), when it rose to 101·2°, which was maintained for two days, when it fell (under quinine) to 99° on the 14th May. From this time the temperature fluctuated daily, the fever sometimes keeping up for two days, the patient showing the usual signs of intermittent fever—cold, hot, and sweating stage. There was slight delirium during the height of the fever. From the 17th diarrhœa was constant till the 26th, when a minute petechial rash was noticed with epistaxis on the 26th May; but there was no tenderness in the right iliac fossa, but general abdominal tenderness with hepatitis. Tongue dry, and covered with sordes, vomiting and retching set in, and urine had to be drawn off with catheter shortly before death.

No erosion nor ulceration existed in the intestines; but the lower portion of the ileum was much congested. There was extensive endocarditis (malignant); and there were micro-coccus colonies in the altered tissues of the mitral valve.

ENLARGED SPLEENS (HYPERTROPHIES).

1312. An hypertrophied spleen. The capsule is thickened, and patches of adherent lymph stud its surface. The colour is mottled from deposit in the subjacent parenchyma, with occasional pigmentary masses. On section the viscus is uniformly firm and pale in colour, and large, irregularly-shapen, circumscribed, firm, fibrinous-like deposits are seated in the parenchyma, the major part of them reaching the surface of the organ; a distinct rim of pigment surrounds the material, increased into blackish patches at spots. The trabeculæ of the viscus are thickened.

From Private Thomas Nicholls, aged 24, 80th Regiment, of 3$\frac{3}{12}$ years' service, one year of which he served in India. From April to July, 1859, he was under treatment for primary syphilis for 2½ months; and after that five weeks for chronic rheumatism; in October, 1859, he was again under treatment for four weeks for syphilis; and in August, 1881, he was two weeks under treatment for orchitis; and on the voyage home from India he suffered from phthisis pulmonalis, of which he died at Netley.

Pathological Records, Netley, Vol. II, No. 39.

1313. Spleen enlarged and lobulated, weight 1 lb. 6 ozs.

No further history.

1314. Spleen much enlarged, weight 1 lb. 8 ozs.; structure condensed; capsule thickened, with shreds of lymph attached. Print. Cat., page 121, No. 14.

From Pat. Dally, Royal African Corps, who had served 5 years in Sierra Leone; and soon after his return died of phthisis. The lungs were found infiltrated with tubercle and the liver (as well as the spleen) of large size and pale colour (malarious).

Fort Pitt.

1315. Spleen enlarged, weight 1 lb. 8 ozs.; structure firm; investing membrane thickened and entirely covered by a thick uniform layer of lymph, which is at some parts semi-cartilaginous.

No further history.

1316. Spleen much enlarged, weight 2 lbs. 5 ozs.; structure condensed, peritoneal coat thickened, with large white glistening cartilaginous spots on its surface, and portions of lymph attached. Print. Cat., page 120, No. 10.

From John Gee, Royal African Corps, who, after two years' residence on the West Coast of Africa was invalided for the sequelæ of remittent fever, especially splenitis. In hospital he had frequent attacks of severe epistaxis and pulmonary irritation; and while apparently improving, he suddenly expired. After death his lungs were seen to be in the third stage of pneumonic hepatization; the right heart dilated, and the liver enlarged and abnormally indurated.

Fort Pitt.

1317. Spleen very much enlarged, weight 4 lbs. 2 ozs.; it extended from the eighth rib to the crest of the ilium; structure condensed, peritoneum covering a quarter of an inch in thickness, firm, and cartilaginous. MS. Cat., Vol. II., page 172, No. 45.

