A

CATALOGUE

OF THE

PREPARATIONS

IN THE

ANATOMICAL MUSEUM

OF

GUY'S HOSPITAL.

ARRANGED AND EDITED,

BY

DESIRE OF THE TREASURER OF THE HOSPITAL,

AND OF THE

TEACHERS OF THE MEDICAL AND SURGICAL SCHOOL,

BY

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INTRODUCTION.

When Sandifort undertook to describe the preparations in the Museum formed at Leyden by the union of the Collections of Raus, Albinus, and Doeveren, and which had been augmented by more than twenty years' labour of the Professor and his Pupils, no apology was necessary in introducing his splendid Museum Anatomicum to the notice of his Professional Brethren. The celebrity of the Author, the names of the great men by whom the specimens were brought together, and the notoriety of the Collection which they constituted, were sufficient, not only to sanction the publication of the work of Professor Sandifort, but to claim for it that high and general estimation which it has received and maintained.

The present volume is printed under widely-different circumstances. The increased zeal which numerous causes have, since the publication of the Museum Anatomicum, concurred to direct to the cultivation of every branch of Anatomy, but more especially of Pathological Anatomy, has not only multiplied the number of works relative to this branch of Medical Science, but has also led to the formation of numerous more or less rich and extensive Collections, in illustration of the same interesting and important subject. It might reasonably be thought that the publication of the descriptions of many of these ought to precede that of the comparatively infant Museum of Guy's Hospital, or that the mere existence of these Collections renders needless the publication of such a work. Something therefore seems necessary, by way of apology, not only to set forth the claims to attention which the Museum

of Guy's Hospital, notwithstanding its comparatively recent formation, may yet be allowed to possess, but also to explain the real motives which have led to the printing of the Catalogue; which, whether publication had been designed or not, it was, for obvious reasons, needful to compose.

The first of these objects will probably be best effected by a very brief view of the history of the formation of the Museum.

It is self-evident, that every large public Hospital must afford numerous opportunities for the collection of valuable specimens of Pathological Anatomy. This has been particularly the case in the magnificent Institution founded by Thomas Guy, and liberally supported by his ample endowments. Where, as in this Hospital, the Patients are admitted without reference to individual interest, but by a superiority of claim, founded solely on the greater severity and urgency of their particular cases, it follows, as a necessary consequence, that the average of interesting cases must be particularly high. Some idea of the ample field for Pathological Anatomy presented at Guy's Hospital may be formed from the following statement of the mortality which has taken place in the Institution during the three last years—

From 25th of 3d Month (March) 1825 to 25th of 3d Month .. 1826 } 264
From 25th ditto 1826 to 25th ditto 1827 .. 297
From 25th ditto 1827 to 25th ditto 1828 .. 282

The number of beds at present devoted to Patients amounts to 421.

It does not appear that any thing beyond the passing advantage was derived from these extensive opportunities, until the present Treasurer, impressed with the importance of securing a more permanent benefit from remarkable Cases that from time to time presented themselves, directed the formation of various Drawings, Models, and Casts. In 1802, if not at a still earlier period, apartments were

appropriated to anatomical demonstration and dissection, and to the inspection of morbid bodies. N. Davie, a very zealous and intelligent young man, at that time filled the office of Demonstrator. After this individual's untimely death, several preparations of healthy and morbid anatomy, collected by him as the commencement of a private Museum, were purchased by the Treasurer, and presented to the Hospital. These, together with several specimens met with in the Hospital, and preserved by the care of Richard Stocker, formed a small Anatomical Collection, devoted to the illustration of the Medical Lectures delivered in the Theatre of Guy's Hospital.

In the year 1806, when the office of Demonstrator was held by Benjamin Travers, several Regulations were passed by the Treasurer, to promote the conveniences and advantages accruing from this part of the Establishment; and, at the same time, it was expressly understood, that all specimens of morbid structure, met with in subjects either dissected by the Pupils or inspected at the request of the Medical Officers, should be preserved, as the property of the Hospital. Nevertheless, the accessions to the Museum were far from being numerous; probably from the circumstance, that no one was specially charged with the preparation of the reserved parts. It was not till the year 1824, that, at the instance of the Medical Officers of the Hospital, a Curator, (T. A. S. Dodd,) was appointed to take charge of the preparation and preservation of specimens, and to assist the Inspector in conducting and recording the *post mortem* examinations: he had likewise the care of making Casts of such interesting Cases as occurred in the Hospital, and to which this mode of representation was best adapted.

The extension of the School, which shortly after took place, necessarily increased the importance of the Museum; and corresponding exertions were directed to its augmentation. It is only from this period, that the departments of Descriptive and Comparative Anatomy can be said to date their existence. The department of Morbid Anatomy has

likewise been greatly enriched, not only by the internal resources of the Establishment, but also by the donations of numerous Contributors from without. In fact, with the exception of a nucleus of scarcely 500 preparations, the whole Collection, at present amounting to upwards of 3000 specimens, has been formed within the short space of four years.

It may not be improper to relate some of the advantageous circumstances which have favoured the execution of what has already been done for the Museum. As second only to the active and constant zeal of the Founder of the Museum, the Treasurer of the Hospital, must be gratefully acknowledged the bright and operative example of Sir Astley Cooper, whose own hands have supplied some of the most beautiful and splendid preparations.—In the Catalogue will be found the names of many persons who have contributed to the Collection; and to whom it would be grateful here to pay the tribute of warmly-expressed acknowledgments, but which are suppressed merely for the sake of brevity.

For the illustration of the structure and diseases of the Teeth, the Museum possesses the Collection of the late Joseph Fox; enriched by many valuable and curious additions, from his able successor, Thomas Bell. The department of Casts and Models forms too important a feature in the Museum to be left unnoticed. In this department, youthful as is the Museum, it is perhaps not too much to say, that it yields to none in this country. Its advantageous position, in this respect, must be attributed to the fortunate circumstance of the Treasurer's having attached to the service of the Hospital, Joseph Towne, an artist who has the signal merit of having both created his art for himself, and arrived at such a proficiency in it, that his works, already very numerous, rival, if not surpass, those of the best and most-distinguished masters of Florence and Bologna. The Drawings and Diagrams, although not introduced into the present Catalogue, must not be omitted

in the enumeration of what has been done at Guy's Hospital to facilitate the communication of Pathological knowledge. The spirited and accurate pencil of C. J. Canton, constantly employed in this department for the service of the Hospital, by preserving the recent colours and appearances of diseased parts, forms an invaluable supplement to the wet preparations; which, after the most successful efforts, must often fail in retaining any thing beyond the form and texture.

Such are the principal circumstances which have concurred to give to the Museum of Guy's Hospital, even in its present state, some claims to notice: but it was an object far more important than the exposure either of its poverty or its riches which has prompted the publication of a Catalogue: this was called for, to enable the Pupils who visit the Museum to reap all the benefit and assistance which it may be capable of affording them. When, for this purpose, the formation of a Catalogue was assigned to the Author, it formed a part of his original plan to give not merely a List of the Preparations actually contained in the Collection, but also to insert in their proper order and place in the arrangement, distinguished by a different type, those morbid appearances of which no specimen occurred in the Museum. He conceived that such a manual would be of assistance to those more especially engaged in the study of their profession, and also constitute a useful companion to others, who, having entered into practice, are anxious to keep up and extend their acquaintance with morbid anatomy by the practice of inspection. With the hope of more completely attaining this object, it was also his intention to give, under the head of each morbid appearance, a reference to the Authors by whom it had been the best described. The length of time which the execution of such a plan must unavoidably occupy has induced him for the present to abandon it. It has, therefore, been concluded to publish little more than a simple Catalogue of the Specimens in the Museum. The

Observations which will be found prefixed to the different Sections are designed rather to add to the interest of some particular points, than generally to illustrate the objects comprised in the Sections.

It will not be amiss now to offer some remarks respecting the plan of arrangement which has been adopted in the distribution of the specimens described in this Catalogue. It may be thought by some, that it is a matter of little or no importance what system of arrangement be adopted, provided only that it be adhered to with sufficient exactness to lead to the discovery of any required preparation. The Author, however, is convinced, that on the arrangement, a considerable part of the advantage which may be derived from a Pathological Collection must mainly depend. It became, therefore, a matter of considerable importance, to consider the principle on which the arrangement was to be founded.

Every classification employed to facilitate an acquaintance with any of the various objects of Natural Science is necessarily artificial, rather than belonging to Nature herself. However scrupulously we may endeavour to be guided by those indications which she seems to afford us for making these divisions, the view which we present is like that which is gained by making a section of a compound solid mass. We may see the relations of some of the parts; but numerous other relations remain, which it requires fresh sections to expose. This observation is particularly applicable to Morbid Anatomy. Hence, for different purposes, different modes of arrangement are to be preferred.

In considering the appearances presented by a single inspection, it is essential to keep in mind the order of time in their production, and guard against confounding those appearances which are cadaveric with those which have been produced by disease; and, in the latter, to draw a distinction between those which are recent and those which are of long standing, or may be the result of maladies

which have ceased to be in activity before death. A Classification of Morbid Appearances, formed on this principle, will be found in No. I. of the annexed Tables. A very different classification is required in the arrangement of specimens collected in a Pathological Museum: but, from the complicated nature of the subject, this arrangement may be almost infinitely varied. To some, an arrangement founded on the basis of General Anatomy may be thought the most desirable: others may prefer making their divisions correspond with different regions of the body: others may distribute them with reference to the functions of the parts preserved; and many systems might follow, grounded on Nosological Classifications*.

The Author, at one time, proposed to take the Morbid Anatomy of Dr. Baillie as the text-book for the Museum; and to have placed the Preparations in accordance with the arrangement adopted in that work: but he very soon abandoned this design, finding the work inadequate to the purpose. For the arrangement which he ultimately adopted, although in many respects original, he is indebted in no small degree to the excellent work of Professor Meckel. The outlines of this arrangement are exhibited in Tables II. and III.

The Preparations in a Museum, in addition to their first

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* In the Museum at Leyden the following Divisions are employed:

1. Ossa Morbosa.
2. Partes Molles Morbosæ.
3. Calculi.
4. Monstra.
5. Varia.

In the Museum of the University of Pavia, a greater number of Divisions are employed, but they seem to be founded on unequal grounds of separation: hence some of them ought to form Genera, rather than Orders:—

1st head consists of Osteopathia.
2. Neuroses.
3. Pneumonoses.
4. Angioses.
5. Gastroses.
6. Enteroses.
7. Choloses.
8. Uroses.
9. Aidoioses.
10. Adenoses.
11. Entozoa.
12. Monstra.

This Epitome of the Pavian Classification was given to the Author by his accomplished friend T. Hardy, jun., whose name repeatedly figures in the Catalogue, as a liberal contributor to the Museum.

and most important use in assisting the Lecturer to convey and the Pupils to receive and understand the descriptions of disease, possess also this advantage—that, as visible and tangible representations of the subjects which they are designed to illustrate, they become valuable helps to the memory, in recalling the ideas which it has received. The first of these advantages they possess individually: but the second, though also in degree possessed by them separately, is perhaps far more decidedly their collective result.

The habit of frequently reviewing, in the same succession, Preparations brought together for the purpose of illustrating the pathology of a particular organ or apparatus, cannot fail to render considerable practical assistance to diagnosis, by enabling the memory rapidly to bring under review the various possible alterations with which the organs suspected of disease may be affected: and whilst we make the choice of that to which the united symptoms appear most decidedly to point, we may avoid the danger of overlooking the right one, through inadvertence or forgetfulness.

For this reason, it has been thought better to arrange the Specimens in the Museum under the heads of particular systems or apparatus, rather than under those of the elementary tissues.

As far as circumstances would admit, the same order has been adopted with the Special and the Pathological Anatomy.

The First Section is devoted to the Skeleton; and commences with the Vertebral Column, as the most essential part of the skeleton, and the characteristic of that grand division of animals, of which Man is the head. The bones of the Cranium are taken with the Vertebræ; and the Ribs are given as appendages to the Vertebræ, and the Sternum as their counterpart: since it exhibits, though somewhat imperfectly, the traces of a similar construction. The bones of the upper and lower extremities conclude the section.

The Soft Parts about the Skeleton are placed in the Second Section; which includes the Cartilages, Ligaments,

Synovial Membranes, and Fibro-Cartilages of the Articulations; and the Muscles, with their Fasciæ, Bursæ, and Tendons.

The Third Section comprises the Heart, and the Three Vascular Systems — the Arterial, the Venous, and the Lymphatic or Absorbent, with its Glands.

The Fourth contains the Nervous System and the Organs of the Senses, in the following order—the Spinal Cord, the Brain and Cerebellum, the Nerves of the Cerebro-spinal and Sympathetic Systems; the Common Integuments, as the seat of the simplest and most generally diffused sense, viz. that of Touch; and, afterwards, the Organs of more special sensations—the Nose, Eyes, Ears, and the Tongue.

From the Tongue we are led to the Fifth Section, in which are placed the Vocal and Respiratory Organs, in the following order; in which it will be observed that we proceed from the Mouth downwards—the Larynx and Thyroïd Gland, the Trachea and Bronchi, and Lungs and Pleura, and, lastly, the Thymus Gland.

In the Sixth Section will be found the Digestive Organs, which, like the Respiratory Organs, are taken in order from the Mouth downwards. The section commences with the Salivary Glands, which, like the Gums and Teeth, which immediately follow them, are subservient to the Vocal as well as to the Digestive function: after the different portions of the Alimentary Canal, follow those Abdominal Viscera which are accessory to it; namely, the Liver, and its accompanying Gall-Bladder, the Pancreas, and the Spleen.

The Urinary Organs form the subject of the Seventh Section, which therefore contains the Renal Capsules, the Kidneys, the Pelves of the Kidneys, the Ureters, and the Urinary Bladder. The Urinary Calculi which are given in the Seventh Section of Part II. are arranged, according to their chemical composition, in the order adopted by Dr. Prout.

The Organs of Generation are divided into two Sections: in the first are placed those of the Female, as the more essential, and those which we first discover in the lowest and most imperfect forms of animal life.

Hence the Eighth Section contains the Ovaries, the Fallopian Tubes, and the Uterus; then the External Parts; and lastly, as accessories to these organs, the Mammary Glands and Nipples.

In the Ninth Section, the Male Organs are placed in an order corresponding to those of the Female, so far as the analogy of the parts will guide us. It commences therefore with the Testes, followed by the Epididymes and Vasa Deferentia, then the Vesiculæ Seminales, the Prostate and Cowper's Glands, with the Urethra and External Parts: it concludes with the Male Nipple, as the rudimentary analogue of the Female Breast.

Although the Peritoneum affords a covering to many of the organs comprised in the four last sections, it could not with propriety have a place assigned to it in any of them: the Tenth Section is therefore specially devoted to it, and contains the preparations illustrative of the important subject of Hernia.

Conception and Utero-gestation form the subject of the Eleventh Section.

In the Twelfth are placed Parasitical Animals, under the heads of, Vesicular Worms or True Hydatids, Flat Worms, Cylindrical Worms, and Insects.

The Preparations classed under the preceding heads are arranged according to the following Subdivisions, so far as they can be made to apply.

The deviation from the normal, healthy, or regular state may take place in several various ways, which have been made the basis of the following arrangement:—

The first Order contains Specimens in which the deviation consists in Deficiency: they are subdivided, 1st, into those in which the deficiency is dependent on suspension of development; and, 2dly, those in which it has been the

result of a loss which has been sustained. The Second Order embraces deviations consisting in Excess: the Third Order, deviations consisting in perversion of form: the Fourth, Specimens in which the morbid appearance may be regarded as the result of ordinary inflammation: the Fifth, those in which the morbid appearance is regarded as the effect of Scrofula. The Sixth Order comprises numerous adventitious formations, for the most part heterologue; that is to say, differing more or less from the natural structures of the body: the objects of this Order are marked by a certain degree of uniformity of character, but more particularly by the similarity of the mode of their formation;—most of them have been designated by the term Malignant. This order is subdivided in the following manner: 1st, Specimens exhibiting the adventitious production of Cysts, assuming the form of reflected membranes, often erroneously called Hydatids, and frequently unaccompanied by constitutional affection. So far as structure is concerned, they are typical of the order in which they are placed. To the Second Division of this Order belong Specimens of True Scirrhus, so far as the distinction can be made, where the natural boundaries are so indistinctly marked as they are between this and some other members of the order. The Third Divisions contains Specimens of that affection known by the names of Fungus Hæmatodes or Medullaris, Medullary Sarcoma, Fungoïd Disease, Spungoïd Inflammation, Cerebriform Cancer, &c.: the Fourth, Specimens of Melanosis, in that particular form which exhibits a structure resembling the preceding; and to which the name of Melanosis, as descriptive of a specific affection, has been by some restricted. The Seventh Order is composed of Specimens, in which Vesicular Worms, as they have been called, or true Hydatids, are developed in the particular organs which belong to the section. Some explanation may here be necessary, lest it should be thought, that, in violation of received aphorisms on the subject of classification, the same character has been employed to distinguish both a

Class and an Order. In the Twelfth Section, the Vesicular Worms are taken without any reference to the organ in which they are developed, and independently of any other consideration than that of their belonging to a branch of Zoology which is connected with Human Pathology. The introduction of the presence of Hydatids, as the characteristic of an order, refers to the pathology of the organ in which they exist; and the Preparations comprised in this order are designed to illustrate the derangements induced by the development of these bodies, rather than their natural history and habits. In insisting on the necessity of distinguishing Vesicular Worms, or true Hydatids, from Cysts properly so called, it is by no means, as has been pretended, a mere verbal quibble which is excited. The want of this distinction has led to a great and palpable confusion of objects, essentially differing from each other in their structure, nature, and progress. The absolute necessity for this distinction remains unaltered, by the admission or rejection of the parasitical character of either or of both.

In printing the Catalogue, the Tabular form has been chosen, as the most convenient for reference, and at the same time the most concise and intelligible. In the first column is placed the number which refers to the Preparation. In the next is the description of the Preparation. This though in general necessarily short, is sufficient to point out the object which the Specimen is designed to illustrate. When the Preparation is of more than usual interest, the description is given at greater length. The next column contains a reference to the fuller details of the case. The greater number of these references are made to the manuscript histories of the Hospital Cases and Inspections; of which there are now thirteen volumes, most of which have been collected in the course of the last three years. In the same column are placed references to printed books, when the Preparations have been described or alluded to in published Works. When the Preparation

has been acquired as a gift, reference is made in this column to the donor's account of the case, if such a document accompanied the Preparation. The last column shews the source whence the Preparation was derived; and records the names of those whose liberality has enriched the Collection. When this column remains unoccupied, it may generally be correctly concluded that the Preparation was furnished by the Hospital itself: though it is to be regretted, that, in some instances, Gentlemen, who have kindly contributed to the Museum, have not attached their names to the Preparations. Endeavours have been used, as far as possible, to remedy the deficiency: and care will be taken to do so with respect to the cases which remain, if those who may observe them will be so obliging as to point them out.

The preceding statement of the materials of which the Museum of Guy's Hospital has been composed, of the principles which have directed its arrangement, and of the motives which have led to the publication of the Catalogue, will, it is hoped, be sufficient to justify the object of this volume. The Author does not doubt, that, in the execution, there are many points which are liable to criticism: but he will take upon himself to affirm, that those only can be competent to apportion the censure which may be due, who have themselves experienced the labour of a similar task. He trusts, that, even in its present state, the book may prove useful to the Pupils attached to the Medical and Surgical School of the Hospital, and more especially to the Gentlemen who attend the Lectures on Morbid Anatomy: but he expressly wishes it to be regarded rather as a work in process, than as a finished production; and he solicits those into whose hands it may fall, to contribute the materials which are wanting to fill up the breaks which have unavoidably been left.

As an imperfect victim was inadmissible as an offering, so, to compare small things with great, an unfinished work cannot with propriety be made the subject of dedication.

