Anatomia Britannica: a system of anatomy. Illustrated by upwards of 300 copper plates, from the most celebrated authors in Europe. In six parts ... / The work approved of by Dr. A. Monro ... And conducted by A. Fyfe, his assistant. Pts. I and II [& III].

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ANATOMIA BRITANNICA:

A

SYSTEM OF ANATOMY.

ILLUSTRATED BY UPWARDS OF

THREE HUNDRED COPPERPLATES,

FROM

THE MOST CELEBRATED AUTHORS

IN

EUROPE.

IN SIX PARTS.

BY ANDREW BELL, F. S. A. S.
ENGRAVER TO HIS ROYAL HIGHNESS THE PRINCE OF WALES.

THE WORK APPROVED OF BY
DR ALEX. MONRO, PROFESSOR OF ANATOMY, &c. IN THE UNIVERSITY OF EDINBURGH.

AND CONDUCTED
BY *ANDREW FYFE*, HIS ASSISTANT.

DUM AUDES ARDUA VINCES.

PARTS I. & II.

EDINBURGH:
PRINTED FOR ANDREW BELL, ENGRAVER.
M,DCC,XCVIII.

TO

ALEXANDER MONRO, M. D.

PROFESSOR OF MEDICINE AND OF ANATOMY

IN THE

UNIVERSITY of EDINBURGH.

SIR,

YOU have long filled the Anatomical Chair of this University with an ability and a reputation that have done honour to your country. Your desire to promote, on every occasion, the instruction of your pupils is universally acknowledged. A work of this kind, therefore, if properly executed, must naturally obtain your patronage and protection.

IT was not without diffidence that I was prevailed upon to engage in an undertaking which requires so much labour and accuracy: But the specimens I laid before you having been so fortunate as to receive your approbation, this circumstance encouraged me to proceed in publishing the Tables of the celebrated ALBINUS upon the Bones and Muscles of the Human Body.

THE London Edition of this elegant and masterly performance is now scarce; and the Plates have become faint by frequent impressions. From these considerations, and others mentioned in the Preface, I flatter myself, that the present Edition will facilitate the study of Anatomy, the knowledge of which is so essentially necessary to all who design to follow the practice of Physic or of Surgery. I am,

SIR,

With the greatest Respect,

Your most obedient

And most humble Servant,

ANDREW BELL.

EDINBURGH, FEB. 17. 1777.

PREFACE.

THE parts of which the human body is compoſed, are extremely numerous and complicated. It is, perhaps, this circumſtance alone which has deterred any ſingle perſon from attempting to publiſh a ſet of Tables that ſhould comprehend exact delineations of the whole.

THE Tables of Euſtachius are the moſt extenſive that have hitherto appeared: And, if he had been equally ſkilled in the arts of deſigning and engraving *, as he was accompliſhed in the ſcience of anatomy, Albinus would never, perhaps, have beſtowed ſo much time, labour, and expence in travelling over the ſame ground.

THOUGH Albinus was a compleat maſter of the ſubject, and though he was actuated by the moſt ardent deſire of accompliſhing his favourite deſign, and had the aſſiſtance of an able artiſt; yet he laid aſide entirely the labour of ſeveral years, becauſe the execution did not anſwer the ideas he had conceived. He ſet out with planning the muſcles; and was very anxious to have them exactly expreſſed in the figures, not ſingly alone, but in the order they lie with reſpect to each other. But, as many of the muſcles are ſituated behind others, it became neceſſary to divide them into certain orders or layers; the firſt of which ſhould contain thoſe that lie immediately under the integuments; the ſecond, thoſe next the former; and ſo of the reſt. He was therefore deſirous that the members ſhould not only be kept in the ſame poſition, while the figures of the different layers were drawing, but that theſe layers ſhould be exactly continued into one another, and that, by this means, they might all appear in the ſame manner as they do in the body when placed in the ſame light and attitude.