From Henry Earls, aged 26, 10th Regiment, of $4\frac{5}{12}$ years' service, of which he spent 2 years in India. Shortly after his arrival in India, in 1841, he became affected with scurvy and foul bleeding ulcers on his legs. In October, of that year, his spleen became diseased and enlarged with severe constitutional symptoms, terminating in general dropsy. He was finally discharged for chronic splenitis, the spleen being very considerably enlarged. In June, 1861, at sea, on his voyage home, he was tapped to the extent of 12 quarts. He was admitted in Fort Pitt Hospital on the 3rd July, 1861, presenting the following appearances:—complexion sallow, eyes blue, hair very light coloured, skin harsh, dry, and scaly; on both of his legs cicatrices of old sores, abdomen enlarged and tense, being 48 inches in circumference, the effusion occupying all the abdomen and impeded respiration, size of spleen not to be ascertained from the abdominal distension, no pain, pulse 100, tongue clean and moist, bowels loose. On the 4th July he was tapped to 26 pints, with temporary relief, and, subsequently to the operation the spleen could be felt; the fluid, however, rapidly reaccumulated with great distress of breathing and general debility, and it became necessary to tap him again on July 14th to the extent of $9\frac{1}{2}$ pints. He never rallied after this operation, the next day appeared much exhausted, countenance sallow and very anxious, conjunctiva yellow, skin continuing harsh, dry, and scaly, urine scanty, tongue covered with a dark, almost black fur. On the 16th he appeared slightly better, but on the 17th he had passed the preceding night very badly, the fluid was again accumulating considerably, great uneasiness and pain on abdominal pressure, countenance very anxious, tongue furred, skin harsh and dry, extremities cold, pulse scarcely to be felt. He gradually became worse and sunk on the 17th instant.

Abdomen. On opening this cavity there were found 14 pints of amber-coloured serum. Peritoneum, covering the intestines, of a mottled red vermilion colour, and that lining the walls of the abdomen

also very highly vascular, and in parts having a dark ecchymosed appearance from the effusion of blood beneath it; this was observed chiefly at the upper part and not around the punctures made by paracentesis, a layer of lymph effused on the intestines, which were distended with flatus.

Liver small, and its external surface very irregular from numerous small projecting tubercles from the size of a pea to that of a cherry; posterior part of convex surface of its right lobe adhered firmly to the diaphragm; structure condensed, and of a pale yellow colour from the deposition throughout of interstial inflammatory deposit (cirrhosis), weight, 2 lbs. 15 ozs.

Omentum very much thickened and rolled up into a mass, its anterior surface adhering to the diaphragm and lower margin of liver.

Mesentery much thickened and distended with serous and gelatinous fluid, mucous membrane of small intestines pale, that of large of a grey colour, both free from ulceration.

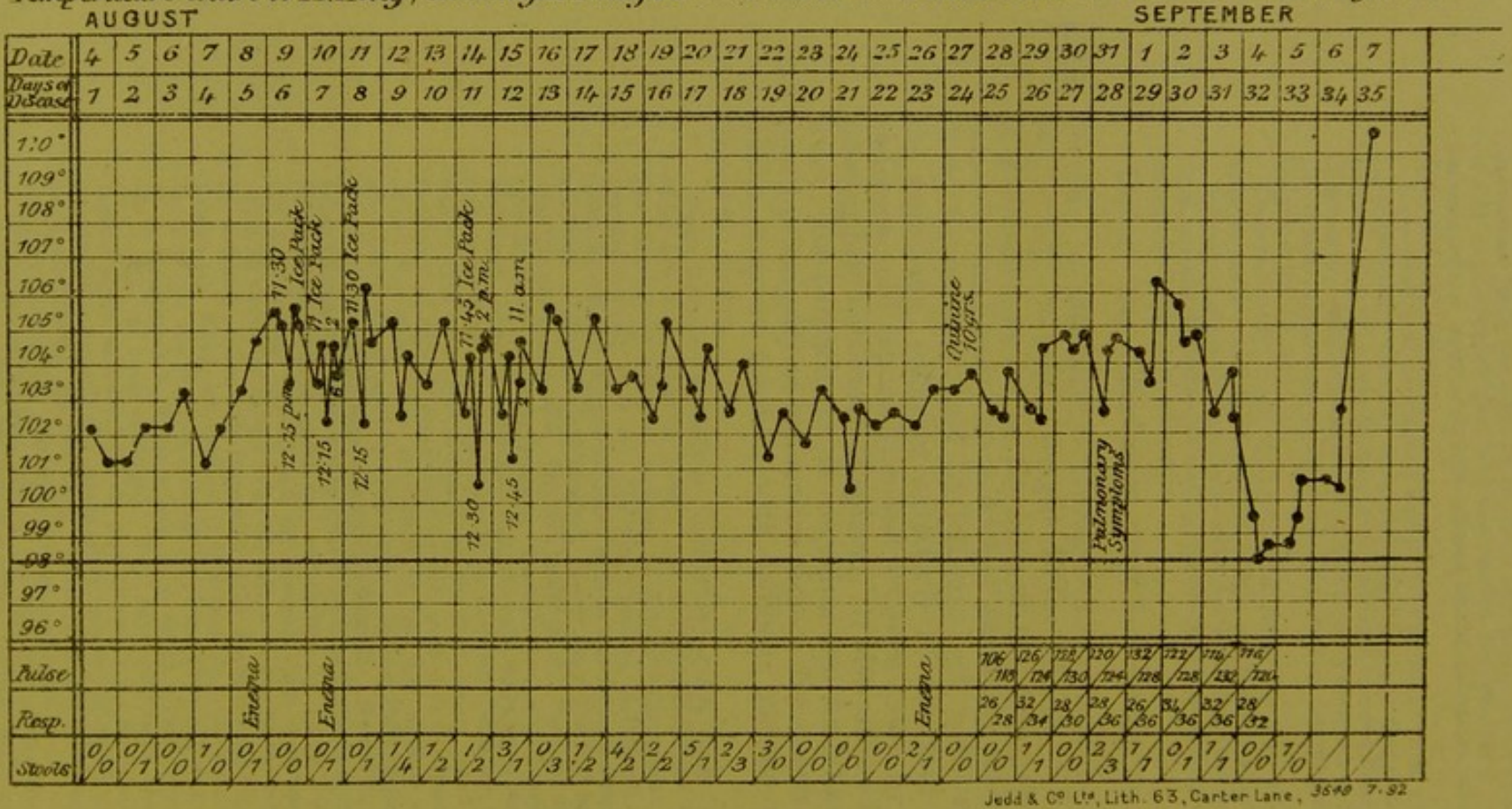
Donor—Dr. Williamson, Staff Asst.-Surg.