On this account, the Author has purposely refrained from inscribing this Volume to the Treasurer, Benjamin Harrison; to whom, as the Founder of the Museum, this tribute is eminently due. He cannot, however, omit to make it the record of his respectful and grateful acknowledgments to that zealous and enlightened Gentleman, for the very efficient and liberal support which, notwithstanding the numerous objects which obtain his attention, he has given to the Museum, and to the other branches of the department committed to the Author's care;—of his sincere regard for the Officers of Guy's Hospital, by whom not only the benevolent views of the Founder, but the interests of Medical Science, are ably promoted;—and, likewise, of his cordial good wishes for the honourable advancement and well-earned prosperity of the Pupils attached to the School.

TABLE I.

APPEARANCES OBSERVED ON INSPECTION,

ARRANGED WITH REFERENCE TO THE ORDER OF TIME.

CLASS I.

CADAVERIC APPEARANCES.

ORDER 1. Gaseous.
2. In the Non-Elastic Fluids.
3. In the Solid Parts.

CLASS II.

APPEARANCES CONNECTED WITH THE LAST ILLNESS AND DEATH.

(Except those belonging to the Third and Fourth Classes.)

ORDER 1. Inflammations.
2. Congestions.
3. Hæmorrhages . . { Active. Passive.
4. Serous Effusions { Active. Passive.
5. Softening . . } { Both of these States are possibly the result of an Action of an Inflammatory Character; but as doubt exists on this point, they are placed by themselves.
6. Hardening . } {
7. The results of Accidental Injury.

CLASS III.

ADVENTITIOUS, OR ACCIDENTAL DEPOSITS;

Which, though often the cause of death, from their duration frequently allow of death being produced by other causes.

ORDER 1. Analogous; *e.g.* Fat, Bone, Erectile Tissue.
2. Heterologous; *e.g.* Scrofulous Deposit, Scirrhus, Cancer, Fungus Hæmatodes, Cerebriform Cancer, Melanosis, &c.

CLASS IV.

THE EFFECT OF CHRONIC DISEASES,

Not included in the preceding; and of Diseases antecedent to the Fatal One.

CLASS V.

CONGENITAL DEFORMITIES.

ORDER 1. The result of suspended development producing a resemblance to forms characteristic of the lower classes of Animals.
2. Of irregularity in the union of the lateral halves of which the body is composed.
3. Of exuberant or irregular development producing a redundancy or deficiency in the number or size of parts.
4. Of Diseases or Accidents which happened to the Embryo.

TABLE II.

Sect. I.

BONES COMMENCING BY THE VERTEBRAL COLUMN;

AS THE MOST ESSENTIAL PART OF THE SKELETON, THE CHARACTERISTIC OF THAT DIVISION OF ANIMALS OF WHICH MAN IS THE HEAD.

Vertebræ.
Sternum and Ribs, as Appendages to the Vertebræ.
Scull and Bones of the Face.
Bones of the Upper Extremity.
Bones of the Lower Extremity.

Sect. II.

SOFT PARTS ABOUT THE BONES.

Ligaments	In the same order in which the corresponding Bones have been given.
Cartilages	
Fibro-Cartilages . .	
Synovial Membranes	
Muscles	Of these there are few Morbid Specimens, which are placed in an order corresponding with the Bones.
Tendons	
Aponeuroses	

Sect. III.

VASCULAR, OR CIRCULATORY SYSTEMS.

The Heart.
The Arteries.
The Veins.
The Absorbent Vessels, and their Glands.

Sect. IV.

NERVOUS SYSTEM, AND ORGANS OF THE SENSES.

Spinal Chord.
Brain.
Nerves.
Common Integuments.
Nose.
Eyes.
Ears.
Tongue.

Sect. V.

VOCAL AND RESPIRATORY ORGANS.

Lips, and Parts about the Mouth.
Larynx and Thyroid Gland.
Trachea.
Bronchi.
Lungs.
Pleuræ.
Thymus Gland.

SECT. VI.

DIGESTIVE ORGANS.

Salivary Glands.
Gums and Teeth.
Pharynx.
Œsophagus.
Stomach.
Small Intestines.
Large Intestines.

ORGANS ACCESSORY TO THE ALIMENTARY CANAL.

The Liver and Gall-Bladder; and (in Part II.) Biliary Calculi.
The Pancreas; and (in Part II.) Pancreatic Calculi.
The Spleen.

SECT. VII.

URINARY ORGANS.

Renal Capsules and Kidneys.
Pelves of Kidneys, and the Ureters.
Urinary Bladder; and (in Part II.) Urinary Calculi.

SECT. VIII.

GENITAL ORGANS OF THE FEMALE.

Ovaries.
Fallopian Tubes.
Uterus.
External Parts.
Mammæ, and Nipples.

SECT. IX.

GENITAL ORGANS OF THE MALE.

Testis and Epididymis.
Vas Deferens.
Vesiculæ Seminales.
Prostate.
Cowper's Glands.
Urethra and External Parts; and (in Part II.) Urethral and Prepucial Calculi.
Male Nipple.

SECT. X.

PERITONEUM, AND (IN PART II.) *SPECIMENS ILLUSTRATIVE OF HERNIÆ.*

SECT. XI.

PREPARATIONS RELATING TO CONCEPTION AND UTERO-GESTATION.

SECT. XII.

PARASITICAL ANIMALS.

TABLE III.

[*** In Part II. the Preparations classed under most of the preceding Sections are arranged according to the following Plan, so far as it can be made to apply.]

DEVIATIONS FROM THE NORMAL STATE;

CONSISTING,

1. In Deficiency—
   - *a.* The result of suspended development.
   - *b.* ———— loss sustained or privation.
2. In excess.
3. In form.

Preparations exhibiting either deficiency or excess in a particular organ must, in some instances, unavoidably be placed under other heads; since they may at the same time illustrate some other deviation from the normal state. This remark must also be applied to other divisions.

4. In appearances which may be regarded as the result of ordinary Inflammation.
5. In appearances which are the result of Scrofula.
6. In appearances which depend on diseases called Malignant, or which resemble them in structure; viz.
   - *a.* The adventitious production of Cysts, generally pedunculated, and assuming the form of reflected membranes, erroneously called "Hydatids," and which are often unaccompanied by constitutional affection.
   - *b.* True Scirrhus.
   - *c.* Fungus Hæmatodes or Medullaris, Medullary Sarcoma, Fungoïd Disease, Spungoïd Inflammation, Cerebriform Cancer, &c.
   - *d.* Melanosis, in that particular form which exhibits a structure resembling the preceding; to which the term "Melanosis," as descriptive of a specific affection, has been by some restricted.
7. In Hydatids in the particular organ.
8. In the effects of Accidental Injury.

PART I.

SPECIAL ANATOMY.

OBSERVATIONS ON SECTION I.

OF PART I.

"Je commence par les os parceque toutes les autres parties du corps humain y ont rapport soit par leur situation soit par leurs attaches, soit par leur figure, ainsi la connoissance des parties osseuses conduit aux autres connoissances Anatomiques et par conséquent elle doit les preceder."—BUFFON.

IN this Section, the bones of the Cranium are placed in conjunction with the Vertebræ, in accordance with the views of several Modern Anatomists, who have regarded the head as composed of an assemblage of Vertebræ, or of bones referrible to the same type as the Vertebræ. The minute details of this question would require such a lengthened digression, into the subjects of Comparative Anatomy and Embryology, as would be inadmissible in this volume.

The question, however, is one which, although it has arrested the attention of many distinguished Foreign Physiologists, has hitherto attracted but little notice in this country: hence it is hoped that the following sketch will not be considered misplaced.

It is sufficiently obvious, that the Cranium resembles the assemblage of Vertebræ designated by the name of Spine, in affording both support and protection to a part of the central portion of the Nervous System. It does not appear that this resemblance had led to the suspicion of any further analogies between these two parts, until Professors Oken, of Bremen, and Dumeril, of Paris, the one in 1807, and the other in 1808, without any communication with each other, pointed out certain structural resemblances in the parts of which these two organs are composed. Both were led to the same conclusion, whilst engaged in the examination of the Crania and Vertebræ of Fishes. Dumeril, in speaking of the Head, says that it is nothing but a Vertebra of gigantic dimensions; but he did not pursue the subject

further, imagining that the idea was considered extravagant. Professor Oken was not deterred by any such consideration, but speedily published a sketch of his views, in an article printed at Jena in 1807; and he gave a much further development of his ideas in two French articles, the one published in 1820, and the other in 1821. The Head, he observes, is a continuation of the Vertebral Column, and exhibits four Vertebræ, complete both in the number and conformation of their parts, and resembling the Dorsal Vertebræ in their bodies and arches. In the Cranium there are, in fact, three bodies; namely, one in the Os Occipitis, and two in the Sphenoïd. The Parietal and Frontal Bones are called in to complete the two latter Vertebræ. His fourth Vertebra belongs to the Face, and consists of the Vomer, which represents the body of the bone, together with the two Nasal Bones. He considers each of these Vertebræ as destined to the Organs of the Senses; and, in consequence, designates them by the following names—the Auricular, the Lingual, the Ocular, and the Nasal. Spix, a Naturalist of Bavaria, has also taken up the views of Oken, but has given them a development of his own, in a work entitled Cephalogenesis. Not satisfied with finding an analogy between the Vertebræ and the Bones of the Head, which he considers as formed essentially of three Vertebræ, he is carried away by his attachment to Homology, or the doctrine of the unity of formation, to seek, in the construction of the Head, nothing less than the repetition of the Body and its limbs; the Arms re-appearing in the Zygomatic Arches, and the Legs in the Lower Jaw. It is not however with such fanciful speculations that the analogy in question is to stand or fall. That great master of Comparative Anatomy and Physiology, Baron Cuvier, with equal accuracy and caution, rejecting the use of terms whose misapplication or perversion from their original signification might excite false ideas, simply expresses the fact, when, in speaking of the Mammalia, he says, that their Crania are subdivided into three cinctures, of which the anterior is formed by the Frontal and

Ethmoïd Bones, the middle by the Parietal and Sphenoïd, and the posterior by the Occipital. Between the Occipital, Parietal, and Sphenoïd Bones, are interposed the Temporal Bones, which, in part, properly belong to the Face. Both Blainville and Adelon adopt the idea of the Cranium being composed of a series of articulations, which, though anchylosed together, are to be regarded as false Vertebræ, composed, like the true, of bodies, arches, and symmetrical appendages.

Blainville considers that these false Vertebræ are four in number, and that there are four pairs of Cerebral Nerves corresponding to them.

The idea of the composition of the bony parts of the Head upon the same type with the Vertebræ has, in an especial manner, attracted the attention of Professor Geoffroy St. Hilaire, who has carried it further than any one else who has laboured on the subject. This Anatomist, as a preliminary step, has sought to ascertain what are the essential parts of a Vertebra. In this research he is guided by the observation of the formation of these bones in the Fœtus, and of their permanent state in animals lower than man in the Zoological scale. He considers that every Vertebra which is completely developed, consists of two rings, connected by an intermediate Nucleus, upon which they are fixed or implanted.

One of these rings, viz. the posterior or upper, is subservient to the protection of a portion of the Nervous or Medullary System, and the other to the Sanguineous or Circulatory System. The intermediate nucleus, or Azygos piece, Professor Geoffroy designates by the appellation of Cycleal. The two rings he considers to be each formed of two pairs of bones. In the Dorsal or Posterior Ring, he calls the pair nearest to the intermediate nucleus, the Perial; and the more remote, the Epial: and in the Anterior or Inferior Ring, the two next to the Cycleal portion, the Paraal, and the more remote, the Cataal. He next seeks the number of primitive pieces which enter into the composition of the Scull, including the Bones of the Face. Taking into

his reckoning some pieces which permanently retain the form of Cartilage, he makes the number amount to sixty-three; which being divided by nine, the number of primitive pieces in each Vertebra, he obtains seven as the number of Vertebræ entering into the composition of the Head and Face. By an elaborate examination of the Bones of the Head in various animals, but more especially in the crocodile, he endeavours to shew that this theoretical view is confirmed by the testimony of facts. The seven supposed Vertebræ he designates by the following names: the 1st, he calls the Labial; the 2d, the Nasal; the 3d, the Ocular; the 4th, the Vertebra of the Cerebrum; the 5th, the Vertebra of the Corpora Quadrigemina; the 6th, the Auricular Vertebra; and the 7th, the Vertebra of the Cerebellum. The details of this distribution must be here suppressed, as too long to be introduced into this Volume.

Although the existence of a certain analogy between the Bones of the Cranium and the Vertebræ, not merely in their use, but in their structure, must be admitted by all who will carefully examine the subject, various objections suggest themselves with reference to most of the modes in which it has been attempted to exhibit the application of the principle. It will not be necessary here to do more than offer a few remarks on the system just described, as the result of the labours of Geoffroy St. Hilaire. It is not merely on account of the celebrity of its Author, of the pains which he has taken in tracing its minute details, and of the superior attention which it has obtained in the form both of opposition and of support, that the theory of the distinguished Author of the *Anatomie Philosophique* is here selected for comment; but, being the most full and comprehensive, some of the remarks relating to it will be found applicable to the other theories. In the first place, the Professor's mode of reasoning seems not to be altogether exempt from this important defect, that many of the steps of his argument want the support of proof. The ingenious theory of the formation of the Vertebræ, originally com-

posed of nine primitive portions, appears to be precisely in this predicament; since, though it may be rendered plausible in one or more particular Vertebræ, it is by no means the case with others, whatever be the period of formation at which the examination is made. But were this point to be conceded to the plea of our inability properly to make the examination of parts so minute and tender as those in question must be, in the youngest embryo, a new difficulty meets us in the very next step; since, according to the Professor's own statement, the development of one or other of the rings or arches attached to the body or Cycleal portion may acquire an extraordinary development at the expense of the opposite circle, which, in consequence, is either wholly or partially lost. Hence, on the hypothesis that the Cranium is composed of developed Vertebræ, it is by no means necessary that the number of its component parts should be an exact multiple of nine. Again, by admitting into the list of Bones, parts which are never met with but in the form of Cartilage, such as the Tarsi and the Septum Narium, a wide door is opened to doubt, not to say to error. It is this doubt which, *à priori*, induces a suspicion of the correctness of the calculation by which it is attempted to be shewn that seven Vertebræ are to be sought amongst the elements of the Scull. Let the facts be examined, and it will probably be concluded, *à posteriori*, that three or four of the supposed anterior Vertebræ must be discarded, and the number of primitive Sections, or Cinctures, analogous to Vertebræ, reduced. It is in their important office of supporting and protecting a portion of the central part of the Nervous System by means of an arch or ring fixed upon a body, which, united to its fellows, concurs to form a medial support to the bony frame-work of the animal, that the Bones of the Cranium are, in some degree, analogous to those of the Spine. Now the Bones of the Face can scarcely be said to participate in these resemblances. Like those of the Extremities, they are subservient to functions, in which the Nerves, or, in other words, the

Branches, proceeding from the centre of the Nervous System, rather than this centre itself, are directly concerned. Though more or less closely brought together upon the median line, they are not therefore necessarily to be considered as the continuation of the central stem, either in function or structure. Were the Nerves of Smell, instead of being directed to a single organ on the median line, to be distributed to two symmetrical organs more or less widely separated from each other, as is the case perhaps in some Insects, we should no more think of seeking in the elements of the Nose for the repetition of the mode of formation proper to the Vertebræ, than we are disposed to do in those cases of monstrosity in which the lower or posterior extremities happen to be united, so as to constitute a sort of tail. It is unnecessary, on the present occasion, to push the inquiry farther, or to multiply the facts which might be adduced for its illustration. What has been said, proceeds from no wish to disparage the principle; but is designed rather to stimulate to its legitimate investigation, and to point out the danger which those incur who are directed in their investigations by the desire of establishing a preconceived hypothesis.

The Crania, from No. 100 to 124 inclusive, have been added to the Collection at different times, and, for the most part, are not known to have any particular individual interest attached to them. If not all actually English, they are at least believed to be European, and consequently to belong to the Caucasian variety of the Human Race. So far as their limited number will admit, it has been attempted to arrange them in such a manner, as to shew, that within the range of one variety may be found not only that form which may be considered as most strictly typical of the particular variety, but also numerous deviations from it, through which it approaches, by almost insensible gradations, to those forms which are most strongly characteristic of the other varieties. Thus, in the first part of this short series, are placed those Crania

which are the most strongly marked by the peculiarities of the Caucasian or Arab-European division; and, at the close, those which bear a resemblance to the Ethiopian Sculls. For the development of this interesting subject, the Student is referred to the excellent works of Dr. Pritchard and Dr. Edwards.

The Sculls of the Flat-Head Indians, from the neighbourhood of the Colombia River, are very dissimilar from the Sculls of the Caribs: the depression of the Forehead is carried to the utmost extent, and is accompanied by a remarkable projection and breadth of the Occiput. In most of these Sculls, in addition to the flatness of the Forehead, there is a want of symmetry, suggesting the idea that the upper part of the Head had been pushed obliquely to one side. The number of Wormian Bones is also worthy of notice. In several of the Specimens, they are seen in the Coronal as well as in the Lambdoïdal Sutures. Both of these circumstances favour the idea of the deformity of these Sculls being, to a great degree, the result of an artificial process. It is stated, that individuals of this race have been by no means deficient in intelligence.

Most of the Sculls of the South-Sea Islanders were procured by Samuel Stuchbury, Naturalist to the Pacific Pearl Company, and were nearly all of them taken from Moraïs, or ancient places of sepulture. The Cerebral Cavity is in general of good size; but in some of the specimens there is a remarkable preponderance of the back part of the Head: the Lower Jaws, where present, are well formed. Most of the Sculls exhibit a want of symmetry, which is of precisely the same character in all the specimens; and consists in the flattening of the lateral and back part of the Head; in most instances, on the right side, with a corresponding projection on the left: it is attributed to the unvarying position in which the mother nurses the child, with its head supported by her hand. The inhabitants of Huaheine are described as possessed of good intellect, and easily taught to read and

write; are ingenious, and excel in boat-building; and, though professing Christianity, are crafty, and addicted to theft and intoxicating liquors and herbs.

The inhabitants of Raiatea have a very similar character with those of Huaheine; but are both more industrious and more haughty than they.

The natives of Eimeo are described as intelligent, humane, generous, and peaceful: they are tributary to Tahiti; the men of which island are likewise said to be of agreeable and affable dispositions, and to be strongly attached to their Chiefs.

The people of all this group of Georgian or Society Islands are exceedingly libidinous.

The inhabitants of Tahaa, an island four miles distant from Raiatea, had, till lately, maintained their independence, and spoken a peculiar language: their disposition is rather morose; and Christianity, which was forced upon them by Tomatoa, the usurper of Raiatea, has made but little progress among them.

The inhabitants of Rurutu are said to be possessed of mild and gentle dispositions.

Those of Amanu were addicted to the eating of human flesh, and were much dreaded by their neighbours. A short time before the island was visited by the Company's Expedition, they had been conquered by the cannibals of Ana; by whom they were almost extirpated, being reduced to ten men.

The inhabitants of Bow are quiet, indolent, and inoffensive; and live on fish and shell-fish, which they generally eat raw.

The Scull of the Caffre, from which the Cast No. 171 was taken, was procured during one of the late Expeditions, by Dr. Knox, whose testimony fully confirms all that has been said of the amiable and excellent qualities of that deeply-injured race.

SECTION I.

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(1.) *The Vertebræ—Sternum and Ribs—Scull, and Bones of the Face.*		
1	The Vertebral Column, articulated; including the head, the cervical, dorsal, and lumbar vertebræ, the sacrum, and the cocoyx.		
2	The first Vertebra, or Atlas: mounted on a pedestal.		
3	The second Vertebra, or Dentata: mounted.		
4	The five inferior Cervical Vertebræ: mounted.		
5	The twelve Dorsal Vertebræ: mounted.		
6	The five Lumbar Vertebræ: mounted.		
7	The Sacrum: mounted.		
8	The Coccyx, in two pieces: mounted.		