BUT, though the views drawn according to this plan were executed with much dexterity, Albinus found it impoſſible to point out to the engraver, the ſeveral ſizes, directions, inſertions, and connections of the internal muſcles, in ſuch a manner, that they could be diſtinctly expreſſed in the drawings. This circumſtance obliged him to have recourſe to another method, which he candidly acknowledges muſt have been that which Euſtachius had followed: And, about the end of the year 1725, he prepared a male ſkeleton of full growth and firmneſs, and which diſcovered the ſigns of elegance, ſtrength, and agility. After cleaning the bones, he allowed the ligaments which unite them to remain, in order to keep all the parts in their proper ſituations. And, having procured an iron tripod, for the purpoſe of ſuſpending and fixing the ſkeleton, he next tied a cord round the upper part of the ſpine, and, paſſing the end of it through a ring fixed in the ceiling, he raiſed the trunk of the ſkeleton in ſuch a manner as to let the lower end of it reſt upon the back limb of the tripod; and then fixed the rope to a hook in the wall. By the aſſiſtance of other ropes, in various directions, the poſition of the ſkeleton was adjuſted from a lean naked man ſtanding in that natural and elegant attitude in which the tables of the ſkeleton are repreſented.

HIS next care, after finiſhing the poſture of the ſkeleton, was to have an exact figure of it drawn. For this purpoſe, he provided a wooden quadrate, having the intermediate ſpace as large as the ſkeleton, and the whole equally divided into little ſquares, all of the ſame ſize, by means of ſmall cords ſtretched out between them. After fixing the proper point of view, the engraver directed his eye to the ſkeleton through a ſmall hole: And, his paper being divided into the ſame number of ſquares with the quadrate, ſuch parts of the ſkeleton as appeared through the ſquares of the quadrate, he drew in the correſpondent ſquares upon the paper. By this method, the drawing was kept in exact proportion with the original; and the engraver, in the ſpace of three months, finiſhed the fore, the back, and the ſide views of the ſkeleton.

IN theſe three figures, the poſture of the ſkeleton, together with the poſition and connection of all the bones, were accurately expreſſed: But the ligaments that remained on the joints, though they had been cut, in order to obtain a view of thoſe parts of the bones which they concealed, prevented the drawings from being finiſhed till the bones ſhould be cleaned. He therefore took down the ſkeleton, and had all the bones perfectly cleaned: But he deferred the finiſhing of his figures, till he had each of the bones ſeparately engraved of the natural ſize, which employed him till the year 1733, when he returned to the figures. The engraver having then examined all the bones according to their poſition in the figures, ſupplied every deficiency he could obſerve.

THE drawings being thus compleated, Albinus, ſtimulated both by an affection to the work, and an earneſt deſire to improve anatomy, propoſed, as ſoon as they ſhould be engraved, to try if he could perfect what he had conceived, by adding the muſcles to them. Neither was he unprovided for this attempt; as, from the time that the firſt draughts of the ſkeleton were made, he, by the conſent of his pupils, every year traced the muſcles carefully, in order to obſerve more particularly their poſition, connection, figure, thickneſs, and ſubſtance, and carefully preſerved all of them he could in a proper liquor, together with the bones, and other parts to which they are connected. Theſe were all choſen from the beſt ſubjects; ſo that, in proceſs of time, having collected a great number of detached obſervations, he digeſted and compoſed from them his hiſtory of the Muſcles; ſince the publication of which, he has added many improvements that were ſuggeſted by his frequent diſſections.

THUS prepared, and animated with firmer reſolution, and more ſanguine hopes, he began to add the muſcles to the figures of the ſkeleton in the year 1738. From a ſubject furniſhed with large and thick muſcles, and upon a faint impreſſion of the outline of the figure of the ſkeleton, he had drawn the external layer of the muſcles of the trunk, neck, and extremities; thoſe that were ſituated below them were taken from other ſubjects as like the firſt as poſſible; and the whole was adapted to the figure of the ſkeleton. But, in delineating the external layers of the muſcles, it was difficult to diſcover their proper poſition with reſpect to the ſkeleton, becauſe moſt part of it was covered by them. Although much care and attention were exerted; yet, as the internal layers, by the ſkeleton's being more expoſed, ſhowed what was defective, the external layers were afterwards, by this means, corrected.