1318. Section longitudinally through an enlarged spleen, $14'' \times 7\frac{6}{10}'' \times 4\frac{9}{10}''$; weight 10 lbs. 15 ozs. = 175 ozs. It descended as far as the brim of the true pelvis, and came forward over the middle of the right lobe of the liver; its margin could be felt one inch to the right of the umbilicus, adhering anteriorly to the wall of the abdomen, and especially round wounds made by trocar passing into substance of spleen. It also adhered to the liver. Its parenchyma is very firm and flesh-like, composed principally of connective tissue. No spleen sacculi visible, and no reaction with iodine; became red on exposure to air.

From Drummer J. Newman, aged $17\frac{10}{12}$, of $2\frac{8}{12}$ years' service, of which $1\frac{3}{12}$ were spent in India. He was invalided from Muree, on 21st September, 1859, on account of splenic enlargement. He had repeated attacks of fever. He was admitted in General Hospital, Great Yarmouth, August 31, 1860, with an enormous distension of the abdomen. Extremities attenuated, countenance pale and cadaverous. Appetite good, slept well. General health good. Swelling of abdomen gave little or no inconvenience. Consultation with Surgeon-Major Matthews, came to conclusion that the case was one of ascites, and that paracentesis abdominis should be done without delay, a decision said to have been also influenced by the boy having stated that the swelling had *rapidly supervened an attack of fever*. Operation done on 8th September, was astonished to find that no fluid came. He was able to be up again in two days. On the 14th September, Dr. Matthews determined again to operate himself. He did so, the result being the same as before. On 29th September the tension of abdomen did not seem to be so great, and as the boy lay on his back, it was for the first time noticed that an immense ridge of an uneven form could be traced extending from the left, well over to the right side of the abdomen. A minute inspection of the whole abdomen by Surgeons Rogers and Matthews, resulted in their coming to the conclusion, that the whole of the enormous distension of the abdomen, was occasioned by an enlargement of the spleen to a depth almost beyond belief. The blood was never examined. Two days afterwards the abdomen became again as tense as ever, and, although the boy was a year in hospital, the opportunity never again occurred of making so minute an examination. He had been treated with the usual remedies for splenic enlargement. No organic disease of heart.