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
9	Spine of a Child: a wet preparation.		
10	The Sternum: mounted: the pieces united.		
11	The Sternum: mounted: the three portions not anchylosed.		
12	Section of the Sternum of a Fœtus, with the Cartilages attached. This preparation shews the analogy between the sternum and the vertebræ.		
13	Sternum of a Fœtus, similar to No.12: the Xiphoid cartilage bifid.		
14	Sternal extremity of a Rib; with its cartilage, and a portion of the sternum. The Perichondrium is shewn in this preparation.		
15	Section of the Cartilage of a Rib; shewing its union with the extremity of the rib, and its articulation with the sternum.		
16	The Os Hyoïdes.		

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
17	The 1st Rib of the left side: mounted.		
18	The 2d Rib of the left side: mounted.		
19	The 3d Rib of the left side: mounted.		
20	The 4th Rib of the left side: mounted.		
21	The 5th Rib of the left side: mounted.		
22	The 6th Rib of the left side: mounted.		
23	The 7th Rib of the left side: mounted.		
24	The 8th Rib of the left side: mounted.		
25	The 9th Rib of the left side: mounted.		
26	The 10th Rib of the left side: mounted.		
27	The 11th Rib of the left side: mounted.		
28	The 12th Rib of the left side: mounted.		
29	The 12 Ribs of the right side; corresponding with the preceding, but not mounted.		

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
30	The Scull, with the Lower-jaw.		
31	The Occipital Bone: mounted.		
32	The Right Temporal: mounted.		
33	The Left Temporal: mounted.		
34	The Small Bones of the Tympanum, or Ossicula Auditûs.		
35	The right Parietal Bone: mounted.		
36	The left Parietal Bone: mounted.		
37	The Os Frontis: mounted.		
38	The Sphenoïd Bone: mounted.		
39	The Sphenoïd and Ethmoïd Bones united: mounted.		
40	The Ethmoïd Bone: mounted.		
41	The Ethmoïd Bone, with the Ossa Triangularia: on a stand, under a glass cover.	See Letter from Dr. Horner.	Presented to Sir A. Cooper by Dr. W. E. Horner of Philadelphia.
42	A similar Ethmoïd Bone: similarly mounted.		
43	The right Superior Maxillary Bone: mounted.		

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
44	The left Superior Maxillary Bone: mounted.		
45	The right Os Palati: mounted.		
46	The left Os Palati: mounted.		
47	The right Malar Bone: mounted.		
48	The left Malar bone: mounted.		
49	The right Os Nasi: mounted.		
50	The left Os Nasi: mounted.		
51	The right Os Unguis, or Lachrymalis: mounted.		
52	The left ditto: mounted.		
53	The Vomer: mounted.		
54	The right Inferior Turbinated Bone: mounted.		
55	The left Inferior Turbinated Bone: mounted.		
56	The Lower Jaw-bone: mounted.		
57	The Occipital Bone of the Fœtus: mounted.		

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
58	The Petrous portion of the Temporal Bone of the Fœtus: mounted.		
59	The Squamous portions of both Temporal Bones from the Fœtus: mounted.		
60	The left Parietal Bone from the Fœtus: mounted.		
61	The right Parietal Bone of the Fœtus: mounted.		
62	The right Half of the Os Frontis of the Fœtus: mounted.		
63	The left Half of the Os Frontis of the Fœtus: mounted.		
64	The right Half of the Os Frontis, remaining united to the left.		
65	The right Os Maxillare superius of the Fœtus: mounted.		
66	The left Os Maxillare superius of the Fœtus: mounted.		
67	The right Os Malæ superius of the Fœtus: mounted.		
68	The Vomer of the Fœtus: mounted.		
69	The Inferior Os Maxillare of the Fœtus: mounted.		

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
70	The Scull of a Fœtus: mounted.		
71			
72	Calvaria of a Fœtus.		
73	Calvaria of a Fœtus; shewing the anterior fontanelle and the falx.		
74	The Scull of a Fœtus.		
75	A portion of injected Parietal Bone from the Fœtus.		
76	Lower Jaw-bone, remarkably stout: its angle a right one.		
77	Lower Jaw-bone: the angle very obtuse.		
78	Lower Jaw-bone: the ascending plate very broad.		
79	Lower Jaw-bone; about four years old.		
80	Lower Jaw-bone, in advanced age: several of the teeth gone.		
81	Lower Jaw-bone; more nearly edentulous than the preceding.		
82	Lower Jaw-bone: all the teeth gone.		
83	Lower Jaw-bone: absorption further advanced.		

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
84	Lower Jaw-bone: absorption further advanced than in the preceding.		
85	Calvaria belonging to No. 86.		
86	Basis of the Scull: sinuses marked.		
87	Basis of the Scull.		
88	Another specimen, similar.		
89	Another specimen, similar.		
90	Another similar specimen; with the nasal cavities laid open.		
91	Longitudinal Section of the Scull.		
92	Section corresponding with No. 91.		
93	Scull marked according to the system of Dr. Gall.		A.T.S. Dodd, Esq.
94	Scull of a Male.		
95	Another specimen.		
96	Another specimen.		
97	Another specimen.		
98	Scull of a Female.		

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
99	Scull of a Female; with Calvaria separated.		
100	Scull of a Male: Caucasian variety.		
101	Another specimen.		
102	Another specimen.		
103	Another specimen.		
104	Another specimen.		
105	Another specimen, with the Lower Jaw.		
106	Another specimen: Ossa Nasi fractured.		
106[A]	Another specimen.		
107	Another specimen.		
108	Another specimen.		
109	Another specimen.		
110	Another specimen.		
111	Another specimen.		
112	Another specimen.		

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
113	Scull of a Male; Caucasian variety.		
114	Another specimen.		
115	Another specimen.		
116	Another specimen.		
117	Another specimen.		
118	Another specimen.		
119	Another specimen.		
120	Calvaria of a Male; Caucasian variety.		
121	Scull, apparently that of a Female, of the Caucasian variety: the forehead elevated, but the posterior part remarkably large.		
122	Scull, Caucasian variety: the forehead, though low, is prominent and overhanging.		
123	Scull, Caucasian variety: the forehead low, and contracted.		
124	Scull, remarkably low, and narrow anteriorly; posteriorly large; resembling that of a Negro.		
124A	Part of a Scull from a Mummy, filled with bitumen; brought from the Catacombs of Egypt by Dr. B. Babington.		Dr. B. Babington.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
125	Cast of a French Scull, remarkable for its length. The original in the possession of Dr. Spurzheim.		Mr. De Ville.
126	Cast of a Scull of remarkable length and flatness; supposed to have belonged to a Celt.		
127	Cast of a German Scull, remarkably compressed before and behind. The original in the possession of Dr. Gall.		Mr. De Ville.
128	Cast of the Scull of Robert Bruce, King of Scotland.		Dr. Hodgkin.
129	Cast of the Head and Face of Mr. Ackermann, of London.		Mr. De Ville.
130	Cast of the Head and Face of Mr. Gosse of Epsom: the cranium much compressed from side to side: the frontal portion much developed.		Mr. De Ville.
131	Cast of the Scull of the Buffoon of Vienna. The original in the possession of Dr. Gall.		Mr. De Ville.
132	Cast of an ancient Scull from St. Alban's; supposed to be that of an Abbot.		
133	Cast of the Scull of Humphrey, Duke of Gloucester; from St. Alban's.		
134	Cast of a Scull from St. Alban's; supposed to be that of a Saxon. Several others were discovered at the same time, but they were in a very imperfect state of preservation.		

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
135	Cast of a Scull from St. Alban's, remarkable for its form: the frontal bosses are very large, and laterally prominent: the upper part of the os occipitis projects greatly, and appears to have started from the lambdoïdal suture.		
136	Cast of a small, but beautifully-formed, Scull from St. Alban's. It was found, separately interred under an oak, in a well-built square cavity.		
137	Cast of the Scull of Pollock, who murdered his wife at Falkirk near Glasgow.		Dr. Wright.
137[A]	Scull of a reputed Lunatic, confined 25 years in the Norfolk-and-Norwich Asylum. He was of a morose, retiring, and highly-irritable disposition. He had been tried for an attempt at murder, having stabbed a man in the testes. He was found guilty; but his friends succeeded in urging a plea of insanity, the correctness of which was much doubted.		Mr. Dalrymple.
138	Cast of the Head and Face of the Amsterdam Ideot, taken at 26 years of age.		Mr. De Ville.
139	Cast of the Scull of a Hindoo. The original in the possession of Mr. De Ville.		Mr. De Ville.
140	Scull of Tyloolick, an Esquimaux attached to one of Captain Parry's Expeditions.		Mr. Browell.

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
141	Cast of a Scull found in a Barrow or Tumulus near the Falls of Niagara. Tumuli of the same description are numerous in that part of the country; and are attributed, by the present natives, who do not adopt this mode of sepulture, to an extinct race, which inhabited the country previously to themselves. It bears a strong resemblance to the Esquimaux head.		Capt. Chapman.
142	Cast of a Scull, less perfect than the preceding, but found in a similar situation.		Capt. Chapman.
143	Cast of a Lower Jaw-bone, found with one of the preceding sculls, or in a similar situation.		Capt. Chapman.
144	Part of a Large Shell, which appeared to have been used as a breast-plate; found with the preceding.		Capt. Chapman.
145	Cast of a Large Shell, truncated, to be used as a trumpet: found, with several copper bracelets, in the same situation as the preceding.		Capt. Chapman.
146	Scull of a Flat-Head Indian Child, from the Columbia River.		B. Harrison, Esq.
147	Model of the preceding.		B. Harrison, Esq.
148	Scull of an Adult of the same race.		B. Harrison, Esq.
149	Another specimen.		B. Harrison, Esq.
150	Another specimen.		B. Harrison, Esq.

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
151	Scull of an Adult of the same race as the preceding.		B. Harrison, Esq.
152	Another specimen.		B. Harrison, Esq.
152[A]	Cast of the Scull of a Peruvian.	Cat. I. 48.	J. Brookes's Collection.
153	Scull of a Native of the Island of Huaheine. — This and the 12 following were obtained by Samuel Stuchbury, Esq., the Naturalist to the Pacific Pearl Company.	See the Note which accompanied them.	Pacific Pearl Company.
154	Another specimen.		The same.
155	Another specimen.		The same.
156	Another specimen.		The same.
157	Scull of a Native of the Island of Raiatea (the Ullietea of Captain Cook).		The same.
158	Another specimen.		The same.
159	Scull of a Native of the Island of Eimeo.		The same.
160	Scull of a Native of the Island of Tahiti (the Otaheite of Captain Cook).		The same.
161	Scull of a Child, a Native of the Island of Tahaa (the Otaha of Captain Cook).		The same.
162	Scull of a Native of the Island of Rurutu (the Oheitersa of Captain Cook).		The same.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
163	Scull of a Native of Amanu.		Pacific Pearl Company.
164	Scull of a Native of Hau (the Bow of Captain Cook).		The same.
165	Another specimen.		The same.
166	Prepared Head of a New-Zealand Chief.		Sir A. Cooper.
167	Cast of the Scull of a Sandwich Islander.		
168	Cast of the Scull of a Native of Madagascar.		Dr. J. Ritch.
169	Cast of the Scull of a Native of Mozambique.		
170	Another specimen.		
171	Cast of a Scull of a Caffre. The original in the possession of Dr. Knox.		Dr. Hodgkin.
172	Scull of a Negro.		
172A	Another specimen, with the Lower Jaw.		
	(2.) *Bones of the Upper Extremity.*		
173	Scapula, Clavicle, and Upper Extremity, articulated: from the left side.		
174	The Scapula: right side: mounted.		

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
175	The Clavicle: right side: mounted.		
176	The Os Humeri: right side: mounted.		
177	The Radius: right side: mounted.		
178	The Ulna: right side: mounted.		
179	The Bones of the Carpus: right side: mounted.		
180	The Metacarpal Bones: right side: mounted.		
181	The Phalanges: right side: mounted.		
182	Scapula of a Fœtus.		
183	Scapula of an Infant: injected.		
184	Humerus of a Fœtus: Epiphyses in a cartilaginous state.		
185	Another specimen; shewing a longitudinal section of the extremities.		
186	Another specimen; shewing a longitudinal section of the extremities of an Infant. The Periosteum shewn.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
187	Transverse Section of the inferior Epiphysis of the Humerus, from a young subject; injected, and shewing the deposition of bone in cartilage.		
188	Radius and Ulna of a Fœtus.		
189	Three Sections of Bone; shewing the Medullary Arteries.		
	(3.) *Bones of the Lower Extremity.*		
190	The left Os Innominatum, and lower extremity, articulated.		
191	The Os Innominatum: right side: mounted.		
192	The Os Femoris: right side: mounted.		
193	The Patella: right side: mounted.		
194	The Tibia: right side: mounted.		
195	The Fibula: right side: mounted.		
196	The Os Calcis: right side: mounted.		
197	The Astragalus: right side: mounted.		
198	Bones of the Tarsus: right side: mounted.		

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
199	Bones of the Metatarsus: right side: mounted.		
200	The Phalanges: right side: mounted.		
201	Os Innominatum of a Fœtus.		
202	Right Os Innominatum of a young subject: the bone scarcely united.		
203	Left Os Innominatum of a young subject.		
204	Os Femoris of a Fœtus.		
205	Epiphyses of the Femur in the fœtal state.		
206	Os Femoris of a Fœtus; shewing a longitudinal section of the extremities.		
207	Section of injected Os Femoris from a Child; shewing the vascularity of bone, and the deposition of bone in the cartilage of the Epiphyses.		
208	Tibia of a Fœtus; shewing the Medullary Artery injected with mercury. The Periosteum shewn.		
209	Tibia of an Infant; shewing the Medullary Artery injected with mercury.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
210	Os Femoris of a Child; with the Periosteum injected.		
211	Section of the head and neck of the Os Femoris.		
212	Os Femoris from a very old subject; shewing a section of the head and neck of the bone, which are much depressed.		
213	Section of the head and neck of the Os Femoris; shewing where the cancellated structure is the strongest.		
214	Longitudinal section of the Os Femoris (from side to side).		
215	Section of the inferior extremity of the Os Femoris; shewing the cancellated structure of the Epiphysis and end of the bone; from a subject in whom the epiphisis is scarcely united.		
216	Another specimen; from a subject further advanced in age.		
217	Tibia and Fibula of a Fœtus.		
218	Section of the Fibula of a Fœtus; shewing the Medullary Artery injected with mercury.		
219	Section of the Tibia of a Fœtus; shewing the Medullary Artery injected with mercury.		

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
220	Portion of the upper extremity of the Tibia, calcined; shewing the proportion of earthy matter in the shell and cancellated structure.		
221	Section of the Tibia: inner side.		
222	Section of the Tibia: outer side.		
223	Section of the Fibula; injected, and deprived of its earthy matter.		
224	Longitudinal sections of the right Fibula.		
225	Section of the Patella of a Fœtus: injected.		
226	Patella of a young subject, injected, and immersed in turpentine; shewing commencing ossification.		
227	Another specimen: ossification further advanced.		
228	Injected Patella; ossification not quite complete.		
229	Patella found in a Barrow or Tumulus attributed to the Ancient Britons.		Mr. Tupper.
230	Patella from a Barrow or Tumulus, attributed to the Ancient Britons: the bony matter removed by acid.		Mr. Tupper.

BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
231	Section of an Injected Foot of an Infant; shewing the deposition of bone in cartilage.		
232	Section of the Os Calcis of an Infant: injected.		
233	Articulated Vertebral Column and Pelvis (Female).		
234	Articulated Vertebræ.		
235	Female Pelvis, articulated.		
235[A]	Male Pelvis, articulated.		

OBSERVATIONS ON SECTION II.

OF PART I.

THE Anatomy of the Soft Parts about the Skeleton, which form the subject of this Section, being principally illustrated by recent Specimens, comparatively few Preparations have been collected under this head: these chiefly relate to the Articulations, and the general Anatomy of Muscles.

From the importance of the Muscular Tissue, as the principal agent of Animal Motion, the investigation of its ultimate structure has obtained the attention of many distinguished Anatomists and Physiologists, who have by no means agreed in the conclusions at which they have severally arrived. Within the last few years, it has been very generally believed, on the authority of Meckel, Home, Bauer, and Dr. H. M. Edwards, that the Muscular Fibre is ultimately composed of globules, combined in a linear arrangement. The Editor, and his friend J. J. Lister, when engaged in the examination of the Animal Tissues, by the aid of the achromatic compound microscope in the possession of this Gentleman, and which, from its superior power, removes some of the optical illusions under which the Anatomists above mentioned, from the nature of their instruments, must necessarily have laboured, were induced to pay particular attention to the Muscular Fibre. The following is extracted from their observations.

"The Muscular Tissue may be easily seen with the naked eye, or with the assistance of a comparatively feeble lens, to be composed of bundles of Fibres held together by a loose and fine Cellular Membrane; and these Fibres are again seen to consist of more minute Fibrillæ. It is difficult to push the Mechanical Division much further; for the softness of the Muscular Substance is such, that it is either crushed, or breaks off, rather than admit of further splitting. If a piece of one of the most delicate of the

Fibrillæ last arrived at be placed on a piece of glass in the field of the microscope, lines may be seen parallel to the direction of the Fibre, which shew a still further division into Fibres. Although no trace of globular structure can be detected, innumerable very minute, but clear and fine parallel lines, or Striæ, may be distinctly perceived, transversely marking the Fibrillæ. In some instances they seem to be continued, nearly or quite at right angles, completely across the Fibril; but frequently the Striæ in one part are opposite to the spaces in another, by which arrangement a sort of reticulated appearance is produced. The Striæ are not in all specimens equally distant; but this may, perhaps, be owing to the elongation or contraction of the Fibre. We have discovered this peculiar and very beautiful appearance in the Muscles of all animals which we have yet examined: and as we have seen it in no other Tissue, we have been induced to view it as a distinguishing feature of Muscle."

[Vide *Philosophical Magazine and Annals, Aug.* 1827.

SECTION II.

SOFT PARTS ABOUT THE BONES:

MUSCLES, SYNOVIAL MEMBRANES, LIGAMENTS, CARTILAGES, AND FIBRO-CARTILAGES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	Muscles—Tendons—Aponeuroses.		
236	Muscle, injected: (Diaphragm.)		
237	Muscle and Tendon, injected: (Diaphragm.)		
238	Flexor Longus Pollicis, injected: (Penniform Muscle.)		
239	Tendon, injected.		
240	Right Biceps Flexor Cubiti of an Infant: injected.		
241	Left Biceps Flexor Cubiti of an Adult.		
242	The Triceps Extensor Cubiti of an Infant.		
243	Bursa of the Biceps Flexor Cubiti.		
244	Bursa of the Tendo Achillis.		

SOFT PARTS ABOUT THE BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
245	Articulation of the Ribs, with the Sternum.		
246	Sterno-Clavicular Interarticular Cartilage.		
247	Articulation of a Rib, with its Cartilage.		
248	Articulation of the Lower Jaw.		
249	Section of the Bones of the Upper Extremity, attached by their ligaments: injected.		
250	Ligaments of the Elbow.		
251	Interarticular Cartilage of the Ulna.		
252	Ligaments of the Wrist and Hand.		
253	Female Pelvis, with its Ligaments and Hip-joints.		
254	Male Pelvis, with its Ligaments.		
255	Another specimen.		
256	Ligaments of the Hip-joint.		
257	Ligaments of the Knee-joint.		
258	Ligaments of the Knee, injected.		

SOFT PARTS ABOUT THE BONES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
259	Knee-joint: injected, and laid open.		
260	Crucial Ligaments of the Knee-joint.		
261	Semilunar Cartilages.		
262	Semilunar Cartilages of the Knee-joint, from an injected subject.		
263	Section of the Semilunar Cartilages; shewing their fibrous structure.		
264	Lower extremity of the Os Femoris, to shew the Articular Cartilage of the Condyles.		
265	Patella and Tendon of the Rectus.		
266	Bursa under the Tendon of the Rectus.		
267	Ligaments of the Ancle and Foot: wet.		
268	Ligaments of the Tarsus and Metatarsus: dry.		