* Euſtachius both drew and engraved his Tables.

THERE are two kinds of tables in which the whole work is comprehended: The firſt contains the general connection and diſpoſition of the muſcles over the whole body; and the other contains the figures of each muſcle when ſeparated from the reſt. The firſt ſet of tables exhibits four fore, and as many back views, and a ſide view of the whole body. In the fore and back views, all the different layers of the muſcles are ſucceſſively delineated; and, although, from theſe the ſituation of the muſcles on the ſides may be tolerably well underſtood, yet he has added a ſide view of the external layer, that his ſyſtem might appear full and diſtinct. He has likewiſe delineated, apart, ſome claſſes of muſcles, ſituated in the cavities of the orbit, under the jaws, about the pelvis, and in the ſoles of the feet, as theſe could not be properly expoſed in the views of the whole body.

THE figures of the ſingle muſcles are conſiderably larger than thoſe of the general tables, by which means they repreſent every part more fully and accurately.

HAVING thus given a ſhort ſketch of the nature of the work, and of the labour and attention with which it was executed, we ſhall conclude with a few remarks concerning the preſent edition.

1. THE former editions of Albinus are of ſuch an enormous ſize, that they can neither be eaſily arranged in a library, nor read without ſtanding and ſtooping. To obviate this inconveniency, after perceiving that all the parts and characters could be expreſſed with equal diſtinctneſs, the preſent ſize was adopted.

2. IN the London edition, as well as in that publiſhed by Albinus himſelf, the ſmall Roman characters are employed in the explanations, and, to correſpond with them, the ſmall Italic letters are engraved on the plates; which is a great embaraſſment to the ſtudent. This impropriety we have avoided, by making the characters in the explanations the ſame with thoſe in the tables. But, in the former editions, a ſtill greater difficulty ariſes from the frequent uſe of the Greek alphabet; many of the letters of which are ſo inaccurately repreſented in the engravings, that, though the reader ſhould have a familiar acquaintance with the Greek, unleſs he be likewiſe maſter of the ſubject, he will be often at a loſs to trace out the characters he is in queſt of. Tho' theſe faults might have been corrected in this edition, it was thought more expedient, for the eaſe of thoſe who are not verſant in the Greek, to ſubſtitute Italic capitals in the place of the Greek capitals, and ſmall Italic letters in place of the ſmall Greek.

To render this edition of ſtill more utility, we have added to the deſcriptions of the ſeparate muſcles, a ſhort account of their uſes in the ſyſtem, in hopes that the giving reaſons for the particular figure, ſituations, and connections of each muſcle will be both more alluring to the ſtudent, and leave a deeper impreſſion of them on his mind.

THE outlines are likewiſe engraved in a bolder manner than in the original, in order to make the expreſſion of the different parts more diſtinct and apparent.

N. B. When the work is finiſhed, for the more ready conſulting the tables, the explanations will likewiſe be printed off in an octavo ſize, and ſold ſeparately, at a moderate price.

PREFACE.

THE progreſs of improvement, in every Art and Science, may juſtly be ſaid to have been greater, and more extenſively diſſeminated, within the ſhort ſpace of time which has elapſed ſince the Arts of Printing and Engraving were invented, than for thouſands of years previous to that period.

Nor only is almoſt every Science now taught by learned Profeſſors, but complete Treatiſes of each are publiſhed, which afford opportunities to the curious inquirer of procuring an intimate acquaintance with the objects of his favourite ſtudy.