Was invalided to Fort Pitt on the 26th September, 1861, *in statu quo*. October 15th: Weight 7 st. 2lbs. (= 100 lbs.), girth round abdomen, 37 inches; round sternum, 30 inches; round pelvis, 33 inches. November 1st: Complexion extremely pale; surface generally is unusually blanched. General appearance that of anæmia. Lips and

Temperature Chart of M. Kelly, Connaught Rangers ..... Disease ..... Malta Fever No. of case in Catalogue 1320



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gums pale. Conjunctiva tinged yellow, skin generally yellowish. Emaciation considerable. Temperature in axilla 98° Fah. Tongue furred, appetite tolerably good. A hard tumour can be felt occupying the entire left side of abdomen. Superiorly, it can be felt emerging from under the false ribs, and downwards it extends to near the ilium. The site of the tumour yields a dull sound on percussion, and the rest of the abdomen is also said to be more than usually dull. The respiration is laboured and quick (28). Some cough and expectoration. Heart's sounds have a very soft character from the anæmia present. Apex beats in its normal position. Pulse 98, feeble and soft. Blood drawn from the extremities of the fingers is watery and attenuated. The white corpuscles more than equal the coloured ones, and these are various as to form and size. The blood was also examined as to pigment cells, but none were seen sufficiently definite to state their existence beyond doubt. Urine acid, sp. gr. 1017. Quantity 26 ounces daily. No albumen present. November 4th: Has had a bad cough and appears breathless. Sits up the greater part of the day, and walks about a little. November 8th: Legs and face œdematous, breathing more oppressed, and he cannot sit up or walk about as usual. November 10th: The abdomen is more distended, the debility increases, and the anæmia more expressed. November 12th: the anasarca has become more general, and the anæmia more extreme. The white corpuscles of the blood appear to be much more numerous than the coloured ones. Pulse 120. Respiration 26. There is dulness over the lower part of the right lung posteriorly. Moist and dry râles audible. November 14th: General health greatly impaired, anasarca increasing. He cannot sit up, and the dyspnœa is great. A bed sore threatens over the sacrum. Countenance anxious, with great oppression over the chest. Cough and slight expectoration. Dulness under left clavicle. Moist and dry râles heard all over the chest. Pulse feeble and quick (120). November 15th: No sleep last night. Cough frequent. Yellow tinge more and more intense. Pulse 136. Respirations 20 per minute. November 19th: Death at 7 a.m.

1319. Section of an indurated spleen, minutely injected.

From a man who died of ague (malarious) in India.

1320. An enlarged and congested spleen, weight 25 ozs., from a case of "Malta fever."

From Private M. Kelly, aged 21 years, Connaught Rangers, of two years' service. He was admitted to Cotonera Hospital, Malta, 4th August, 1891, suffering from the ordinary symptoms of fever. Previously his general health had been good. He had no admission to hospital for two years and a half, when he had an attack of pneumonia lasting 35 days. The fever for which he was admitted to hospital set in suddenly, and was ascribed to climatic causes of an uncertain nature. On September 1st, symptoms of pulmonary congestion occurred with signs of exhaustion. September 3rd he had muttering delirium, tongue dry and brown, pulse weak and thready, and he died on 7th September, 1891. Diarrhœa was occasionally present; there were no rheumatic or neuralgic complications. The treatment consisted of careful dietary and nursing throughout; ice packs in the early stage whenever temperature rose above 104° Fah. Stimulants were given freely when indicated, and opium in large doses to alleviate delirium. [*See* chart for records of temperature, pulse and respirations in this case.]

The heart was found normal after death, as to structure and valves. The right lung was adherent to the chest walls throughout and intensely congested, but no consolidation. The left lung was normal. Liver enlarged and congested. Weight 79 ounces. Kidneys normal. No trace of ulceration throughout the intestinal tract; but much atrophy of the intestine, the body being greatly emaciated. The mesenteric glands were normal. Cotonera Hospital, Malta, October, 1891.

From David Bruce, Surgeon-Captain, Medical Staff.

SMALL SPLEENS.

1321. Spleen exceedingly small, weight 2 ozs. 2 drachms; capsule thickened and partially converted into cartilage.

From a Maltese, aged 84, whose arteries were generally ossified.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

1322. Spleen exceedingly small, weight 2 ozs. 4 drachms; structure firm.

From a man who had been addicted to the use of ardent spirits.