OBSERVATIONS ON SECTION III.

OF PART I.

NOTWITHSTANDING the importance of the Organs comprised in this Section, very few remarks respecting them appear to be called for in this place. The disposition of the Muscular Fibres of the Heart may be well shewn, by a process which has been attempted in Preparation, No. 275; and which consists in indurating the Muscular Fibres, and at the same time softening the Cellular Tissue by continued boiling, taking such precautions to secure the form of one or more of the different Cavities as the particular object of the Preparation may require. The arrangement of the Fibres ascertained in this manner was long since well described by Lower; but has been, to a great degree, overlooked or neglected by most succeeding anatomists. A few years ago, the subject was taken up by Dr. Duncan, who, without the knowledge of what Lower had done, completely confirmed, but at the same time added to, the facts which he had made known.

The structure of the Arteries presents a question by which Physiologists have been long divided; some contending for their muscularity; others denying them this property. The following extract from the article already alluded to tends to confirm the opinion maintained by the latter.

" The Middle Coat of these vessels being still regarded by some persons as muscular, we were desirous of discovering whether its minute structure was at all more favourable to such an opinion than its chemical composition. Its subdivision may be carried as far as that of any tissue; and it evidently consists essentially of long, straight, very delicate, and even Fibres, which offer no more trace of those transverse Striæ, which we have regarded as the peculiar characteristic of Muscle, than they do of elementary Globules.

"The Inner Coat, when completely detached from other structures, and presenting the appearance of a very thin, uniform, and almost transparent Membrane, is also, by the aid of the microscope, seen to be composed of Fibres, which are extremely delicate, smooth, and uniform, but very tortuous and matted together, in the form of an intricate Plexus."—See *Philosophical Magazine and Annals, Aug.* 1827.

If muscularity be denied to the Arteries, this faculty must, *à fortiori*, be foreign to the Veins. Yet, in some animals, if not in man, the Venæ Cavæ, just before they terminate in the right Auricle, possess a few Fibres, having both the function and structure of Muscle. Dr. Knox has frequently witnessed the proof of this fact, in the shark.

The testimony of numerous observers concurs to prove, that the principal branches of the Absorbent System are possessed of a certain degree of contractile power; yet if muscularity be denied to the Arteries and Veins, it can scarcely be attributed to the Lymphatic Vessels. The importance of these last vessels, with respect to the function of absorption, continues to present a question by which Physiologists are divided: some consider that it is by these vessels alone that absorption is effected; others, that this function is the joint office of the Lymphatics and the Veins, but that it more particularly belongs to the latter. Those who are desirous of examining this question, will find its merits discussed by Cruickshank, Magendie, Tiedmann and Gmelin, Fodera, Leonardo Franchini, and more especially by Fiscinus and Seiller, who have not only given an elaborate historical review of the controversy, but have also added numerous experiments of their own. The question is likewise examined in the "Editor's Thesis de Absorbendi Functione; Edinburgh, 1823;" in which some facts are also brought forward, which make it appear not altogether improbable that these vessels are subservient to a process of separation; that, although some fluids may be carried by either set of vessels indiscriminately, other substances are restricted to one of them; in fact, that whilst the Lymphatic Vessels act

more particularly on those fluids which possess an alkaline tendency, the Veins, on the other hand, admit the acids and substances allied to them.

The obscurity which involves the question respecting the functions of these two sets of vessels has been unwittingly and unavoidably increased by the operation of various poisonous substances having been employed as the test of the action and energy of these vessels. The experiments of Dr. Addison and John Morgan, which point to another system, the *nervous*, as the medium through which poisons produce their effects, whilst they invalidate many experiments and arguments, both of the supporters and opponents of Venous Absorption, leave the question at issue between them in *statu quo*.

Numerous communications between the Lymphatic and Venous Systems, besides those which take place at the termination of the Thoracic Duct and Right Trunk, have long been admitted by many Anatomists, not only in the larger, but also in the smaller branches. These communications have, however, been much more minutely examined and insisted upon, in consequence of the recent labours of Fohmann, Lowth, and Lippi. It is attempted, by the help of these communications, to explain the cause of discordance between Physiologists respecting the function of Absorption; and to carry the question in favour of those who maintain the doctrines of Hunter, as to the sole agency of the Lymphatic System in the performance of this process.

The question, however, cannot be settled in this manner; since, on the supposition that the presence of absorbed substances in the Veins depends on these vessels receiving some branches of the Lymphatic System, it is manifest that the indications of the presence of these substances ought to be considerably stronger in the Lymphatics than in the Veins; but it has been repeatedly shewn, that, with respect to many absorbed substances, this is by no means the case. If, to avoid this objection, it be urged that the short Lymphatics which empty themselves into the

Venous branches are distinct in nature and office from the systems of the Thoracic Duct and right Trunk, the old dilemma of Venous or Lymphatic Absorption is avoided by calling in the assistance of a third and new set of vessels, the peculiarities and even the existence of which will probably long afford matter for examination and discussion to Anatomists, before the question can be set at rest. Yet, if their supposed existence and functions be conceded, they must necessarily be regarded as a variety of Venous Radicals; and the theory of Absorption founded upon them must be allowed to bear the closest affinity to the old doctrine of Venous Absorption.

SECTION III.

THE HEART,

AND VASCULAR OR CIRCULATORY SYSTEMS.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(1.) *The Heart.*		
269	Heart: cavities injected with red and yellow wax.		
270	Injected and dried Preparation of the Heart and Large Vessels, made by John Hunter.		Mr. Roots of Kingston.
271	Heart and Large Vessels, filled with wax: the Coronary Arteries and Veins well injected.		
272	Child's Heart, filled with wax; the right side with yellow, and the left with red.		
273	Heart and Large Vessels, filled with wax. —This preparation shews the position of the heart with respect to the vessels: also the Thoracic Duct, which in this subject is double in a part of its course, terminating in the angle formed by the left Subclavian and Jugular Veins.		
274	Transverse Section of a dilated Heart; shewing the interior of the Ventricles.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
275	Heart which has been boiled, and the outer muscular layer peeled off, to shew the direction of the muscular fibres of the ventricles.		
276	Coroded Preparation; shewing the form and extent of the Cavities of the Heart: the right in green, and the left in red. From a young subject.		
277	Impression of the Cavities of the Heart: those of the right side in dark green: those of the left, and the Coronary Arteries, in red. A coroded preparation.		
278	Impression of the Cavities of the Heart, in green wax: the Coronary Arteries in red. A coroded preparation.		
279	Heart laid open; shewing the Valves.		
280	Another specimen.		
281	Heart, dried and cut open; to shew the Tricuspid and Mitral Valves.		
282	Another specimen.		
283	Another specimen.		
284	Another specimen.		
285	Tricuspid Valve: a dry preparation.		
286	Mitral Valve: a dry preparation.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
287	Valves of the Aorta and Pulmonary Artery: a wet preparation.		
288	Semilunar Valves of the Aorta and Pulmonary Artery: a dry preparation.		
289	Valves of the Aorta and Pulmonary Artery, dried, and immersed in spirit of turpentine.		
290	Transverse Section of the Heart, near the base of the ventricles; shewing the Semilunar Valves of the Aorta and Pulmonary Artery.		
291	Heart, injected; together with the Large Vessels, which are left of considerable length.—This preparation shews the Coronary Arteries and Veins, and the Absorbent Vessels, which are filled with mercury.		
292	Heart of a Fœtus, dried; and its cavities laid open.		
293	Heart of a Fœtus: the Foramen Ovale nearly closed: a wet preparation.		Mr. Dodd.
294	Another specimen; shewing the Foramen Ovale.		
295	Heart of an Infant: the Foramen Ovale nearly closed; the membrane rather cribriform.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
296	Heart of a Fœtus, filled with wax; shewing the Canalis Arteriosus.		
297	Heart of a Fœtus, and Principal Vessels, injected; shewing the Canalis Arteriosus and Umbilical Arteries.—The subject much younger than the preceding.		
298	Preparation illustrative of the Fœtal Circulation.		
299	Another specimen.		
300	Another specimen.		
	(2.) *Arteries.*		
301	Coats of an Artery separated.		
302	Injected Artery; shewing the Vasa Vasorum.		
303	Right Subclavian Artery, arising from the Aorta, and passing behind the Œsophagus: the Vertebral given off from the Right Carotid.		
304	Both Carotids arising from the Arteria Innominata: the right Subclavian arising from the Aorta after the left, and passing behind the Œsophagus. The External Epigastric Artery arose from the Internal Iliac.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
305	Left Carotid, arising from the Arteria Innominata.		
306	Vertebral Artery, given off from the arch of the Aorta.		
307	Vertebral Column; with the Aorta and Vena Cava superior, and their principal branches.—The Thoracic Duct is shewn, with its termination at the angle between the left Subclavian and Jugular Veins: on the right, the Absorbent Trunk, from the Neck.		
308	Arteries of the Head, Neck, and Axilla.		
309	Vessels of the Head; shewing the branches of the External Carotid, excepting the Internal Maxillary: an old preparation.		
310	Arteries of the Exterior of the Head and the Internal Maxillary.—Some of the Sinuses of the Dura Mater, and Veins of the Neck, filled with yellow wax.		
311	Arteries of the Head:—those of the Dura Mater, the Internal Maxillary, and the Vertebrals.		
312	Upper Quarter of a small subject; shewing the Arteries of the Head, Spinal Canal, Neck, and Arm.		
313	Half of the Head, Neck, and Thorax, of a young subject; shewing a few of the Arteries of the Head and Neck, and the Internal Mammary.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
314	Arteries about the Scapula and upper part of the Humerus.		
315	Left inferior Thyroïd, arising from the Arteria Innominata, and lying in front of the Trachea.		
316	Arteries of the Upper Extremity: most of the branches shewn.		
317	Arteries of the Upper Extremity.		
318	Small and imperfect preparation of the Arteries of the Upper Extremity.		
319	Arteries of the Upper Extremity.		
320	Another specimen: the branch to the Subscapularis and the Profundus Humeralis coming off together by a common trunk, and the Brachial dividing in the middle third of the Humerus.		
321	Dry preparation of the Arm, from a little below the Elbow; the Anastomoses about the Elbow, and the superficial Palmar Arch.		
322	Arteries of the Upper Extremity of a Child.		
323	Arteries of the Fore Arm and Hand.—The Ulnar, which appears to come off high up, and is small, receives a large anastomosing branch from the Radial.		

N°
324
3

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
324	Small preparation of the Arteries of the Upper Extremity: the division of the Brachial, opposite the middle of the Humerus.		
325	Arteries of the Upper Extremity: high division of the Brachial.		
326	Arteries about the Elbow-joint.		
327	Arteries of the Hand.		
328	Another specimen.		
329	Arteries of the right side of the Pelvis, and the upper part of the Thigh, of an Infant.		
330	Arteries of the right side of the Pelvis, and the upper part of the Thigh: the Obturator given off from the Femoral.		
331	Arteries of the Pelvis and Lower Extremity.		
332	Arteries of the Pelvis and Lower Extremity of a Child.		
333	Popliteal Artery, and its branches; with the Leg and Foot.		
334	Another specimen.		
335	Arteries of the Leg and Foot.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
336	Arteries of the Leg and Foot.		
336[A]	Arteries of the Leg and Foot, shewing a variation in the distribution.—The posterior Tibial wanting, and the Peroneal large.		
337	Popliteal Artery, and its branches: a preparation in a glass jar.		
338	Arch of the Aorta, inferior part of the Trachea, and division of the Bronchi; with the Bronchial Arteries ramifying in the divisions: a dry preparation.—A bronchial gland ossified.		
339	Bronchi, and Bronchial Artery: a dry preparation.		
	(2.) *Veins.*		
340	Injected Vein, shewing the Vasa Vasorum.		
341	Portion of a Vein; laid open, to shew its valves.		
342	Valves of the internal Jugular Vein.		
343	Valves of a Vein.		
344	Another specimen: dry preparation.		
345	Another specimen: dry preparation.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
346	Anastamosis of Veins; shewn in a portion of Intestine, injected with yellow size, and immersed in turpentine.		T. Forster, Esq.
347	Sinuses of the Dura Mater, filled with yellow wax.		
348	Sinus Venosus of a Child.		
349	Another specimen.		
350	Veins of the Hand, injected with quicksilver from the Arteries.		
351	Another specimen, injected with tallow from the Arteries.		
352	Veins of the Fingers, injected with quicksilver.		
353	Head, Neck, and Thorax: the Heart, Arteries, and Veins, injected.		
354	The Dorsal Vertebræ, with the Aorta, Venæ Cavæ, Vena Azygos, and Thoracic Duct.		
355	Upper Extremity; shewing the Arteries, Veins, and Nerves: dry preparation.		
356	Veins about the Elbow-joint, with some of the Arteries and Nerves.		
357	Side View of the Pelvis: the Veins injected, particularly those of the Bladder.		C. A. Key, Esq.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(4.) *Absorbent Vessels, and their Glands.*		
358	Thoracic Duct, filled with green wax.		
359	Thoracic Duct, double in the middle.	Red Insp. Book, page 168. Case of MaryGurney.	
360	Thoracic Duct, double at its termination.		
361	Termination of the Thoracic Duct.		
362	Thoracic Duct, filled with mercury.		
363	Portion of Small Intestine and Mesentery; shewing the Lacteals, filled with mercury.		
364	Absorbents of the Bladder.		
365	Absorbents of the Spermatic Cord.		
366	Vas Deferens, and Absorbents of the Cord.		
367	Absorbents of the Penis.		
368	Absorbents of the Heart.		
369	Absorbents on the surface of the Lung.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
370	Absorbents of the Lung.		
371	Another specimen.		
372	Absorbents of the Liver.		
373	Absorbents of the Skin.		
374	Absorbents of the External Ear.		

VASCULAR OR CIRCULATORY SYSTEMS.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or where derived.
370	Absorbents of the Lung.		
371	Another specimen.		
372	Absorbents of the Liver.		
373	Absorbents of the Skin.		
374	Absorbents of the External Ear.		

OBSERVATIONS ON SECTION IV.

OF PART I.

It has been asserted, that the structure both of the Medullary Central Masses of the Nervous System, and also of its branches, is ultimately globular. The following extracts from the microscopical observations already alluded to, tend to prove that this is by no means the case.

Brain.—" If there is any organized animal substance which seems more likely than another to consist of globular particles, it is undoubtedly that of the Brain. Our examination of it has, as yet, been but slight; but we have noticed, that when a portion of it, however fresh, is sufficiently extended to allow of its being viewed in the microscope, one sees, instead of globules, a multitude of very small particles, which are most irregular in shape and size, and are probably more dependent on the disintegration than on the organization of the substance. The structure of some other parenchymatous parts appears equally indeterminate, presenting neither globule nor fibre."

Nerves.—" These appear to be essentially composed of Fibres, but their structure is looser than that of Muscle. Though the Fibres of Nerves do not form such intricate plexuses as those of some other Tissues, their course is by no means straight. We have looked in vain for globules, as well as for any trace of Medullary matter, which has been somewhat gratuitously supposed to be inclosed in the Nerves."

It is generally known, that, within the last few years, our knowledge of the Anatomy of the Brain has been greatly enriched by the labours of Gall and Spurzheim, Reil, Tiedmann, Seres, Mayo, &c. &c.

Those of Dr. Foville, of Rouen, though not less remarkable, are not so generally known. As his views differ,

in some important particulars, from those of the Anatomists above enumerated, the following extract is given from a translation of his unpublished Mémoire, presented to the Academy of Sciences of Paris on the 24th March 1828.

"The Spinal Marrow is composed of two symmetrical portions, in each of which we perceive three distinct bundles or columns; an anterior, a posterior, and a middle. On their exterior are two orders of insertions of Nerves; and within each of the lateral halves which are united by a commissure of Medullary matter, we find a line of Cineritious matter. The size of the Spinal Marrow is most considerable at the upper part of the cervical portion, where it takes the name of Medulla Oblongata, and presents several distinct enlargements. The most important of these are, the Corpora Pyramidalia, which decussate at the upper part; the Corpora Olivaria, the Corpora Restiformia; and the Corpora Pyramidalia Posteriora.

"One part of these enlargements is prolonged into the brain, another into the Corpora Quadrigemina, and a third into the Cerebellum.

"The Corpora Pyramidalia Anteriora are the only parts in which there is an evident decussation of fibres.

"The Cerebellum is the continuation of the Corpus Restiforme; which meeting with, and confounding itself with, the bundle of nervous matter designated by the name of Processus ad Testes, and with the larger bundle proceeding from the Tuber Annulare, forms a mass, at first somewhat rounded, but which soon expands into a fibrous plain, which extending, from within, outwards, reaches the Cineritious matter at the circumference; when, expanding itself both above and below into a white and very fine layer, it lines the Cineritious matter, accommodating itself to all its folds, which are applied to the two surfaces of the large plain formed by the concurrence of the three nervous bundles, as already mentioned.

"One part of this plain is reflected backwards, from without, inwards, towards the median line, and, with its fellow, forms, within the substance of the Processus Vermi-

formis, a commissure analogous to the Corpus Callosum of the Cerebrum.

"Thus the three processes which constitute the Crus Cerebelli penetrate the Medullary Matter of the Cerebellum; and, lining it with a surface of white matter, are enveloped by it, as the stem of a young Champignon is by its cap. Reil had already seen a part of this arrangement.

"The Corpora Quadrigemina receive from the Medulla Oblongata two bundles of Fibres, which are easily traced to the Corpora Olivaria.

"Lastly, the Cerebrum receives, through the intervention of its Crura, the remaining bundles of Fibres which enter into the composition of the Medulla. Each Crus Cerebri is composed of two distinct bundles of Fibres. One of these is the continuation of one of the Anterior Pyramids of the Medulla Oblongata; which, decussating with its fellow at the upper part, and passing from behind, forwards, crosses at right angles the transverse Fibres of the Tuber Annulare, before which they are so disposed as to form a sort of groove. The Posterior bundle, of which I have next to speak, is lodged in this groove, and completes the Cylinder of the Crus Cerebri.

"This Posterior bundle of the Crus Cerebri, proceeding from the posterior part of the Medulla without decussating with its fellow, passes over the superior transverse Fibres of the Tuber Annulare on which its inferior surface rests, whilst its superior forms the floor of the fourth Ventricle.

"Throughout the whole extent of the Crus, properly so called, these two bundles, though more and more closely approximating, remain nevertheless distant, being separated by a black substance, the Locus Niger. They proceed nearly parallel to each other, till they diverge in the Corpora Striata and Thalami Nervorum Opticorum; and form a plain, of which all the rays tend towards the curved line which limits the Corpora Striata and Thalami on the outer side.

"At this point, to which we have traced the radiating Fibres of the Crus Cerebri, we find the commencement of

a different arrangement: but before speaking of this, it will be proper clearly to define whence we are to set out.

" The fibrous expansion of the Crus forms, in the substance of the Corpus Striatum and Thalamus, a large plain directed obliquely outwards and upwards. This plain separates the Cineritious matter of the Corpus Striatum into two nearly equal portions; of which, the one rests on the superior face of the plain, and is that which we see projecting into the Ventricle; the other, placed beneath the plain, is, as it were, lost in the mass of the Hemisphere. This broad plain of the Corpus Striatum and Optic Thalamus, or, in other words, the expansion of the Crus Cerebri, presents nearly the figure of a triangle bounded by two straight lines and a curved one: the two straight lines are, the two sides of the Crus: the curved line is the boundary of the Corpus and Thalamus to the outer side of the Ventricle. It is to this curved line, as to a circumference, that the radiating Fibres of the Crus are directed. This line, the imaginary limit of the expansion of the Crus, we shall assume as the origin of other parts which we are now about to examine.

" From this line, on the outer side, there proceed three perfectly distinct plains or layers, placed one above another at their origin, whence each pursues a particular course.