THOUGH the progreſs of improvement in Anatomy has kept pace with that of the other Sciences, yet that knowledge, which might otherwiſe have been acquired, has, in ſome degree, been retarded by the want of a complete and comprehenſive Syſtem, accompanied with proper delineations of the numerous parts of which the Human Body is compoſed: For, without ſuch delineations, no language is ſufficient to convey juſt ideas of thoſe parts, and of their mutual influence upon one another. Whether this defect has proceeded from the very great labour and expence which muſt neceſſarily attend the Publication of a ſeries of Plates, ſo extenſive as to exhibit all the parts employed in performing the different functions of the Body, or from other cauſes, it is certain, that no ſuch Syſtem has appeared ſince the commencement of this century. Since that æra, however, many ingenious and learned men, both in Britain and in other countries, have favoured the Public with the reſult of their labours in thoſe various branches of Anatomy, which accident or inclination led them more eſpecially to cultivate. By collecting theſe different Works, a Library might indeed be formed, which would contain all the Anatomical knowledge that has hitherto been acquired. But, beſides the enormous expence of ſuch a collection, ſome of the moſt valuable Works are ſcarce, and others are entirely out of print. Hence this intereſting Science is leſs generally underſtood than its importance deſerves.

To remove theſe inconveniences, by giving as complete a view as poſſible of the various parts which compoſe the Human Body, is the profeſſed object of the preſent Work. This undertaking was in contemplation for ſeveral years before its commencement; and it is now upwards of twenty ſince it was ſeriouſly begun. During that period, the Plan has been conſiderably enlarged by the acquiſition of new Publications; and it is preſumed, that, when finiſhed, it will be found the moſt extenſive Work of the kind that was ever offered to the Public. It will conſiſt of upwards of three hundred Plates, ſelected from the Works of the moſt eminent Anatomiſts, particularly thoſe of Euſtachius, Duverney, Zin, Albinus, Haller, Morgagni, Waltherus, Monro, Hunters, Hewſon, the Vicq. d'Azir, &c. &c.; and from that ſcarce and valuable Publication of Bidloo, which appeared under the name of Cowper's Anatomy. Such a Publication, by exhibiting exact repreſentations of the Human Body, as a whole, and of all the different parts of which it is compoſed, and by conjoining with theſe full explanations of the different parts, cannot fail greatly to facilitate the ſtudies of thoſe Gentlemen whoſe profeſſion renders a thorough knowledge of Anatomy indiſpenſably neceſſary. It will likewiſe afford to every man of learning and taſte, who is deſirous of acquiring natural knowledge, and conſequently anxious to obtain an acquaintance with the ſtructure of his own Body, an eaſy method of gratifying that rational curioſity.

THE

In every Work of this kind, the Engravings conſtitute the principal part; the importance of Engraving, to illuſtrate Phyſical Science, cannot be more clearly pointed out than it has been by the late learned Dr Hunter, in the Preface to his Gravid Uterus.

" The Art of Engraving," ſays he, " ſupplies us, upon many occaſions, with what has been the great deſidera-
" tum of the Lovers of Science, an univerſal language. Nay, it conveys clearer ideas of moſt natural objects
" than words can expreſs; makes ſtronger impreſſions upon the mind; and, to every perſon converſant with the
" ſubject, gives an immediate comprehenſion of what it repreſents.

" From the time when this Art came more generally into uſe, it has been more eaſy both to communicate
" and preſerve diſcoveries and improvements; and natural knowledge has been gradually riſing, till it has at
" length become the diſtinguiſhing characteriſtic of the moſt enlightened age of the world.

" Anatomy has at leaſt kept pace in improvement with the other branches of natural knowledge. Many of
" the moderns, through much labour and patience, as well as ingenuity and judgement, have thrown conſider-
" able light upon the ſtructure and operations of the Human Body; and they have, particularly by Engravings,
" made the ſtudy of that Art, in which humanity is ſo much intereſted, both more eaſy and pleaſant. Moſt of
" the principal parts of Anatomy have, in this manner, been ſucceſsfully illuſtrated."