Donor—Mr. Stewart, Surgeon, 84th Regiment.

1323. Spleen small, weight 2 ozs. 4 drachms; structure firm, and its capsule at parts opaque. Print. Cat., page 116, No. 85.

From Patrick Burns, aged 48, 11th Regiment, an imbecile patient subject to epileptic fits, in one of which he died. He had been much addicted to the use of ardent spirits.

Fort Pitt.

MALFORMED AND SUPERNUMERARY SPLEENS.

1324. Spleen small, and having four supplementary spleens about the size of walnuts. Print. Cat., page 18, No. 42.

From Thomas Probert, aged 22, 38th Regiment, whose case is related under Preparation 659, page 180. A case of partial transposition of abdominal viscera.

1325. Five supernumerary spleens, from the size of a pea to that of a cherry, situated in the splenic omentum.

1326. A supplementary spleen, about the size of a walnut, situated in the splenic omentum.

1327. Two supernumerary spleens about the size of cherries. The spleen itself was very much enlarged, in consequence of the patient having suffered from remittent fever.

1328. Supernumerary spleen about the size of a walnut.

1329. Spleen of an unusual form, being elongated and consisting of two equal portions, joined by a narrow neck.

From the body of an insane officer who committed suicide.

Donor—Mr. Thomas, Surgeon, Ordnance Medical Department.

SERIES XVI.

INJURIES AND DISEASES OF PANCREAS.

CALCAREOUS DEGENERATION.

1330. Pancreas containing tubercular and calcareous deposit

No history.

DILATED DUCTS.

1331. Atrophied pancreas from fatty degeneration, with a peculiar saculated state of the opening of its duct into the duodenum; there are no villous folds at the entrance of the ductus communus choledochus into the intestine; each of these ducts enter the duodenum separately.

From a man, aged 18, who was exceedingly emaciated and died of diabetes.

FATTY DEGENERATION.

1332. Pancreas condensed and of a homogeneous texture, having little or no trace of its granular structure. MS. Cat., Vol. IV, page 10, No. 127.

No history.

CANCER.

1333. A cancerous mass extending the entire length of the lesser curvature to the pyloric end of the stomach. Ductus communus choledochus pressed on by the cancerous pylorus. Several cancerous glands anteriorly. Pancreas one entire mass of cancer also pressing on the ductus communus from behind. Small masses of cancer

were scattered over the liver, also numerous cancerous glands extended along both sides of the vertebral column and surrounded the aorta which is laid open in the section.

From Private Patrick Power, 2nd Battalion, 9th Regiment, just returned from China where he had been stationed for two months, having previously spent eight years in St. Helena. When in China he was under treatment for symptons of liver disease, and in a few days after leaving China symptoms of dysentery set in which disappeared by the time he reached the Cape. Very soon after this he was attacked with liver affection, repeated vomitings, pain in the shoulder, constipated bowels and jaundice. He continued much in the same state when he was admitted into the Royal Military Hospital, Portsmouth. There a tumour could be felt in the right hypochondrium about the size of an egg. Its position shifted slightly when the patient rests on right side. Pressure sometimes produces sharp pain, which continues for a minute or two. He has a very cachectic appearance, he is much emaciated, feels relief after vomiting and describes the pain as of a burning character. Sleeps badly, is deeply jaundiced and vomits very frequently. Bowels never moved except by enemata. Vomited matter usually of a dark colour and microscopically principally consists of epithelial scales and blood discs. Died 11th September, 1865, having become deaf for some days before death.

Donor—E. O. Fuller, Asst.-Surg., 96th Regiment.

1334. Portion of pancreas in a scirrhous condition, and its external surface presents numerous round elevations about the size of peas.

No history.

1335. A cancerous tumour in the pancreas; another of the same nature was found in the capsule of Glisson in the liver; when recent, both the tumours were very vascular, and had all the characters of carcinoma. MS. Cat., Vol. II, page 127, No. 8.

From a man, aged 60, who died in the Marylebone Workhouse from pulmonary consumption complicated with what appeared to be disease of the stomach. He had a very cadaverous appearance a long time before death, with frequent vomiting and constant pain in the epigastrium. Tubercular vomicæ were found in the lungs after death.