" 1*st Plain.*—The superior plain, which, on account of its distinction, we may call the Plain of the Ventricle, or the Plain of the Corpus Callosum, arising from the curved line before mentioned, mounts on the outer side of the Corpus Striatum and Thalamus, to which it is applied; having, in the first part of its course, a nearly vertical direction. It forms a slight convexity outwards; and then, bending inwards horizontally towards the median line, unites with its fellow, with which it concurs to form the Corpus Callosum.

" Thus the Corpus Callosum, as a whole, represents a roof, of which the sides proceeding from the plain of the Corpus Striatum and Thalamus are continuous with the Crura Cerebri, and have nothing to do with the Hemi-

spheres, properly so called. In other words, the Corpus Callosum is a true commissure of the Crura Cerebri. But do its Fibres pass from one side to the other across the median line? Is there upon this line an anastomosis of Fibres? These are questions to which my examinations of this part have not yet enabled me to reply.

"*2d Plain.*—Immediately beneath the plain which we have just examined, and from the same line, is separated a second plain, which, from its destination, we shall be warranted in calling the Plain of the Hemisphere. This plain, at first ascending parallel to that of the Corpus Callosum, to which it is applied in the first part of its course, afterwards quits that plain, where it is reflected inwards; and continuing in a nearly vertical direction, reaches the Cineritious matter of the convolutions along the Curved Line, at which the convex external and the flat internal surface of the Hemisphere meet each other; that is to say, it reaches the most elevated part of the Hemisphere along its whole length.

"Both to the inner and the outer side of its insertion, this plain is expanded beneath the grey matter which it lines in the form of a white layer, of which the fibrous structure is not nearly so evident as is that of the plain itself. This expansion follows all the folds of the grey substance, and, conjointly with it, constitutes the convolutions which are applied to the two surfaces of the plain of the Hemisphere.

"When this plain is examined on its upper surface, we see Fibres, of which all the bundles radiate towards the circumference; where they are inserted and converge towards the expansion of the Crura, of which its Fibres are evidently the continuation.

"*3d Plain.*—Beneath this Plain of the Hemisphere, but still arising from the same line, there proceeds a third plain, of less extent than the two preceding, and taking quite a different direction.

"This plain, immediately after its emersion from the origin common to it and to the two first-mentioned plains,

descends to the outer side of the inferior half of the grey substance of the Corpus Striatum, invests it below, and, advancing inwards, meets the corresponding plain from the opposite side, and, ascending in juxta-position with it on the median line, forms the Septum Lucidum of the Ventricles.

"It is not all the Fibres of this plain which go directly to the Septum Lucidum. A considerable portion pass backwards, of which some form an expansion belonging specially to the Temporal Lobe; whilst others reach the large extremity of the Cornu Ammonis, and, becoming continuous with the Corpus Fimbriatum, pass into the Fornix, and thus form another communication with the Septum Lucidum.

"I have too much consideration for the time of the Academy of Sciences, to allow myself to enter more minutely into anatomical details: and now proceed to the examination of the combination and mutual relation of the parts, to the consideration of which the preceding facts naturally lead.

"If, when we have separated all the plains, so as to see their reciprocal relations, we make a transverse vertical section of the Brain, at that part which corresponds to the Coronal Suture, we may observe at the centre of this section a surface of two inches in diameter, which nearly resembles the section of a cylinder. The circumference of this cylinder, which is slightly hollowed both above and below, is entirely composed of Medullary matter. About the middle of its thickness we see, on each side, a large white surface; above and below which are two grey surfaces. The plains of the Hemispheres extend to the right and left, from the sides of this cylinder; and do not exceed two lines in thickness.

"If we compare this section with a transverse section of the Spinal Marrow, we cannot help being struck with the remarkable analogy which exists between the Spinal Marrow and the central part of the Brain.

"In both, the external part is extremely white: in both,

there are four grey surfaces separated by Medullary matter; the proportion of which, it is true, differs in the two cases, but the analogy is preserved in the arrangement. Lastly, the Nerves which rise from each side of the Spinal Cord are represented by the plain of the Hemispheres, which we may consider as a series of Nerves in close apposition.

"This analogy is by far the most striking, when the comparison is made with a section of quite the upper part of the Spinal Cord of an Infant.

"An important observation may be made with the Brain of a Child of two or three years of age. A transverse vertical section at the part opposite to the Coronal Suture displays the arrangement above described. Simple but well-defined white lines mark the central cylinder, analogous to the Spinal Marrow; and indicate the course of each of the three plains, which are not to be distinguished in the adult Brain until they have been artificially separated."

SECTION IV.

THE NERVOUS SYSTEM, AND ORGANS OF THE SENSES.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
375	Artery, Nerve, and Vein.		
	(1.) *Spinal Chord.*		
376	Inferior portion of the Spinal Marrow, and Nerves arising from it, inclosed in the Dura Matral Covering.		
377	The Cauda Equina.		
	(2.) *Brain.*		
378	The Brain.		
379	Cast of the Brain.		
380	Portion of Brain; shewing the depth of the Convolutions, and the Pia Mater, injected, dipping into them.		
381	Longitudinal section of the Brain; injected.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
382	The Pineal Gland.		
383	Portion of Arachnoïd and Pia Mater: the latter injected.		
384	Dura Mater, injected.		
385	Another specimen.		
386	Section of the Cranium; shewing the Processes of the Dura Mater.		
	(3.) *Nerves.*		
387	Portion of the Sciatic Nerve unravelled.		
388	Portion of Nerve, injected, and unravelled.		
389	Injected Nerve; dried, and immersed in spirit of turpentine.		
390	Injected Nerve.		
391	Portion of Spinal Marrow, with the 3d, 4th, 5th, 6th, and 7th Cervical, and one Dorsal, pairs of Nerves, to shew the mode of origin of the Spinal Nerves.		
392	Axillary Plexus.		
393	Nerves of the Hand. The junction of the Median and Ulnar Nerves, and their termination in the Fingers, are here shewn.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
394	Nerves of the Hand and Fore-arm: dry preparation, injected.		
395	Nerves and Arteries of the Upper Extremity; most of the branches shewn.		
396	Nerves and Arteries of the Hand.		
397	Nerves and Arteries of the Pelvis and Lower Extremity, in a young subject.		
398	Origins of Spinal Accessary Nerves, and of the 8th Cerebral pair of Nerves.		
399	Gasserian Ganglion: the nerve of motion shewn.		
400	Superior Cervical Ganglion of the Sympathetic.		
401	Portion of the Aorta, with the Semilunar Ganglion.		
402	Portion of the Aorta; with the terminations of the Splanchnic Nerves and the Semilunar Ganglia.		
	(4.) *Common Integuments.*		
403	Cutis, and Cuticle.		
404	Cutis Vera injected, from the arm.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
405	Cutis of an Adult, injected.		
406	Another specimen.		
407	Cutis of an Infant, injected.		
408	Another specimen.		
409	Foot of an Infant, injected.		
410	Cutis of a Fœtus, injected.		
411	Another specimen.		
412	Veins of the Skin, (of the Prepuce,) injected.		
413	Cutis, Rete Mucosum, and Cuticle, of a Black.		
414	Another specimen.		
415	Another specimen; from a Lascar.		
416	Cutis, and Cuticle raised—European.		
417	Another specimen.		
418	Cuticle of the Hand, from a Child.	Old Museum Book, No. 187.	Mr. Davy's Collection. B. Harrison, Esq.
419	Another specimen.	Old Museum Book, No. 187*.	Mr. Davy's Collection. B. Harrison, Esq.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
420	Tatooed Skin of the Leg, from a Native of Owyhee.		
421	Bulbs of Hair.		
422	Scalp of a Native of Owyhee.		
423	Scalp of a Negro.		
424	Section of the Great Toe; shewing the root and structure of the Nail.		
425	Nail detached; shewing its mode of attachment to the Soft Parts.		
	(5.) *Nose.*		
426	Section of the Face, shewing the Nasal Cavities.		
	(6.) *Eyes.*		
427	Palpebræ, shewing the Meibomian Glands.		
428	The Puncta Lachrymalia, Sacculus, and Ductus Lachrymalis.		
429	Puncta Lachrymalia, and Sacculus.		
430	Section of the Eye, shewing its Coats.		
431	Sclerotic Coat.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
432	Sclerotic and Cornea; injected, dried, and immersed in spirit of turpentine.		
433	Sclerotic Coat, injected, and immersed in spirit of turpentine.		
434	Choroïd Coat.		
435	Section of the Eye, shewing its Coats.		
436	Another specimen; shewing the Iris and Corpus Ciliare.		
437	The Iris.		
438	The Membrana Pupillaris.		
439	Another specimen.		
440	The Retina.		
441	The Crystalline Lens.		
442	The Arteries of the Choroïd Coat, and Central Artery of the Retina.		
443	The Muscles of the Eye.		
	(7.) *The Ear.*		
444	The External Ear, injected.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
445	The External Ear, injected, and immersed in spirit of turpentine.		
446	The External Ear, injected, and cutis removed: dried, and immersed in spirit of turpentine.		
447	Injected Ear.		
448	Cartilage of the External Ear.		
449	Right Temporal Bone, with the Tympanum and Labyrinth exposed.		
450	Left Temporal Bone, with the Tympanum and Labyrinth exposed.		
451	Right Temporal Bone of a Child: the Labyrinth laid open, and the internal surface of the Cochlea and Semicircular Canals painted.		
452	Cavities of the Internal Ear; the Tympanum, Eustachian Tube, Labyrinth, Mastoïd Cells, and Aqueduct of Fallopius: from the right side. An impression in lead.		
453	Labyrinth of the Right Ear: an impression in lead.		
454	Labyrinth of the Left Ear: an impression in lead.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(8.) *Tongue.*		
455	Skin of the Face, injected; shewing the Sebaceous Glands about the Nose and Lips.	Old Museum Book, No. 196.	Mr. Davy's Collection. B. Harrison, Esq.
456	Tongue, Fauces, and Pharynx.		
457	The Tongue and Pillars of the Fauces; seen before and behind.		
458	Injected Tongue.		
459	Injected Tongue; shewing the Papillæ, Follicles, and Foramen Cæcum.		

OBSERVATIONS ON SECTION V.

OF PART I.

Although the function, to which the Organs comprehended in this Section are subservient, constitutes, perhaps, the most important part of what has been called the Tripod of Life, it is not required, by the plan of this work, that much, if any thing, be said respecting them, in this place.

A clear and accurate idea of the structure of the Pulmonary Tissue, in its healthy state, is absolutely necessary, to enable us properly to understand many of the important, and frequently fatal, pathological alterations, of which this structure is the seat. To the want of it must be, in a great measure, attributed the vagueness and disagreement so conspicuous in the writings of those who have treated of the Diseases of the Chest. The work of Reisseissen is justly esteemed one of the best attempts to elucidate this subject; yet part of the views of this author appear, from some examinations made by Dr. Babington and the Editor, to be at least questionable.

The work of Dr. Edwards, on the influence which physical agents exert on life, is full of interesting and valuable facts relating to the function of Respiration, and leads to some important practical results.

Portal, in the third volume of his "Histoire de l'Anatomie et de la Chirurgie," mentions a curious instance of the power of the human voice, in the case of a man who by particular sounds, which he had the art of uttering, was able to break glasses. Savart, a French savant who has recently devoted great attention to the investigation of the properties of sound, has shewn that the same effect may be produced by the violin.

SECTION V.

VOCAL AND RESPIRATORY ORGANS.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(1.) *Larynx.*		
460	Dried preparation of the Larynx.		
461	Thyroïd Cartilage.		
462	Injected preparation of the Thyroïd Cartilage: ossification commencing.		
463	Cricoïd Cartilage.		
464	Arytenoïd Cartilages.		
465	Epiglottis.		
466	Epiglottis, injected.		
467	Cartilages of the Larynx, separate, and nearly ossified.		
468	Three dried preparations of the Os Hyoïdes and Larynx.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
469	Preparation of the Larynx, in which ossification has commenced: dried, and immersed in spirit of turpentine.		
470	Sacculi Laryngis.		
471	Another specimen.		
	(2.) *Thyroïd Gland.*		
472	Thyroïd Gland, and Arteries: a variety in the latter.		
	(3.) *Trachea, and Bronchi.*		
473	Portion of the Trachea, injected.		
474	Trachea, and branches of the Bronchi, of a young subject.		
	(4.) *Lungs.*		
475	Thoracic Viscera of a Child; shewing particularly the extent and relative situation of the Lungs, the Lobes, and Lobuli.		
476	Lungs and Heart of a Child, injected: a dry preparation.		
477	Portion of Lung: the Air-cells filled with mercury.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
478	Portion of Lung: the Air-cells filled with mercury.		
479	Portion of Lung, the cells of which are filled with yellow wax: a corroded preparation.		
480	Section of the Lung of a Turtle, injected; shewing the structure of the air-cells, on a large scale.		
481	Portion of Lung filled with Albumen, which has been coagulated; shewing the terminations of the Bronchial tubes.		
	(5.) *Pleuræ.*		
482	Lungs and Heart of a Fœtus. The Foramen Ovale shewn.		
483	Portion of Pleura, injected.		
	(6.) *Thymus Gland.*		
484	Thymus Gland.		

No.	Description.	Balance in Hand.	By whom presented to whom or how obtained.
478	Portion of Lung: the Alveoli filled with mucus.		
479	Portion of Lung, the cells of which are filled with yellow wax: a coarsely prepared.		
480	Section of the Lung of a Turtle, injected, showing the structure of the air cells, on a large scale.		
481	Portion of Lung filled with Albumen, which has been coagulated; showing the commencement of the Bronchial tubes.		
	(b.) Fœtus.		
482	Lungs and Heart of a Fœtus. The Fœtus was Twelve days.		
483	Fœtus of Fowls, injected.		
	(c.) Thymus Gland.		
484	Thymus Gland.		

OBSERVATIONS ON SECTION VI.

OF PART I.

It is needless to prefix to this Section any remarks respecting the Teeth; as, since the printing of this part of the Catalogue, the public has received, from the pen of Thomas Bell, a very complete Work on this subject. The Student will find that that Volume and the Preparations comprised in this part of the Museum will, when examined conjointly, render him important assistance, by the mutual illustration which they afford to each other.

It is well known, that Physiologists have never been perfectly agreed in regard to the Chylo-poietic Viscera accessory to the Intestinal Canal. The following humorous Epitaph on the Liver, written by Bartholin, affords a curious illustration of this discordance, with reference to that organ:—

SISTE · VIATOR
CLAUDITUR · HOC · TUMULO · QUI · TUMULAVIT
PLURIMOS
PRINCEPS · CORPORIS · TUI · COCUS · ET
ARBITER
HEPAR · NOTUM · SECULIS
SED
IGNOTUM · NATURÆ
QUOD
NOMINIS · MAJESTATEM · ET · DIGNITATIS
FAMA · FIRMAVIT
OPINIONE · CONSERVAVIT
TAMDIU · COXIT
DONEC · CUM · CRUENTO · IMPERIO · SEIPSUM
DECOXERIT.

ABI · SINE · JECORE · VIATOR
BILEMQUE · HEPATI · CONCEDE
AT · SINE · BILE · BENE
TIBI · COQUAS · ILLI · PRECERIS.

It is almost needless to add, that, from the time of Bartholin to the present day, the Liver has not ceased to afford matter more or less liable to discussion, both to Physiologists and Pathologists.

It is well known, that no organ has excited a greater variety of opinions, with respect to its office in the system, than the Spleen; and it is by no means impossible, that we are still wholly unacquainted with its function: yet the Editor is inclined to retain the opinion, which he has advocated in a Paper printed in the LXXth Number of the Edinburgh Medical and Surgical Journal; namely, that the Spleen performs, in the animal system, a similar part to that which tubes and valves-of-safety do in various kinds of chemical and mechanical apparatus; and tends to obviate any inconvenience which might arise from a sudden disturbance of the proportion between the capacity of the vascular system and the fluids which circulate in it. Such disturbances must be frequently induced, by various causes to which animals are continually exposed; and which operate more powerfully than the elasticity of the vessels alone can compensate for, and more rapidly than absorption, secretion, and excretion can, in every case, counteract them. The reasons which he adduced for this opinion were drawn from the structure and situation of the Spleen; from the different appearances which it assumes, according to the circumstances under which death had taken place; from the causes which derange the organ; from the effects which it produces on the system when deranged; and also from the result of experiments made upon inferior animals. He has since learnt, that somewhat similar views had been advanced by Dr. Rush of Philadelphia, and by Dr. Broussais of Paris. They have subsequently received additional sanction from experiments detailed in the second edition of Magendie's "Physiology," as well as from the assent of other authors. The Spleen may perform some office besides that which is here attributed to it; but the one contended for by Tiedmann and Gmelin, namely, that it confers the pro-

perty of coagulation upon the Lymph and Chyle, manifestly wants proof.—(See Edinburgh Medical and Surgical Journal, No. 70; Le Journal Complimentaire des Sciences Medicales; Tiedmann and Gmelin's "Essay on Absorption, and the Uses of the Spleen;" the Editor's "Thesis de Absorbendi Functione;" &c.)

SECTION VI.