But, though Engraving be of ſuch conſequence to the illuſtration of Anatomy, it does not follow, that every Engraver muſt be an Anatomiſt; and the Reader may be diſpoſed to aſk, What induced me to turn my attention particularly to that Science? To this queſtion, which is natural, I give the following anſwer.

In 1742, the Members of the Medical Society of Edinburgh, commenced the laudable attempt of compiling a Set of Tables for the uſe of the Students in the Univerſity, and the engraving of them was committed to Mr Richard Cooper, the principal Artiſt at that time in his line. I was then his Pupil, with my much eſteemed friend, the late Sir Robert Strange, whoſe works will continue to be admired while a taſte for the Fine Arts remains.

Though the deſign of the Medical Society was ſoon fruſtrated, the concern which I had in the Engravings, excited my attention to the Science of Anatomy, and led me to perceive many of the advantages that would have reſulted from its ſucceſs: I therefore reſolved, ſo ſoon as my other avocations would permit, to contribute my endeavours to ſupply what appeared of ſo much importance.

Accordingly, in 1778, I publiſhed a commodious edition of Albinus's Tables of the Bones and Muſcles; and this Work meeting with the approbation of Dr Monro, and other Profeſſors, both here and at London, I was encouraged to proceed to engrave the whole Faſciculli of Haller, which appeared to be ſo comprehenſive, that I concluded with the addition of a few Plates ſelected from the moſt eminent Authors, it would ſerve as a Supplement to Albinus, and when conjoined, would form what might be termed a Syſtem of Anatomy. But, after having arranged and ſpread out the whole Tables before me, I diſcovered ſo many blanks and vaſt chaſms, which it was neceſſary to fill up, in order to make one whole, that, deſpairing of ever being abe to complete the Plan which I had conceived, I abandoned the undertaking.

I was in this ſtate of deſpondency, with regard to my intended Syſtem, when fortunately I met with Cowper's

Anatomy,

Anatomy, a Work which I had not ſeen for upwards of forty years. The Plates are in folio, delineated and engraved by ſome of the beſt Flemiſh maſters, who flouriſhed at the cloſe of the laſt century. They are deſigned in a ſyſtematic arrangement, and correſpond ſo well one with another, that they appeared to me fully to ſupply what was wanting to complete this undertaking; which induced me again to direct my attention to the ſubject.

Though few authors have attempted to publiſh a complete Syſtem of Anatomy, deterred, perhaps, by the expence of the Plates which it would require; yet many have favoured the Public with accurate delineations of ſuch parts as their different inclinations led them more minutely to examine.—Veſalius of Bruſſels, about the middle of the ſixteenth century, publiſhed his Anatomy, which was of the utmoſt ſervice, by the important diſcoveries he made; and his Figures were eſteemed maſterpieces of Painting.

Eustachius, at Venice, in 1563, publiſhed ſeveral of his diſcoveries, but the great Work which he promiſed was not ſeen till 150 years after, when the Plates were found in an old cabinet, and publiſhed in 1714, by Lanciſſi, the Pope's Phyſician, who, as the writings of Euſtachius could not be found, added to them a ſhort explanatory text; and ſoon after another edition was publiſhed by Albinus, with fuller explanations.

Excepting Libavius's deſcription, in 1616, of Transferring the Blood of one Animal into another, no remarkable diſcovery was made after Euſtachius, till 1628, when the immortal Harvey diſcovered, and demonſtrated, that important phenomenon, the Circulation of the Blood.