Donor—Mr. Gulliver, Asst.-Surg., R. H. Guards.

MELANOTIC SARCOMA.

1336. Portion of pancreas exhibiting melanosis. Print. Cat., page 40, No. 47.

For history see Preparations No. 80, page 23, and 1208, page 331.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

SERIES XVII.

DISEASES OF THE LACTEAL AND LYMPHATIC VESSELS AND GLANDS.

VARICOSE DISTENSION OF LACTEALS.

1337. Portion of small intestine with a part of the mesentery attached, in which are varicose lacteals.

From a man, aged 37, who died of phthisis. No history.

1338. Portion of small intestine, showing a varicose lacteal.

From a man who died of phthisis. No history.

1339. Portion of small intestine, exhibiting varicose lacteals, with enlargement of the mesenteric glands.

From a man who died of phthisis.

1340. Part of ileum and mesentery, exhibiting a varicose state of the lacteals; mesenteric glands enlarged and containing scrofulous matter. Print. Cat., page 77, No. 15.

For history see under Preparation 999, page 264.

Donor—Dr. Bushe, Asst.-Surg., Staff.

ENLARGEMENT FROM TUBERCLE AND CALCAREOUS DEPOSITS.

1341. Portion of jejunum, showing a lacteal vessel laid open, which is filled with curdy matter; also an enlarged mesenteric gland containing scrofulous matter.

From a man, aged 29, who died of phthisis. No history.

1342. Lumbar glands, much enlarged and filled with tubercular matter.

No history.

Donor—Mr. Martin, Surgeon, 73rd Regiment.

1343. Mesenteric glands, enlarged and filled with tuberculous matter.

No history.

1344. Mesenteric glands, enlarged and filled with tuberculous matter.

No history.

Donor—Sir James Grant, Inspr.-Genl. of Hospitals.

1345. Mesenteric glands, enlarged and containing calcareous and tubercular matter.

From a man, aged 18, who died of phthisis. No history.

1346. Mesenteric gland, filled with calcareous deposit.

From a man, aged 45, who died of pneumonia. No history.

1347. Mesenteric glands, enormously enlarged, altered in structure, and containing scrofulous deposit. MS. Cat., Vol. IV, page 118, No. 11.

From William Thomson, aged 26, who died 13th May, 1842. He suffered from pains in the loins and through the hypatic region, with cramps in the umbilical region; latterly he suffered most from impediment to the passage of food. A tumour was traceable through the parietes. After death the pancreas was seen to lie on the surface of the mass, which consisted mainly of three dense white tubercles, the largest the size of a walnut, imbedded in the liver structure, which otherwise was healthy. There was no evidence of recent inflammation.

Donor—Mr. Cotton, Asst.-Surg., 12th Regiment.

1348. Mesenteric glands, much enlarged, and containing tuberculous matter, with shreds of lymph attached to the peritoneum. Print. Cat., page 88, No. 89.

From Joseph Sibley, aged 23, 15th Regiment, who, after suffering from stomach and bowel complaints, became affected with tumid abdomen and œdematous feet. He died suddenly. After death straw-coloured fluid, about a quart, was found in the abdominal cavity. Much ulceration in the mucous lining of the small intestine, tubercular deposit in both lungs, and greatly enlarged mesenteric glands.

Fort Pitt, Chatham.

1349. Portion of an inguinal gland, removed from an ulcerated cavity of a bubo: one side appears of a darker colour than the other owing to the application of potassa fusa previous to excision.

IRREGULARITIES AND MALFORMATIONS OF THE LYMPHATICS.

1350. Unusual course of the thoracic duct across the aorta.

No history.

Donor—Mr. Martin, Surgeon, 73rd Regiment.

1351. Receptaculum chyli and a portion of the thoracic duct, exhibiting an unusual cellular structure in their interior; the course of the duct is preserved by means of small openings in the cells.

From a Maltese, aged 95.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

1352. Upper part of the thoracic duct, containing a coagulum of blood.

Donor—Dr. Davy, Asst.-Inspr. of Hospitals.

END OF VOL. I.

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