THE ORGANS OF DIGESTION.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(1.) *Salivary Glands.*		
485	Dried preparation of the Parotid Gland; injected with red wax from the Duct.		
486	Submaxillary Gland and Duct: dried.		
487	Submaxillary and Sublingual Glands. The ducts filled with mercury.		
488	Submaxillary Gland; injected, from the duct, with red wax.		
	(2.) *The Gums and Teeth.*		
489	Left superior Maxilla, with the Teeth, and Gums injected: dried, and immersed in spirit of turpentine.		
490	Portion of the right superior Maxilla. The Gums injected.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
491	Portion of the inferior Maxilla, with the Teeth. The Gums injected: dried, and immersed in spirit of turpentine.		
492	Superior Maxilla, and Teeth; with the anterior part of Alveolar Processes removed, to shew the fangs of the teeth.		
493	Portion of the Adult Lower Jaw, with all the Teeth.		
494	Anterior part of the Lower Jaw, with all the Teeth. The Alveolar Processes removed, so as to shew the fangs in front.		
495	The Lower Jaw, with all its Teeth: the fangs exposed in front.		
496	Another specimen.		
497	Another specimen: the fangs exposed internally.		
498	The eight Incisores.		
499	The four Cuspidati.		
500	Another set.		
501	The eight Bicuspidati.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
502	The eight Molares.		
503	The four Dentes Sapientiæ.		
504	The superior Maxilla of a Child, with all the Teeth of the first dentition.		
505	The inferior Maxilla of a Child, with all the Teeth of the first dentition.		
506	One set of Teeth of the first dentition.		
507	Another set: several of the fangs partially absorbed.		
508	Several Cuspidati Teeth of the first dentition; shewing the gradual disappearance of the fang, from absorption.		
509	An Incisor Tooth of the first dentition.		
510	Teeth of different kinds; with the ossification of the fangs incomplete.		
511	The inferior Maxilla from the Fœtus, at a very early period: injected, with the nascent pulps partially detached.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
512	The Lower Jaw from the Fœtus, at a very early period: the membrane of pulps injected.		
513	Pulps of the Teeth, from the Fœtus, at an early period; partially injected.		
514	Half of the Lower Jaw, injected; and the membrane of the pulps partially removed, exposing the teeth in a soft state.		
515	The Upper Jaw of a Child, injected: the pulps exposed; the four incisors cut.		
516	Upper Jaw of an Infant: the two incisors cut; the pulps exposed. An injected preparation.		
517	Lower Jaw of an Infant, injected: two incisors cut; the pulps exposed.		
518	Lower Jaw of a Child; shewing both sets of teeth: the first cut; the pulps of the second exposed.		
519	Superior Maxilla of a Child; with the first set of teeth entire, and the pulps of the second exposed. Injected preparation.		
520	Inferior Maxilla of a Child; with the first set of teeth entire, and the pulps of the second exposed. Injected preparation, corresponding to the preceding.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
521	Alveolar Processes of the superior Maxilla of a Child, with eight teeth; the pulps and fangs exposed. Injected, dried, and immersed in spirit of turpentine.		
522	Half of the Lower Jaw of a Child; the pulps of the second dentition exposed, and the Dental Artery injected and dissected.		
523	Lower Jaw of a Child, injected; the anterior part removed. The preparation dried, and immersed in spirit of turpentine.		
524	Portion of the Lower Jaw of an Infant; shewing the membranes of the pulps of the teeth.		
525	Portion of the Lower Jaw of a Fœtus; shewing the membranes of the pulps opened, and the soft teeth exposed.		
526	Part of the Lower Jaw of a Fœtus; shewing the injected membranes of the pulps of the teeth.		
527	Portion of the Lower Jaw of a Fœtus; shewing the membranes of the pulps laid open.		
528	Portion of the Lower Jaw of the Fœtus, injected: the membranes of the pulps of the teeth exposed.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
529	Points of commencing Ossification of the Teeth, from a Fœtus of seven months.		
530	Ossified Crown, from the pulp of a Molar Tooth.		
531	Pulp and injected Membrane of the Molar Tooth of a Graminivorous Animal.		
532	Pulps, and injected Membranes, of the Molar Teeth of a Graminivorous Animal.		
533	Injected Membrane and Pulp of the Tooth of a Ruminating Animal.		
534	Molar Tooth of an Herbivorous Animal, partly ossified: the membrane injected.—A dried preparation.		
535	Scull of a Fœtus, at an early period: the first Incisors just beginning to ossify: (with a glass cover, and stand.)		
536	Scull of a Fœtus, somewhat more advanced than the preceding: (with a glass cover, and stand.)		
537	Superior and Inferior Maxillary Bones, from a Fœtus of four months: the pulps of the teeth removed.		T. Bell, Esq.
538	Upper Jaw of a Fœtus, at an early period; injected. The Membranes of some of the nascent pulps seen.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
539	Lower Jaw of a Fœtus, of about five months; the pulps removed.		
540	Right superior Maxilla; and corresponding half of the inferior Maxilla of a Fœtus, of about four months.		
541	Scull of a Fœtus, of seven months; the pulps of the teeth exposed: (with a glass cover, and stand.)		
542	Portion of the Jaw of a very young Child; shewing some of the pulps of the teeth, and their membranes.—A dried preparation.		
543	Upper and Lower Jaws of a Fœtus, near the full period: (with a glass cover, and stand.)		
544	Superior Maxilla of a Child, in whom dentition appears to have just commenced.		
545	Inferior Maxilla of a Child; the two middle incisors cut.		
546	Another specimen.		
547	Inferior Maxilla of a Child: three incisors cut; one first molar nearly so.		
548	Os Frontis, and superior Maxilla of a Child: the incisor teeth all nearly or quite cut.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
549	Superior Maxilla of a Child: all the incisor and two molar teeth cut: several of the other teeth exposed.		
550	Inferior Maxilla of a Child: the incisors, and one molar tooth, cut; another molar nearly so; and several immature teeth exposed.		
551	Superior Maxilla of a Child: the first set of teeth mostly cut, and several of those of the second dentition exposed: (with a glass cover, and stand.)		
552	Portion of the Lower Jaw of a Child of sixteen months; shewing both sets of teeth.		T. Bell, Esq.
553	Inferior Maxilla of a Child: all the first set of teeth cut: some of the cavities, for lodging the second set, exposed.		
554	Inferior Maxilla of a Child: all the first set of teeth cut: two genuine molars beginning to appear.		
555	Upper and Under Jaws of a Child, with the first set of teeth entire. Bristles are introduced into the foramina behind the teeth, communicating with the second set.		
555[A]	Another preparation, shewing the Foramina, communicating with the second set of teeth.		
556	Superior Maxilla of a Child: the first incisors of the second set beginning to appear.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
557	Lower Jaw of a Child: the immature second set of teeth exposed.		
558	Upper and Lower Jaws of a Child: the second dentition not yet commenced: the fangs of the first set, and the immature second set of teeth, exposed.		
559	Upper and Lower Jaws of a Child in whom the second dentition is commencing: the fangs of the first set, and the immature second set of teeth, exposed.		
560	Base of the Scull, and Upper and Lower Jaws of a Child of six years of age: the fangs of the first set, and the immature second set of teeth, exposed: the bones and remaining soft parts covered with black varnish.		
561	Head of a Child of eight or nine years; shewing both sets of Teeth, prepared like the preceding.		
562	Base of the Scull and superior Maxilla of an aged and perfectly Edentulous subject.		
563	Perfectly Edentulous and greatly Absorbed Lower Jaw, corresponding with the preceding.		
564	Lower Jaw, in which the Dentes Sapientiæ do not appear: one Molar tooth extracted, and the Alveolar Process absorbed: the bones blackened.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
565	Scull of an Aged Person; in whom the Dentes Cuspidati, having taken an oblique direction, have never been cut.		
566	Portion of the Lower Jaw, with one of the Dentes Sapientiæ nascent, but taking an oblique direction.		
567	Superior Maxilla of a young subject; with a nascent Molar Tooth, taking a very irregular and oblique direction.		
568	Anterior part of the Base of a Scull, with the superior Maxilla: some of the teeth removed by extraction, others reduced by attrition.		
569	Several Sections of Teeth, chiefly longitudinal; shewing the enamel, the bone, and the cavity for lodging the softer parts.		
570	Several Longitudinal and Transverse Sections of Teeth; the surface of the cavity for lodging the soft parts coloured red.		T. Bell, Esq.
571	Upper Jaw of a Child, injected, and the anterior part removed; shewing longitudinal sections of the teeth: dried, and immersed in spirit of turpentine.		
572	Lower Jaw corresponding to the preceding, and similarly prepared.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
573	Upper Jaw, divided so as to afford a Longitudinal Section of the Teeth: mounted.		
374	Lower Jaw, divided so as to afford a Longitudinal Section of the Teeth: mounted.		
575	Another specimen.		
576	Upper Jaw; with Transverse Sections of all the Teeth, except the Dentes Sapientiæ, which are not cut.		
577	Superior Maxilla of a Child; shewing longitudinal sections of the teeth.		
578	Half of the inferior Maxilla of a Child; shewing longitudinal sections of the teeth.		
579	Fragment of a Tooth, shewing the structure of the Enamel: (from the molar tooth of an Elephant.)		T. Bell, Esq.
580	Two Teeth, of which the cavities are opened, partially exposing the soft parts.		
581	A Cuspidatus Tooth, of which the cavity is opened, and the soft part exposed.		
582	Two Fragments of Teeth; of which the bone is partially discoloured by blood, from inflammation.—This preparation is illustrative of the vitality of the teeth.		T. Bell, Esq.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
583	Several Teeth, from which the earthy matter has been removed. A wet preparation.		
584	A Molar Tooth, from which the earthy matter has been removed. A dry preparation.		
585	Several Teeth which have been deprived of the animal matter by calcination.		
586	Fragments of Calcined Teeth.		
587	Sections of Teeth: the incised surface seared, and shewing the limits of the bone and enamel.		
588	Longitudinal and Transverse Sections of Teeth. The incised surface seared, and shewing the limits of the bone and enamel.		T. Bell, Esq.
	(3.) PATHOLOGICAL SPECIMENS OF TEETH. *** The following Preparations, which more properly belong to the Second Part of the Catalogue, Section VI., are arranged in this place to avoid the inconvenience of separating the Preparations which are employed by T. Bell, Esq. for the illustration of his Lectures on the Teeth.		
589	Six Cuspid and one Molar Tooth, remarkably small, and very imperfectly formed. They were supernumerary, and were formed in the fore part of the mouth. Taken from different individuals, by the late Joseph Fox, Esq.		
590	Two inferior Incisor Teeth, remarkably misshapen.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
591	Two small misshapen Cuspidati Teeth: supernumerary.		
592	Three small and misshapen Teeth, very imperfectly enamelled: supernumerary from the back part of the jaw.		
593	Specimen, consisting of two Incisors and a Cuspidatus Tooth; on which the enamel is very imperfectly deposited, in the form of regular zones.		
594	Two Cuspidati Teeth, on which the enamel is deficiently and irregularly deposited.		
595	Several Teeth, deficient in enamel.		
596	Several Teeth, much and variously worn by attrition.		
597	Several Teeth, worn by attrition.		
598	An Incisor Tooth; on which there is a partial loss of substance at the upper and anterior part of the crown, from the disease called, by John Hunter, 'Decay by denudation.'		
599	Two Incisor Teeth, broken obliquely.		
600	A Tooth, fractured.		
601	A Cuspidatus Tooth, with two fangs.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
612	Two Teeth, of which the fangs are thickened, as in the preceding examples. (Exostosis.)		
613	A Tooth affected with Exostosis, which induced Tic Doloureux.		T. Bell, Esq.
614	Two Teeth, one of which is affected with Exostosis of the fang.		
615	Three specimens of Teeth, of which the fangs are united by bone.		
616	Sections of a Tooth, of which the crown is excavated by decay: the crust remaining nearly perfect.		
617	Several Incisor Teeth, of which the crowns are decayed.		
618	Three Molar Teeth; the crowns carious.		
619	Several Molar Teeth, in most of which the crowns are carious. In two, the fangs are also diseased. Many of the fangs are much distorted.		
620	Numerous Teeth, in most of which the crowns, and in several the fangs, are diseased.		
621	Several Teeth, variously decayed. One appears to have been stopped with gold.		
622	A carious Molar Tooth, with diseased Periosteum :—a wet preparation.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
623	A decayed Molar, with the dead pulp exposed :—a wet preparation.		
624	A Molar Tooth, deeply carious at the Cervix: also the fangs of another, which has lost the crown, apparently from decay of the Cervix.		
625	The Cervix of a Tooth, forming a complete ring: the crown removed by decay, the fangs by absorption.		T. Bell, Esq.
626	A Molar Tooth, with a deposition of lymph about the fangs, shewing the first stage of Alveolar abscess.	Medico-Chirurgical Transactions, Vol. X.	T. Bell, Esq.
627	A decayed Molar Tooth, with abscess at the extremity of one of the fangs.	Medico-Chirurgical Transactions, Vol. X.	T. Bell, Esq.
628	A Carious Tooth, with abscess at the root of the fang.		
629	A Carious Tooth, with diseased fang.		
630	A Carious Tooth, with abscess about the fangs; enclosed in two small cysts, united.	Medico-Chirurgical Transactions, Vol. X.	T. Bell, Esq.
631	Preparation shewing the effect of Alveolar Abscess upon the Jaw.		T. Bell, Esq.
632	Another specimen.		
633	Three Teeth, with fangs partially absorbed: the result of the disease shewn in the preceding specimens.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
634	A Tooth, with its fangs thickened and ulcerated.		
635	A Molar Tooth, with its fangs to a great degree absorbed.		
636	A Dead Tooth; in which the Foramen is enlarged by absorption, with a partial and slight deposit of tartar upon the fang.		
637	An Incisor Tooth; of which the fang is in a great degree removed by ulcerative absorption. This tooth had been transplanted.		
638	One Incisor Tooth, apparently sound; and another which has lost its crown, and the point of the fang, by caries.		
639	Two Incisor Teeth, the fangs of which are partially removed by ulcerative absorption.		
640	Four Teeth, with diseased fangs.		
641	Three Teeth, with diseased fangs.		
642	Three Teeth, with a portion of the Jaw-bone, to which their fangs are attached.		
643	A Molar Tooth, with a large portion of diseased and partially-necrosed bone which has separated with it. The effect of mercury.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
644	Fragments of Necrosed Jaw-bone.		
645	Portion of the Alveolar Process of the Lower Jaw, with the Incisors and Cuspidati.		
646	A Molar Tooth, with a considerable sequestrum from the jaw attached to it. It is evidently from a young subject; and a nascent molar tooth is lodged in the sequestrum. The result of Small-pox.		
647	Fragments of Necrosed Jaw, with a Bicuspid Tooth attached to one of them.		
648	Three Molares firmly united to a broken portion of the Jaw-bone.		
649	Decayed Tooth, with a fragment of the Jaw-bone attached to it. Torn away by the improper use of the Key instrument.		
650	Sequestrum, consisting of the greater part of the Alveolar Process of the Lower Jaw, with eighteen detached teeth from the same jaw. The result of mercury.	J. Fox's Work on the Teeth.	
651	Teeth, with portions of bone firmly adherent.		
652	A considerable portion of Diseased Alveolar Process, from the jaw of a Child, with the first Molar Tooth of each side attached to it.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
653	Necrosed Fragment of a young Jaw-bone, with the first and second temporary Molar Teeth, and the two nascent Bicuspides attached to it.		
654	A Bicuspid Tooth, with a portion of bone firmly attached to its fang, and two small sequestra.		
655	Two Incisor Teeth, a fragment of necrosed jaw adherent; and a separate Incisor, with the fang much decayed.		
656	Portion of Necrosed inferior Maxilla.		
657	Another specimen.		
658	Portion of Necrosed superior Maxilla.		
659	A considerable Sequestrum, containing several nascent Teeth from the Lower Jaw of a Child.		
660	A large Sequestrum, from the Lower Jaw.		
661	An old and decayed Incisor Tooth: imbedded in a mass of tartar.		
662	The broken fang of an Incisor Tooth, imbedded in a mass of tartar.		
663	Teeth loaded with tartar.		
664	Several detached masses of tartar.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	⁂ The eight following Preparations were added since the preceding ones were arranged.		
665	Two Molares of the Lower Jaw, firmly attached to each other by a bony union of their fangs and sides.		T. Bell, Esq.
666	An inferior Dens Sapientiæ, with one posterior fang remarkably hooked.		T. Bell, Esq.
667	Specimen exhibiting preternatural growth of the Pulp in a decayed Tooth. There was no pain in this case.		T. Bell, Esq.
668	A similar specimen. This case also was unattended with pain.		T. Bell, Esq.
669	A Tumor, dependent on a decayed Tooth; removed from the Lower Jaw by Sir Astley Cooper.		T. Bell, Esq.
670	Cast of the Upper Jaw, in which the Incisors are remarkably truncated, in an oblique direction, without attrition.		T. Bell, Esq.
671	Cast of the Lower Jaw, corresponding to the preceding; in which the Incisors are similarly truncated.		T. Bell, Esq.
672	Cast of a Fungoïd Exostosis of the Lower Jaw, in consequence of a blow.		T. Bell, Esq.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(4.) *Plaster Casts of the Teeth and Gums, exhibiting deviations from the healthy or natural state.*		
673	Cast of the Mouth of a Child; in which two permanent Incisors are cut behind those of the first set, which are not shed.		
674	Cast of the Jaw of a Child, with two permanent Incisors appearing within the row of teeth.		
675	Cast from the Mouth of a Child eleven years of age: the teeth small and irregular: one permanent Incisor cut.		
676	Another specimen.		
677	Cast from the Mouth of a Child; shewing the first Incisors just protruding, with some obliquity.		
678	Cast from the Lower Jaw of an Adult: the irregularity very slight.		
679	Cast, shewing one of the Incisors pointing inwards.		
680	Cast, shewing one of the Incisors placed within the row of teeth.		
681	Another specimen.		
682	Another specimen.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
683	Cast, shewing both the Outer Incisors, situated behind the row of teeth.		
684	Another specimen.		
685	Another specimen.		
686	Another specimen.		
687	Cast; in which two Teeth, apparently the Cuspidati, are situated within the row of teeth.		
688	Cast; in which the Cuspidati are situated within the row of teeth.		
689	Cast; in which, on one side, the first of the Bicuspides is situated within the row of teeth; and, on the other, is transposed with a Cuspidatus.		
690	Cast; shewing several Teeth growing irregularly to the inside of the mouth.		
691	Cast; in which two Incisors are growing externally to the row of teeth.		
692	Cast; in which a Cuspidatus is protruding externally to the row of teeth.		
693	Another specimen.		
694	Cast; in which both the Cuspidati are making their appearance externally to the row of teeth.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
695	Another Cast; in which the Cuspidati are of large size, and protruding externally to the row of teeth.		
696	Cast, in which a Cuspidatus and the first Bicuspid are appearing externally to the row of teeth: the two first molars remaining unshed.		
697	Cast, in which the teeth are much crowded, and placed with great irregularity behind each other.		
698	Another specimen.		
699	Another specimen.		
700	Another specimen.		
701	Cast; shewing one Tooth lost; the others placed irregularly.		
702	Cast; shewing one Tooth lost; the others placed irregularly: the Gums are absorbed, partially exposing the fangs.		
703	Another Cast; in which the Cuspidati are lost, and the Incisors stand irregularly.		
704	Another Cast; in which the Cuspidati are wanting.		
705	Cast, shewing a supernumerary Incisor.		
706	Another specimen.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(5.) *Pharynx, and Œsophagus.*		
707	The lower portion of the Œsophagus, and part of the Cardiac Extremity of the Stomach; shewing the termination of Cuticular Lining of the former.		
708	The Cardiac Extremity of the Stomach; shewing the termination of Cuticular Lining of the Œsophagus.		
	(6.) *Stomach.*		
709	Stomach, inverted, and laid open; shewing the Longitudinal Rugæ of the Mucous Membrane, strongly marked.	Old Museum Book, No. 87. No History.	
710	Dried preparation of the Stomach. The Vessels filled with fine injection.		
711	Dried preparation of the Stomach. The Arteries and Veins injected.		
712	Stomach of a Fœtus, injected, and inverted.		
713	Stomach of a Fœtus, dried.		
	(7.) *Small Intestines.*		
714	Portion of Jejunum, with the Arteries and Veins minutely injected: dried, and immersed in spirit of turpentine. An external view.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
715	Portion of the Ilium, with the Arteries and Veins minutely injected: dried, and immersed in spirit of turpentine. —An external view.		
716	Portion of small Intestine, probably Jejunum, injected and inverted; shewing the vascularity of the Villi.		
717	Portion of small Intestine, injected with fine injection, and laid open.		
718	Portion of small Intestine, inverted: the mucous membrane partially injected.	Old Museum Book, No. 232.	From Mr. Lucas's Collection.
719	Portion of the small Intestine of a Fœtus, injected, and inverted; shewing the absence of Valvulæ Conniventes.		
720	Portion of small Intestine, laid open, and shewing the Mucous Follicles remarkably developed.		
721	Portion of small Intestine, with the corresponding part of the Mesentery: the arteries and veins injected.		
722	Termination of the Ilium, with the Cæcum and its Appendix; with an opening in the Cæcum to shew the valve: the Arteries and Veins minutely injected. Immersed in spirit of turpentine.		
723	Termination of the Ilium, with the Cæcum and its Appendix; injected with fine injection, and inverted.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
724	Termination of the Ilium, and the Cæcum; dried, and laid open to shew the Ilio-cæcal Valve.		
725	Termination of the Ilium, and the Cæcum; dried, and laid open to shew the valve, which is remarkably perfect.		
	(8.) *Large Intestines.*		
726	Cæcum and Appendix; Vermiformis inverted; from a young subject, who died by accident. The mucous glands very apparent. (Vide Prep^{n}. 2017.)	1st Green Insp. Book, page 72. Case of Ann Fleuker, æt. 9.	
727	Muscular Fibres of Intestine; probably from the upper part of the Rectum.		
	ORGANS ACCESSORY TO THE ALIMENTARY CANAL.		
	(9.) *The Liver and Gall-bladder.*		
728	The Liver and Gall-bladder of a Child.		
729	Corroded preparation of the Liver; shewing the branches of the Venæ Portæ in red, and those of the Venæ Cavæ Hepaticæ in black, wax.		
730	Corroded preparation of the Vessels of the Liver; Hepatic Artery, red; Venæ Portæ, yellow; Venæ Cavæ Hepaticæ, black; and the Biliary Ducts, light green.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
731	Portion of Liver, with the Gall-bladder, injected.		
732	Gall-bladder, laid open; shewing the honey-comb appearance of the mucous coat.		
733	Portion of Gall-bladder, with the Ducts laid open.		
734	Gall bladder, and Biliary Ducts; inflated, dried, and painted green: with the Pylorus, and part of the Duodenum.		
735	Gall-bladder, and Biliary Ducts; with the Pancreas and its Duct, and the portion of Duodenum into which the ducts open themselves.		
	(10.) *The Pancreas.*		
736	The Pancreas, injected from the Duct, which is dissected: a wet preparation.		
737	Dried preparation of the Pancreas; injected from the duct, which is dissected.		
738	Dried preparation of the Pancreas; with its duct opening into the Duodenum, at about three-quarters of an inch from the termination of the Ductus Communis Choledocus.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(11.) *The Spleen.*		
739	The Spleen of a Child or Fœtus.		
740	The Spleen, partially deprived of its Tunic, and washed: the Artery injected with red wax.		
741	The Spleen, deprived of its Tunic, and washed: the Arteries injected.		
742	Sections of the Spleen, washed.		
743	Section of the Spleen, previously injected with wax.		
744	Corroded preparation of the Spleen; injected from the Artery.		Sir A. Cooper.
745	Anterior view of the Viscera of the Thorax and Abdomen.	Old Museum Book, No. 166.	W. Lucas, jun. Esq. Anno 1808.
746	Posterior view of the Viscera of the Thorax and Abdomen.	Old Museum Book, No. 164.	W. Lucas, jun. Esq. Anno 1808.
747	A portion of Peritoneum, injected.		
748	Stomach and Colon of a Fœtus, with the greater Omentum.		
749	A portion of Colon; shewing the Appendices Epiploïcæ.		