In the courſe of laſt century, ſeveral other uſeful diſcoveries were made, ſuch as the Pancreatic Duct, in 1642, by Virtſungus; and the Lymphatic Veſſels, by Bartholini. But none attempted to publiſh a Syſtem which ſhould contain the new diſcoveries, till Johannes Swammerdam publiſhed ſeveral Treatiſes; and in that on Reſpiration, he mentions his having Figures of all the parts of the Human Body cut on Copperplates, which he intended to publiſh, with a complete Syſtem of Anatomy. Theſe Plates, however, were never made public by Swammerdam; but in 1683, Gothofridus Bidloo, Profeſſor of Anatomy at Leyden, publiſhed a Work, entitled, Anatomia Corporis Humani, where all the parts are delineated almoſt as large as the life. Mr Cowper, an Engliſh Surgeon, bought 300 copies of theſe Plates, and, in 1698, publiſhed them, with large Explanations in Engliſh, after adding ſeveral important Figures of his own, and prefixed his name to the Work. This edition was afterwards reviſed and publiſhed by Albinus; and many believe that theſe are the Tables promiſed by Swammerdam, and which Bidloo had got from his Widow. Theſe are the Tables mentioned above; and from them I have ſelected a conſiderable number, which are ingroſſed in this Work.

Since the commencement of the preſent century, Albinus, endued with an ample fortune, and aſſiſted by an accompliſhed Artiſt, certainly propoſed to himſelf to complete a Syſtem; but, notwithſtanding the ardour with which he perſevered in his deſign *, he lived only to complete his excellent Syſtem of the Bones and Muſcles. How much, then, is it to be regretted, that the learned Haller, Waltherus, and others, did not enter into his ideas, and publiſh their valuable Works in a Syſtematic Arrangement!

M. Vicq. D'Azir, in the year 1785, many years after this Work was begun, announced his deſign of publiſhing an Univerſal Syſtem of Anatomy and Phyſiology; but the deſign was too extenſive to be accompliſhed within the period of a ſingle life. His elegant Plates of the Brain, are all that have been publiſhed; and from them I have been enabled to enrich conſiderably that part of the ſubject.

* See his Preface to his Syſtem of the Bones and Muſcles.

Now that every eſſential diſcovery has been publiſhed by the moſt eminent men, it is not to be expected that any ſet of Anatomiſts will combine to go over a-new, and publiſh, what has been ſo accurately performed by their predeceſſors; and it is evident, that they would think it beneath them to compile and become the publiſhers of the Works of others; which proves it in vain to expect that what is ſo much wanted will ever be ſupplied from that quarter.

This furniſhes a reaſon for my having undertaken and perſevered in ſo arduous a taſk, which, I hope, will prove beneficial to young Practitioners, and, as connected with a branch of learning worthy of the attention of the Philoſopher, may excite men of curioſity to cultivate a knowledge of the ſtructure and diſpoſition of the parts of the Human Body, their economy and uſe; to obſerve the ſprings which give life and action, and the mechaniſm by which ſo many different functions are performed: A knowledge not leſs intereſting than many of the branches of Natural Philoſophy, which, to the honour of the preſent age, ſeem univerſally to be the prevailing objects of inquiry.

The Work is divided into Six Parts. The two Firſt Parts comprehend the complete Syſtem of the Bones and Muſcles of the Human Body, as publiſhed by Albinus. The Authors from which the ſubſequent Parts are compiled, are mentioned in the general contents of the Work, ſubjoined to the annexed Plan. To the late Dr Hunter of London, and his brother, I was much indebted for their approbation of my undertaking, and for their friendly permiſſion to make uſe of any thing they had publiſhed, that could enrich this Work.

P L A N.

To give a more accurate idea of the different particulars included in this Work, it may not be improper to ſubjoin the principal Contents of each Part.

P A R T I.

Shews the front, back, and ſide views of the Human Skeleton; a front view of the firſt, ſecond, third, and fourth layers or orders of muſcles; the firſt, ſecond, third, and fourth layers of muſcles, on the back parts; and a view of the primary, or outermoſt order of muſcles, on the left ſide of the Body; the muſcles ſeated before the vertebræ of the neck, below the head, with thoſe of the larynx and pharynx, muſcles of the mouth, bottom of the feet, inſide of the ſternum, &c.

P A R T II.

Contains the muſcles of all the particular parts ſeparated from the Body, together with the outlines of the bones to which they are affixed, or on which they lie; and ſuch other parts belonging to them as ſeemed neceſſary, figured twice as large as the former Tables, but in the ſame poſition, and in all other reſpects the ſame, as far as they are repreſented in the whole figures, excepting a few of the muſcles, which required either to be drawn in a different poſition, or in the natural magnitude, of which the reader is informed.

PART

PART III.

Exhibits the proportions of the Human Body of both ſexes in a living ſtate; microſcopic views of the texture and formation of the ſkin, and of the hairs, on different parts of the body; the external muſcles, ſhowing their proper ſituation in the fore and back views of the Body, when in action, after the ſkin, fat, and membranes, are removed; various poſitions and ſections of the brain and medulla ſpinalis; the falx, ſinuſes, and a microſcopic view of part of the brain, and of a nerve; the ſkull, ſhewing the paſſages of the blood-veſſels, the egreſs of the medulla oblongata, and nerves iſſuing from the brain to the organs of the ſenſes; upwards of fifty figures of the eye, with its different parts and appendages; near ſeventy figures of the ear, and of the various parts which compoſe that organ; the noſe, mouth, and tongue, with the glands which ſecrete the juices, and diſcharge them in maſticating the food; the larynx, pharynx, aſperia arteria, &c.; the muſcles of the head and neck, with their different uſes in moving the parts. And, as there is frequent occaſion to mention the bones, &c. which always ſerve as an index to the parts deſcribed, a familiar acquaintance with their different forms is abſolutely neceſſary. It is therefore hoped, that it will not be thought improper to conclude this ſection with the different bones, cartilages, and ligaments, repreſented nearly as large as the life. The bones, cartilages, and ligaments, &c. of the extremities, will be given at the end of Part VI.

PART IV.

Exhibits the mammæ of both ſexes, with a microſcopic view of the papillæ and areolæ of a woman, ſhewing the lactiferous tubes leading to the top of the papillæ, &c.; different muſcles on the ſuperior and anterior part of the trunk of the Body; the viſcera contained in the thorax and abdomen, *in ſitu;* the fore-part of all the viſcera within the cavity of the thorax taken out together; the heart injected with wax, ſhewing the figure of the auricles and ventricles, with the courſe of the veſſels; various views of the heart, ſhewing the contortion of its fibres, ſome faſciculi of its fibres; the auricles expanded, ſhewing the tricuſpid valves; the heart opened, ſhewing its ventricles, &c.; the heart cut tranſverſely; various views of the heart and lungs, exhibiting the foramen ovale, Euſtachian valve, &c; diſſections of the lobes of the lungs, ſhewing the ramifications of the bronchia, and pulmonary arteries and veins accompanying them; the aſpera arteria, together with the bronchia, or ramifications of it, freed from the lungs; parts of the lobes of the lungs, with the bronchia injected with wax, and with quick-ſilver, to ſhew the lobuli, or diſtinct cluſters of the veſiculæ, &c.; the cavity of the thorax, after the viſcera are removed; the diaphragm; the muſcles of the back, ſhewing the direction of their fibres, with full explanations of their uſes; the common integuments of the abdomen, and the external appearance of its muſcles; the texture of the peritonæum examined with a microſcope, &c.; the omentum; the meſentery; the ſtomach, with various figures of the different membranes, glands, blood-veſſels, &c. which compoſe it; the lower part of the ſtomach, and a portion of the inteſtinum duodenum continued to it, together with the pancreas and ſpleen, with their ducts entering the duodenum; the convex and concave ſurfaces of the liver and gall-bladder, their blood-veſſels injected with wax, and freed from the glandular ſubſtance; portions of the inteſtines, ſhewing their ſtructure, coats, membranes, lacteals, blood-veſſels, and valves; the receptaculum chyli filled with quick-ſilver, with the neighbouring lymphatic glands in their proper ſituation, together with the adjacent parts; the lumbal glands, with the receptaculum chyli, and part of the thoracic duct, filled with mercury, and freed from the Body; the thoracic duct at its entrance into the ſublavian vein, with its branches filled with wax; a gland injected with quick-ſilver; the kidneys, teſticles, bladder of urine, and ſpermatic veſſels, freed from the Body, and diſplayed; various views of the internal parts of the kidney and ureters; the membranes of the ureter viewed with a microſcope; the inferior or back part of the bladder