The Seventh Section, comprising the Urinary Organs, and the Eighth, Ninth, and Tenth, containing Preparations relating to the Reproduction of the Species, do not require any Preliminary Observations.

SECTION VII.

URINARY ORGANS.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(1.) *Renal Capsules, and Kidneys.*		
750	Kidney, and Glandulæ Renales, injected; from a Fœtus or Infant.		
751	Kidney and Capsula Renalis of a Fœtus, injected.		
752	Capsula Renalis and Kidney of a Fœtus. A dry preparation.		
753	Section of injected Kidney.		
754	Another specimen.		
755	Sections of injected Human and Horse's Kidneys; shewing the Corpora Globosa: dried, and immersed in spirit of turpentine.		
756	Dried Slices of injected Kidney; shewing the Corpora Globosa.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
757	Portion of injected Kidney; shewing a Mammillary Process, and the corresponding Cortical part.		
758	Portions of Kidney; shewing the Mammillary Processes.		
759	Kidney of a Fœtus, with the Tunica Adiposa removed; shewing its lobulated structure, and the Artery, Vein, and Ureter.		
760	Tunic of the Kidney: apparently fœtal.		
761	Dried Section of the Kidney; shewing the vessels injected with red, and the Pelvis and Ureter with green, wax.		
762	Corroded preparation of the Arteries of the Kidney.		
763	Corroded preparation of the Veins and Arteries of the Kidney.		
764	Corroded preparation of the Kidney; shewing the Arteries and Veins, and the extent of the cavity of the Pelvis and Infundibula.		
765	Corroded preparation of the Veins of the Kidney; in yellow wax.		
766	Another specimen.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(2.) *Pelvis of Kidneys, and the Ureters.*		
767	Wet preparation of the Kidney; shewing the Pelvis and Infundibula, which are filled with cold injection.		
768	Impression, in green wax, of the Pelvis and Infundibula of the Kidney.		
769	Impression of the Infundibula and Pelvis of the Kidney, and part of the Ureter, in red wax.		
770	Corroded preparation of the Pelvis and Infundibula of the Kidney: the impression in red wax.		
771	Impression, in red wax, of the Pelvis and Infundibula of the Kidney. A corroded preparation.		
772	Impression of the Pelvis and Infundibula of the Kidney of a Child, in red wax. A corroded preparation.		
773	Impression, in red wax, of the Pelvis and Infundibula of the Kidney of a Child. A corroded preparation.		
	(3.) *The Urinary Bladder.*		
774	Dried preparations of the Bladder; shewing the opening of the Ureters. The Vesiculæ Seminales, and part of the Vasa Deferentia, attached, and filled with green wax.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
775	Bladder, Urethra, and Rectum of a Child, injected, and laid open; shewing the vascularity of the Mucous Membrane, the termination of the Ureters, &c.		
776	The Bladder, injected, and inverted; shewing the Orifices of the Ureters.		
777	A portion of the Lower Part of the Bladder; shewing the Orifices of the Ureters, and of the Seminal and Prostatic Ducts.		
778	The Bladder, closely contracted.		
779	Another specimen.		

SECTION VIII.

GENITAL ORGANS OF THE FEMALE.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(1.) *Ovaries, and Fallopian Tubes.*		
780	Left half of the Uterus, five months after delivery; with the Ovary, Fallopian Tube, and part of the Vagina.		
781	A Section—The counterpart of the preceding; from the right side.		
782	Female Organs, internal and external; with the Rectum and Bladder.		
783	Side View of a Pelvic Viscera, in a Female Infant.		
784	Kidneys, Uterus, and Ovaries, with the vessels injected. A dried preparation.		
	(2.) *Uterus.*		
785	Dried preparation of the Uterus and its appendages: the Veins filled with yellow, and some of the Arteries with red, wax.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(3.) *External Parts.*		
786	External Female Organs of a Child: the Labia, Nymphæ, Præputium Clitoridis, and Hymen.		
	(4.) *Mammæ, and Nipples.*		

SECTION IX.

GENITAL ORGANS OF THE MALE.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(1.) *Testis, Epididymis, and Vas Deferens.*		
787	Testicle, injected: the Tunica Albuginea in part removed.		
788	A Section of the Testicle; with the Tubuli in a great measure removed, to shew the Septa.		
789	The Septa Testis, injected.		
790	The Corpus Highmorianum Testis.		
791	Testicle, injected: dried, and immersed in spirit of turpentine.		
792	The Testicle, and Epididymis, with the Spermatic Artery injected.		
793	The Tubuli Seminiferi, injected: dried, and immersed in spirit of turpentine.		Sir Astley Cooper.
794	Tubuli Seminiferi, and Epididymis, filled with mercury.		Sir Astley Cooper.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
795	Testicle, injected; with the Tunica Albuginea in part removed, to shew the Tubuli disposed in Lobes.		Sir Astley Cooper.
796	Testicle; with the Tunica Albuginea wholly removed, and shewing the Lobes.		Sir Astley Cooper.
797	Testicle, deprived of its Tunic, and shewing the Tubuli Seminiferi partially unravelled.		
798	Testicle, Epididymis, and Vas Deferens: the Tubuli Seminiferi filled with mercury, and partially unravelled.		Sir Astley Cooper.
799	Tubuli Seminiferi, Vasa Efferentia, and Epididymis, filled with mercury.		Sir Astley Cooper.
800	Rete Testis, Epididymis, and Vas Deferens, filled with mercury.		Sir Astley Cooper.
801	Epididymis, and Coni Vasculosi, filled with mercury.		Sir Astley Cooper.
802	The Rete Testis, Vasa Efferentia, and Epididymis, filled with mercury.		
803	Rete Testis, and Epididymis, filled with mercury.		Sir Astley Cooper.
804	Epididymis, and Rete Testis, filled with mercury.		
805	Epididymis, filled with mercury, and shewing its Lobes.		Sir Astley Cooper.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
806	Epididymis, and Vas Deferens, filled with mercury.		Sir Astley Cooper.
807	Epididymis, filled with mercury, and unravelled.		Sir Astley Cooper.
808	Testicle of a Child.		
809	Artery of the Cord, injected with wax: the Epididymis and Vas Deferens filled with mercury.		Sir Astley Cooper.
810	Testicle and Spermatic Vessels, injected with wax, and one of Vasa Deferentia with mercury. Dried preparation.		Sir Astley Cooper.
811	Tunica Vaginalis Testis.		
812	Tunica Vaginalis of a Child.		
813	Abdomen of a Fœtus; shewing the descent of the Testes, which are lodged near the internal rings, and the Gubernacula.		
814	The Abdomen of a Fœtus; shewing the right Testicle at the Abdominal Ring, the left on the Quadratus Lumborum.		
815	The Abdomen of a Fœtus; shewing the right Testicle descended, and the left in the Abdomen.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
816	The Testicle, with the Tunica Vaginalis, and Cord; shewing the Cremaster Muscle, terminating in loops about the Tunic.		
	(2.) *Vesiculæ Seminales.*		
817	Vesiculæ Seminales, filled with green wax: the left unravelled.		
818	Vesiculæ Seminales, filled with yellow wax: a variety having an appendix.		
	(3.) *Prostate Gland.*		
819	Prostate Gland, and Vesiculæ Seminales: the latter filled with mercury.		
820	Prostate Gland, filled with mercury.		
821	Section of the Prostate Gland. The Gland is enlarged; therefore the structure shewn is not quite natural.		
822	Prostate Gland, with part of the Bladder and Urethra; shewing the orifices of the Ureters, and of the Seminal Ducts.		
	(4.) *Cowper's Glands.*		
823	Cowper's Glands.		
824	Cowper's Glands, with their Ducts.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
825	Cowper's Glands, with the Ducts filled with mercury.		
	(5.) *Urethra, and External Parts.*		
826	Penis of an Infant, laid open: the Mucous Membrane injected.		
827	Urethra of an Adult, laid open, and shewing the Orifices of the Lacunæ.		
828	Urethra, laid open; shewing the Lacuna Magna, injected.		
829	Longitudinal Section of the Extremity of the Penis; shewing the Urethra, Glans, Corpora Cavernosa, the fold of Integument forming the Prepuce, and the loose Subcutaneous Cellular Membrane.		
830	A Section—The counterpart of the preceding.		
831	Penis, injected: the Corpus Spongiosum injected from the Artery of the Bulb.		
832	Penis, injected.		
833	Another specimen.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
834	Transverse Section of the Penis; shewing the structure of the Corpora Cavernosa and Spongiosum. The Tunica, and Septa.		
835	Transverse Section of the Corpora Cavernosa.		
836	Thin Transverse Sections of the Penis, inflated, and dried.		
837	Elastic Covering of the Penis; shewing the Pectiniform Septum.		
838	Transverse Section of the Penis: the Corpora Cavernosa filled with yellow wax.		
839	Corroded preparation of the Penis: the Corpora Cavernosa filled with yellow wax; the Corpus Spongiosum, Glans, and Vena Magna, with red.		
840	Corroded preparation of the Penis: the Corpora Cavernosa filled with yellow wax; the Glans, and Vena Magna, with red.		
841	Penis, injected, and corroded.		
842	Penis, with the Vena Magna injected; and the Nerves dissected.		
843	The Symphysis Pubis, with the Triangular Ligament.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
844	Contents of the Male Pelvis; the Arteries and Veins injected. A dry preparation.		
	(6.) *Male Nipple.*		
845	Mammary Gland of the Male, injected.		
846	Mammary Gland of the Male.		
847	Mammary Gland and Nipple of a Male Fœtus.		

GENITAL ORGANS OF THE MALE.

N°.	DESCRIPTION.	Reference to Illustrations.	By whom prepared, or where or-iginal.
844	Contents of the Male Pelvis; the Arteries and Veins injected. A dry preparation.		
	(6.) Male Nipple.		
845	Mammary Gland of the Male, injected.		
846	Mammary Gland of the Male.		
847	Mammary Gland and Nipple of a Male Foetus.		

SECTION X.

PREPARATIONS ILLUSTRATIVE OF UTERO-GESTATION.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	(1.) *Gravid Uterus.*		
848	Gravid Uterus; Arteries and Veins injected. A dried preparation.		
849	Uterus, with Twins at the fourth month of pregnancy: the Placentæ and Membranes shewn.	1st Green Insp. Book, page 26. Case of Eliz. Hammond.	
850	Vessels of the Placenta, unravelled.	Old Museum Book, No. 204.	Mr. Davy's Collection. B. Harrison, Esq.
851	Vessels of the Placenta, and Umbilical Cord, injected. A dry preparation.		
852	Umbilical Cord, injected. A dry preparation.		
853	Fœtus and Membranes, about three months old.		
854	Fœtus, from three to four months old; considered as Female.	Old Museum Book, No. 201.	
855	Fœtus, from three to four months old; considered as Male.	Old Museum Book, No. 202.	

OBSERVATIONS ON SECTION XI.

OF PART I.

WIDELY-different degrees of importance in the Animal Economy have, at various periods and by different persons, been attributed to the Fluids, according to the prevalence of a Humoral or an opposite doctrine in the Pathological systems of the day. This is not the place to enter into the merits of the question; yet it may be allowable to remark, that the systems of Hoffmann and his followers, which have mainly contributed to raise into importance the previously too-much neglected living solid, have had a natural tendency to divert the attention, perhaps more than was meet, from the alterations in the Fluids to which the older Physicians were wont to attribute so much. The good sense of Practitioners, which has not suffered them to be wholly inattentive to the numerous and striking changes of which the Fluids, especially during disease, are the subject; and the labours of those who have devoted their attention to the cultivation of the comparatively new department of Science, "Animal Chemistry;" have, it is true, rescued the animal Fluids from total neglect. It would seem, that a different state of things is at hand. Both in this country, and on the Continent of Europe, symptoms are observable, which render it by no means improbable, that, in the revolution of Medical doctrines, we are at the dawn of a day in which a Humoral Pathology will again seek to be dominant. Whilst we would deprecate this extreme, we must admit that much remains to be done; and it can scarcely be doubted, that numerous and important discoveries will reward the zealous inquirer, and form invaluable additions to Physiological and Pathological knowledge. We are not yet satisfactorily informed of the differences between Arterial and Venous Blood. We

know almost as little of the causes of those manifest varieties which the Blood exhibits in disease, pregnancy, &c. The Chyle and Lymph, Fluids tributary to the Blood, and the various secretions and excretions in which it is in part expended, all demand a more minute examination than they have as yet received; although they have already, in no trifling degree, repaid the labour of many distinguished experimentalists. Amongst these, may be justly signalized, Marcet, Vauquelin, Barzelius, Bostock, Brande, Prout, Chevreuil, and Dowler. The investigations in which Dr. Benjamin Babington is at present engaged, present the promise of supplying some of the desiderata which have been alluded to.

It is not by purely chemical examination that we can hope to obtain all the knowledge which it is desirable that we should possess respecting the animal Fluids. The assistance of a supposed Electric influence has been called in, to explain some of the vital phænomena in which the Fluids are concerned. Two of the greatest Philosophers, whom this or any other country has produced, and whose recent death the Scientific World is at this moment deploring, have lent their names to the sanction of such an hypothesis. Yet few, if any, attempts have been made to bring it to the test of experiment. The labours of the Electro-Magnetists, and more especially of Becquerel, have prepared the way for the elucidation of this interesting subject.

The mechanical constitution of the Blood, and of several other animal Fluids, has long afforded an interesting subject of research to microscopic examiners; from Malpighi and Leeuwenhoeck, down to Home and Bauer, Prevost and Dumas, and Dr. Milne Edwards. On the supposed existence of uniform globular particles in some of these Fluids has been formed a theory of the organization of most of the Tissues; and the presence of Animalculæ in the Semen has led to various speculations on the function of generation. The researches of Prevost and Dumas are the most complete which have been made in reference to

this subject. The following citation, on the microscopical characters of the Blood, Pus, and Milk, concur with those prefixed to some preceding Sections, in militating against the globular theory above alluded to.

Particles of the Blood.—"In our examination of these corpuscles, we have in vain looked for the globular form attributed to them, not only by the older authors, Leeuwenhoeck, Fontana, and Haller, but still more recently by Sir Everard Home and Bauer. Our observations are also at variance with the opinion long since formed by Hewson, that these particles consisted of a central globule enclosed in a vesicle composed of the coloured part; and which, though refuted by Dr. Young, has since, in a modified form, been revived by Sir Everard Home and Bauer, in this country; and by Prevost and Dumas, on the Continent. We have never been able to perceive the separation of the colouring matter, which our countrymen have described as taking place in a few seconds after the particles have escaped from the body; nor can we, with Prevost and Dumas, consider the particles as prominent in the centre.

"The particles of the Blood must unquestionably be classed amongst the objects most difficult to examine with the microscope; partly from the variations of form, to which their yielding structure renders them liable; but, still more, from their being transparent, and composed of a substance which, as Dr. Young has remarked, is probably not uniform in its refractive power.

"These causes of error we have endeavoured to counteract, by varying the mode of observation. We have viewed the particles both wet and dry, both as opaque and as transparent objects, under every variety of power and light; and we lay no stress on observations which have not been confirmed by frequent repetition.

"To us, the particles of human Blood appear to consist of circular flattened transparent cakes; which, when seen singly, appear to be nearly, or quite, colourless. Their edges are rounded, and, being the thickest part, occasion

a depression in the middle, which exists on both surfaces. This form perfectly agrees with the accurate observation of Dr. Young, that on the disks of the particles there is an annular shade, which is darkest on that side of the centre on which the margin is brightest. Though the Doctor drew the obvious conclusion that the disks were concave, he does not consider the fact as demonstrated; since the appearance might be produced by a difference in the refractive power of different parts of the corpuscle.

"This objection we think completely met:

"1st. By their reflecting the erect image of any opaque body placed between them and the light, precisely as a concave lens would do.

"2dly. By the appearance presented by the particles when viewed dry, as opaque bodies. When illuminated by the whole of the Leiberkuhn, the entire margin is enlightened, and, in most of the particles, there is, besides, a broad inner ring, of considerable brightness; whilst the centre, and the space between the two rings, is completely dark. On half the Leiberkuhn being covered, the rings are reduced to semicircles; the outer one being opposite to the light side, and the inner to the darkened side, of the speculum.

"3dly. When fluid Blood having been placed between two slips of glass, the particles happen to be at right angles to the surfaces of the glass, so as to be seen in profile, the two concave surfaces are visible at the same time, or alternately; but more distinctly, if the particles slightly vacillate.

"The concavity of the disks is, however, extremely trifling; and, under particular circumstances, in a few of the particles, the surface is, to all appearance, quite flat.

"Notwithstanding the great uniformity in the size of the particles of the Blood, so long as they retain, unimpaired, the form which they possess on escaping from the body, their real magnitude has been so variously estimated, that we judged it worth while to attempt a new measurement. In doing so, we adopted a method somewhat different

from those hitherto employed. A camera lucida is adapted to the eye-piece of the microscope, in such a manner, that, the distance of the paper being ascertained, the object may be drawn on a known scale. Tracings of several of the images being made, they were applied to, and compared with, the images of other particles, until their accuracy was established.

"The diameter of the particles obtained in this manner may be pretty correctly stated at $\frac{1}{3000}$ of an inch.

"The following measurements, by former observers, are given for the sake of comparison:

Jurine	$\frac{1}{5250}$
Jurine, in a second measurement	$\frac{1}{1940}$
Bauer	$\frac{1}{1700}$
Wollaston	$\frac{1}{5000}$
Young	$\frac{1}{6060}$
Kater	$\frac{1}{4000}$
Ditto	$\frac{1}{6000}$
Prevost and Dumas	$\frac{1}{4076}$

"The thickness of the particles, which is, perhaps, not so uniform as the diameter of the disks, is, on an average to this latter dimension, as 1 to 4·5

"The form and size of the particles of the Blood of other animals have frequently been compared with those of man. Many observations were made for this purpose by Hewson; but, while some of them appear tolerably accurate, others are decidedly far from the truth. Those which have recently been made by Prevost and Dumas are the most extensive and complete which as yet exist. Our attention having been chiefly taken up with the Blood of man, we have not as yet carried our investigation of that of other animals so far as we design doing: we have, however, examined the Blood in all the classes of Vertebrate animals, and in different species of most of them. Our observations completely accord with those of Prevost and Dumas, as to the particles having a circular form in

the Mammalia, and an elliptical one in the other three classes. There are varieties, both in the size and proportion of the particles, in different species. Thus, for example, in the pig and rabbit, the particles have a less diameter, but a greater thickness than in man. We have hitherto invariably found the elliptical particles larger than the circular, but they are proportionably thinner. In birds, the particles are much more numerous, but smaller than in either reptiles or fishes.

"There are numerous interesting phænomena which present themselves when the particles lose their integrity and assume new forms. Changes of this description are occasioned by the spontaneous decomposition which the Blood undergoes a longer or a shorter time after its escape from the body, by mechanical violence, and by the addition of various substances, which appear to exert a chemical action on the matter of which the particles are composed. To these appearances we have been induced to devote the more attention, from their seeming calculated to throw some light on the composition and structure of the particles. We were also desirous of not hastily or rashly denying the existence of those colourless central globules which have been strongly insisted on by Sir Everard Home and Bauer, and by Prevost and Dumas; and which have been regarded not merely by them, but by other distinguished and intelligent Physiologists, as constituting, by their varied combination, the different organic tissues. The separation and detection of these globules is stated to be facilitated by some of the means which effect the changes to which I have alluded; but, as I have already stated, we have in vain looked for these globules.

"After Blood, taken from the living body, has been kept a sufficient length of time for an alteration in the form of the particles to commence—and this, according to circumstances, will be from a very few hours to one or more days—the first change which we have noticed is a notched or jagged appearance of the edge of a few of the particles.

The number so modified continues to increase: some of the particles lose their flattened form, and appear to be contracted into a more compact figure; but their outline continues to appear irregular and notched, and their surfaces seem mammillated. Hewson and Falconar appear to have accurately noticed this change; and have compared the particles in this state to little mulberries. When more time has elapsed, most of the particles lose this irregularity of surface, assume a more or less perfectly globular form, and reflect the image of an interposed opaque body, as a convex lens would do. Some of the particles resist these changes much more obstinately than others.

"If a small quantity of Blood be placed between two pieces of glass, which are afterwards pressed together with some force, several of the particles, however recent the blood, will be materially altered: the smooth circular outline is lost, and, as in the former case, they appear notched: a few seem to be considerably extended by the compression. When the surface of the particles has in this way been broken into, the ruptured part exhibits an adhesive property, capable of gluing it to another particle, or to the surface of the glass; but the particles in their natural state, though often drawn together, or applied to the surface of the glass by the force of attraction, seem to be nearly, or quite, void of adhesiveness.

"There is scarcely any fluid, except Serum, which can be mixed with the Blood without more or less altering the form of its particles; probably in consequence of some chemical change. In this general result, our observations accord with those of Hewson and Falconar, whose experiments of this kind were very numerous. We differ in some of the particulars; but we reserve the detail of these for a future occasion. There is no fluid which, when mixed with the blood, produces a more remarkable and sudden alteration in the appearance of the particles, than water does. With a rapidity which, in spite of every precaution, the eye almost invariably in vain attempts to

follow, they change their flattened for a globular form; which, from the brightness and distinctness of the images which they reflect, as convex lenses, must be nearly perfect.

"Contrary to Sir Everard Home's remark, that the particles in their perfect and entire state are not disposed to arrangement, it is in this state only that we have found them run into combinations, which they assume with considerable regularity. In order to observe this tendency of the particles, a small quantity of Blood should be placed between two slips of glass. In this way, the attraction exerted by one of the pieces of glass counteracts that of the other; and the mutual action of the particles on each other is not interfered with, as is necessarily the case when only one slip is employed.

"When the Blood of man, or of any other animal having circular particles, is examined in this manner, considerable agitation is, at first, seen to take place amongst the particles; but, as this subsides, they apply themselves to each other by their broad surfaces, and form piles or *rouleaux*, which are sometimes of considerable length. These *rouleaux* often again combine amongst themselves; the end of one being attached to the side of another, producing, at times, very curious ramifications.

"When Blood containing elliptical particles is examined in the same manner, it exhibits a not less remarkable, but very different mode of arrangement. Though they are applied to each other by some part of their broad sides, they are not so completely matched one to another as is the case with circular particles; and instead of placing themselves at right angles to the glass, with their edges presented to its surface, they are generally seen nearly parallel to it; one particle partially overlaying another, and their long diameters being nearly in the same line. The lines thus formed are subjected to a kind of secondary combination, in which several assume to themselves a common centre, whence they diverge in radii. It is by no means rare to see several of these foci in the field of the

microscope at one time. The particles at these points appear crowded, confused, and misshapen. This tendency to arrangement is, perhaps, not to be wholly attributed to the ordinary attraction existing between the particles of matter, but is, probably, to a greater or less degree, dependent on life; since we have not only observed that the aggregating energy is of different force in the Blood of different individuals, but that in the Blood of the same individual it becomes more feeble the longer it has been removed from the body. At the same time, we are very far from believing that these, or any other mode of aggregation which the particles of the Blood may be observed to assume, ought to be regarded as at all analogous to the process which nature employs in the formation of the different tissues." The Editor, in his Thesis, briefly stated this opinion, which he was induced to form *à priori*."

Pus.—"As far as we have yet examined this secretion, its particles appear to be as irregular in size and figure as those observed in the Brain, and bear no resemblance to those of the Blood." (See the Paper before mentioned.)

Milk.—"In this fluid, the particles appear to be perfect globules; but, far from being uniform, they present the most remarkable varieties in respect to size. Whilst some are more than double, others are not a tenth-part of the size of the particles of the Blood, to which they bear no resemblance." (See the Paper before mentioned.)

SECTION XI.

PREPARATIONS ILLUSTRATIVE OF THE FLUIDS.

*** In consequence of the smallness of the number of these Preparations, it has not been thought necessary to make two Sections of the Healthy and Pathological Specimens.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
856	Fibrine, separated, by agitation, from recent blood, and washed.		C. A. Key, Esq.
857	Dried Fibrine, weighing 28.1 grains, from ten drachms of blood.		
858	Coagulated Serum.—A sediment has formed, containing numerous brilliant particles resembling metallic sand; probably produced by the separation of an iridiscent coating deposited on the glass by slow decomposition.		
859	Albumen, coagulated.		Sir Astley Cooper.
860	Another specimen.		
861	Crassamentum of Blood, cupped and buffed; from a patient labouring under apoplexy.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
862	Crassamentum of Blood, much cupped and buffed; from a patient labouring under inflammation.		
863	Section of Crassamentum, from the blood of a patient labouring under inflammation.—The under surface is deeply cupped as well as the upper; probably, in a great measure, the effect of the rectified spirit in which it is placed.		
864	Section of Blood, drawn during inflammation. The buff of unusual thickness.		
865	Crassamentum of Blood, having a remarkably milk-white coating. From a patient whose urine was milky, and often coagulated spontaneously. Also a specimen of the Urine thus coagulated.—(See Prep^{n}. 878.)		Sir Astley Cooper.
866	Blood, in which the Crassamentum is firm, and bears a very small proportion to the Serum.—There is a considerable iridiscent deposit on the glass, the effect of the slow decomposition of the Serum.		
867	Crassamentum from the Blood of a Horse, drawn during inflammation. The buff of very great thickness.		
868	Section of Crassamentum, from the Blood of a Horse; drawn during inflammation.		
869	Sap from a Vine.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
870	Chyle.		
871	A mixed substance, of a fluid and grumous consistence, chiefly composed of Blood; and which appears to have been taken from a Hæmatocele.		
872	Another specimen.		
873	Menstrual Fluid, which had been retained by Imperforate Hymen. From a patient of Sir Astley Cooper's.	Old Museum Book, No. 109.	
874	Another specimen.		
875	The Fluid from Hydrocele; containing abundance of Albumen, which has been coagulated.		
876	Puriform Fluid, from Ovarian Dropsy.		
877	Urea.		Dr. Prout.
878	Urine, spontaneously coagulated, and mixed with red particles of blood; from a Lad, 14 years of age, a patient of Sir Astley Cooper's. The complaint was of about 18 months' standing: it was attended with little or no pain or inconvenience, further than that there was evident debility and paleness. The urine passed in the morning coagulated like this specimen: that passed in the day-time did not do so, but resembled milk, both in appearance and smell, but had a redder tinge.		Sir Astley Cooper.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
879	Diabetic Urine, reduced to an extract, in the form of molasses.		
880	Extract, resembling treacle, and weighing eight drachms and fifteen grains; from one pound of Diabetic Urine, of the specific gravity 1.025.		
881	Extract, resembling treacle, from Diabetic Urine.		
882	Another specimen		
883	Diabetic Urine, much concentrated, and containing a large quantity of solid matter, imperfectly crystallized.		
884	Brown crystallized saccharine matter, obtained from the evaporation of Diabetic Urine.—Ten ounces yielded 214 grains.		
885	Oxalic Acid, produced from three ounces of a white solid mass; obtained from Diabetic Urine.		

SECTION XII.

MISCELLANEOUS, ON THE GROUND FLOOR.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
886	Skeleton of a small Female. The bones of the extremities, especially of the lower, are much distorted from Rickets. The Pelvis is slightly distorted.		
887	Skeleton of a Negro, who was executed for piracy.		
888	Skeleton of a Male subject, of which both the Ossa Femorum are greatly enlarged, from Periosteal inflammation induced by mercury. Both Humeri, and the left Tibia, are also affected; and some other bones slightly so.		
889	Skeleton of a Man, affected from infancy with Chronic Hydrocephalus. It is of moderate stature, but the bones are very slender. The Cranium measures 33 inches in circumference. He died at the age of 27 years.	Miscellaneous Insp. Book. Case of J. Cardinal.	
890	Skeleton of a Native of O-wy-hee. He came to this country as a sailor, and died shortly after; apparently aged between 50 and 60. Both jaws are nearly edentulous, probably from the extraction of the teeth as a sign of mourning. (See Prep^ns. 420, 422, and 2008.)	1st Green Insp. Book, page 22.	

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
891	Skeleton of John Birt, executed at Horsham for the murder of his Child, while attempting the murder of his Wife. In the affray, he mortally wounded his child with a knife, which also penetrated the breast of his wife.		Walter Dendy, Esq.
892	Skeleton of an Adult Male.		
893	Natural Skeleton of a Child, made by Mr. Lucas.		Mr. Lucas.
894	Natural Skeleton of a Sweep, much distorted from Mollities Ossium, and exhibiting numerous fractures.		
895	A set of separated Bones of the Head.		Dr. Hodgkin.
896	Another set.		Dr. Hodgkin.
897	Thorax, with the Cervical and Lumbar Vertebræ.		
898	Male Pelvis, articulated.		
899	Female Pelvis, articulated.		
	SPECIMENS OF BONES, FOR LECTURES AND DEMONSTRATIONS. Arranged in Drawers.		
	Bones of the Upper Extremity.		
900	Vertebræ : strung. Dorsal Vertebræ : strung. Lumbar ditto : ditto. Some Sections of Cervical Vertebræ.		

MISCELLANEOUS, ON THE GROUND FLOOR.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
901	Five Sacra. One Os Coccygis.		
902	Four Ossa Sterni.		
903	One Set of right Ribs: wired. One Set of left ditto: ditto. Fifty-three loose Ribs, from both sides.		
904	Three Occipital Bones. One Os Triquetrum.		
905	Twelve Temporal Bones. The Small Bones of the Tympanum, in a box.		
906	Five right Parietal Bones.		
907	Four left Parietal Bones.		
908	Seven Sphenoïd Bones.		
909	Two Ethmoïd Bones.		
910	Two corresponding superior Maxillary Bones, united. Seven separate superior Maxillary Bones. One dried Section of the Nasal Cavities.		
911	Six Ossa Palati.		

MISCELLANEOUS, ON THE GROUND FLOOR.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
912	Seven Malar Bones.		
913	Seven Ossa Nasi.		
914	Three Ossa Unguis.		
915	Four Vomera.		
916	Thirteen inferior Turbinated Bones.		
917	Six inferior Maxillæ.		
918	One Basis of the Scull.		
919	Another specimen.		
920	Two Calvariæ.		
921	A Box, with Preparations of the Internal Ear.		
922	Twelve Clavicles. Five Scapulæ.		
923	Nine Ulnæ. Eleven Radii. One articulated Scapula, Clavicle, and Upper Extremity. Two Hands, articulated.		
924	An entire Set of Bones of the right Hand.		
925	Four Scaphoïd Bones.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
926	Four Ossa Lunaria.		
927	Four Ossa Cuneïformia.		
928	Two Pisiforme Bones.		
929	Four Ossa Trapezia.		
930	Four Trapezoïd Bones.		
931	Four Ossa Capitata.		
932	Five Ossa Unciformia.		
933	Numerous loose Bones of the Metacarpus and Phalanges.		
934	Several articulated Phalanges.		
	Bones of the Lower Extremities.		
935	4 Ossa Innominata. 4 Ossa Femorum. 6 Patellæ. 4 Tibiæ. 8 Fibulæ. 1 Articulated Leg and Foot. 2 Articulated Feet.		
936	One entire set of Bones of the right Foot.		
937	Four Ossa Calcis.		

MISCELLANEOUS, ON THE GROUND FLOOR.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
938	Five Astragali.		
939	Several loose Scaphoïd, Cuboïd, and Cuneïform Bones.		
940	Numerous loose Metatarsal, Phalangeal, and Pisiform Bones.		
941	A Box, with a glass cover, containing upwards of 72 specimens of Urinary Calculi, arranged according to the order adopted by Dr. Prout. Many of them are the counterparts of sections described in Part II.	See the accompanying List.	
	Comparative Skeletons.		
942	Skeleton of a Horse.		
943	Skeleton of an Elephant.		Lieut. Col. Herriot, 22d Foot.
944	Cranium and Lower Jaw of the Hippopotamus.		
945	A Cat, with a Rat in its mouth. Both animals were found, perfectly dried, in the roof of a house in St. Saviour's Church-yard.		B. Harrison, Esq.
946	Skeleton of the Mustella Putorius.		
947	Skeleton of a Fœtal Calf, with two Heads and Necks.		Sir Astley Cooper.
948	Skeleton of the Emew.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
949	Skeleton of a Heron.		
950	Skeleton of an Iguana, in a glass-case.		J. Dalrymple, Esq.
951	Skeleton of a Lizard, in the same case as the preceding.		J. Dalrymple, Esq.
952	Skeleton of a Salamander, in the same case as the preceding.		J. Dalrymple, Esq.
	Injected Preparations.		
953	A dry preparation of the left Arm; shewing the Arteries, Veins, and Nerves.		
954	Another specimen.		
955	A dry preparation of the five Lumbar Vertebræ, with the left half of the Pelvis and Leg of a Female; shewing the Arteries, Veins, and Nerves, with a portion of the Bladder and Uterus.		
956	The right Arm of a Black, with the superficial Absorbent Vessels, injected by Sir Astley Cooper		Sir Astley Cooper.
957	A dry preparation of a young subject, with the Arteries and Veins injected.		
958	A dry preparation of a Fœtus, injected; affected with Spina Bifida and Hydrocephalus. The Ossification of the Bones of the Head very incomplete, and the portions of the Os Frontis remarkably cribriform.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
959	Dried and injected preparation of the Axilla, from a patient whose Subclavian Artery was tied for Aneurism by B. B. Cooper, Esq.—The operation was followed by the formation of a large Abscess.	Miscellaneous Insp. Book. Case of — Weston.	
960	Dried and injected preparation of the right half of the Pelvis and Thigh, from a man whose external Iliac Artery was tied for Aneurism by Sir Astley Cooper.—The patient survived the operation upwards of 14 years. The Anastomosing branches large and tortuous.		
961	The left half of the Pelvis and Thigh, from a patient whose external Iliac Artery was tied for Aneurism by John Morgan, Esq.—The man survived three weeks after the operation. There is considerable Ossification of the Arteries.		
962	The Bones of a Fœtus, arranged on a black ground, framed and glazed. —This preparation was made by Mr. De Lestre.		
963	Portions of Blades and Handles of Knives, and a Metallic Button, found in the stomach and intestines of John Cuming, who died in Guy's Hospital ten years after having swallowed them at different periods, by way of feat. (See Prep^ns. 961 and 1800.)	Red Insp. Book, p. 259. Cuming's History of himself, and Medico-Chirurgical Transactions, Vol. XII.	

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
964	Several portions of Blades and Handles of Knives passed per anum, on different occasions, by John Cuming, before his admission into Guy's Hospital.		Dr. Lara; and — Kelly, Esq. Surgeon to H.M.S. Isis.
965	Scull and Lower Jaw, on which the different Bones and Processes are marked. On a mahogany stand, with a glass-cover.		R. Stocker, Esq.
966	Separate Bones of the Head, mounted in juxta-position, to shew their relative situation.		
967	Foot of a Negro affected with Elephantiasis.		R. C. Thomas, Esq. Barbadoes.
968	Spleens of Man, and Sheep, filled with yellow wax.		Sir Astley Cooper.
969	Sections of a Human Foot, of which the soft parts have been converted into Adipocere, by long maceration.		
970	Gorgonia Flabellum (Veneris).		John Morgan, Esq.
971	Madrepora Cerebrum.		Jas. Browell, Esq.

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
	MODELS, AND CASTS, ILLUSTRATIVE OF DESCRIPTIVE ANATOMY, &c. *⁂ Those connected with Morbid Anatomy, are described in a subsequent part.		
972	Model of a Human Skeleton, in plaster, on a small scale. Made by Joseph Towne, Esq.		
973	Model of the Sphenoïd Bone, in plaster; three times the natural size.		
974	Model of the small Bones of the Ear; on an enlarged scale.		
975	Model of the left Temporal Bone, with the internal Ear exposed; on a large scale. Made by M. Dupont of Paris.		
976	Model of part of the Temporal Bone, with the external Ear exposed; on a large scale. Made by J. Towne, Esq.		
977	Another Model, on an enlarged scale, in which the external Ear and Tympanum are partially shewn. Made by J. Towne.		
978	Model of a part of the Petrous portion of the Temporal Bone, on an enlarged scale; shewing the Labyrinth.		
979	Plaster Figure of Atlas: the superficial Muscles strongly marked.		Brookes's Collection. J. Morgan, Esq.
980	Bust of Dr. Mead.		
981	Bust of Mr. Belcher, formerly Surgeon to Guy's Hospital.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
982	Bust of Patrick O'Brien, the Irish Giant.		
983	Bust of Horace Smith; on which the Phrenological Divisions are marked, according to the System of Dr. Spurzheim.		
984	A Plaster Model of the Torso Belvidere.		
985	A Plaster Model of part of an antique Statue of Venus.		
986	Cast of the Knee and Hand, from the Antique.	Cat. I. 92.	Brookes's Collection.
987	Plaster Cast of the Human Figure; with the skin removed, to shew the superficial Muscles.		
988	Cast; shewing some of the Muscles, the Ligaments and Tendons, of the Hand.		
989	Cast; shewing some of the Muscles, the Ligaments and Tendons, of the Foot.		
990	Wax Model of the Head, with the Calvaria removed; shewing the Brain and its Membranes. Made by J. Towne, Esq.		
991	Wax Model of the Brain, included in the Pia Mater: the inferior surface particularly shewn, with the origin of the Nerves, and the Arterial Circle of Willis. Made by J. Towne, Esq.		

N°.	DESCRIPTION.	Reference to History.	By whom presented, or whence derived.
992	Another specimen. Made by J. Towne, Esq.		
993	Wax Model of a Section of the Brain; shewing the Lateral Ventricles, and their contents. Made by J. Towne, Esq.		
994	Wax Model of a preparation of the Head and Neck; shewing a longitudinal Section of the Brain, the origin of the Cerebral and Cervical Nerves, the contents of the Orbit, and the Muscles and Nerves of the left Side of the Face. Made by J. Towne, Esq.		
995	Wax Model of a Section of the Head and Neck; shewing the Cavities of the Nose and Mouth, the Trachea, and Pharynx. Made by J. Towne, Esq.		
996	Wax Model of the parts of Hernia in the Male: dissected. Made by J. Towne, Esq.		
997	Wax Model of the parts of Hernia in the Female: dissected. Made by J. Towne, Esq.		
998	Wax Model of the Gravid Uterus, Fœtus, and its Membranes.		
999	Manuscript Anatomical Chart, exhibiting at one view the Descriptive Anatomy of the Human Body. Compiled and written by the late George Tully, formerly Assistant Curator of the Museum.		Mr. G. Tully.