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PART V.

Shows the trunks and large ramifications of all the arteries of a child injected with wax, and diſplayed after diſſection; the external coat of a vein viewed with a microſcope, where the vaſa vaſorum appear; the ſecond or middle coat; the internal coat, compoſed of circular fibres; the various forms of the valves; the three coats of an artery, ſhewing the rete of ſmall nerves, blood-veſſels, and ſtrata of fibres; a ſmall drop of blood incloſed in a glaſs tube, and viewed with a microſcope; the extremities of the arteries, as they appear by a microſcope, in the tranſparent fin of a living frog, and in the extremity of the ſide-fin of a ſmall living flounder, viewed with a microſcope; the origin of the excretory ducts from the extremities of the blood-veſſels; the origin of the lymphatic veſſels; the arteries of the whole Body; the arteries of the whole poſterior parts of the Body; the veins of the whole body; the veins of the whole poſterior parts of the Body; above thirty Tables of the veſſels, traced to their deepeſt receſſes in the different parts of the Body, (thoſe of the head, neck, brain, and cranium, are repreſented as large as the life). The other Plates in this Part will contain a full diſplay of the Abſorbent Syſtem.

PART VI.

Contains a complete ſyſtem of the nerves, and is concluded with more than twenty Tables of the muſcles of the upper and lower extremities, delineated near as large as the life, exhibiting the direction of their fibres, and inſertions of their tendons, with particular deſcriptions of their various uſes in moving the parts; and alſo ſome geometrical figures and diſpoſition of the tendons and fleſhy fibres of various muſcles; likewiſe many Tables of the bones, cartilages, ligaments, burſæ mucoſæ, &c. of the ſame parts; alſo different views of the ſkeletons of fœtuſes, from one to nine months after impregnation.

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INTRO-

INTRODUCTION.

BEFORE proceeding to the Anatomical deſcriptions of the parts of the Human Body, let us take a brief view of the variations in the external forms of the fœtus in utero from the firſt appearance of the embryo, and then obſerve the proportions in the different ſtages, from infancy to a full grown ſtate; when we ſhall exhibit a Table of the moſt beautiful proportions of a man and of a woman, as they were fixed by the ancients, and meaſured by Monſ. Audran, from the Apollo-Pithius in the garden of the Vatican at Rome, and the Venus-Aphroditus belonging to the family of Medicis. To theſe we have added the meaſures of the Male and Female Skeletons, which, as they nearly correſpond with the former, prove Monſ. Audran's meaſures to be correct, and likewiſe demonſtrate the ſymmetry and different proportions of the ſexes.

IF the pre-exiſtence of parts in embryo was allowable, that at twenty-five days after conception would incline us to think the brain and whole head had a precedency, ſince its magnitude, then, exceeds the whole bulk of the reſt of the parts. But when the time of the birth approaches, the head of the fœtus does not commonly exceed one fourth part of its whole length.

THE centre, or middle part between the two extremes of the head and feet of a new-born child, is in the navel, but that of an adult is in the os pubis; and the practice of dividing the meaſures of children into four, five, or ſix parts, whereof the head is one, is uſed by Painters and Sculptors.

A CHILD of two years old has about five heads in its whole length, but one of four or five years old has near ſix; about the fifteenth or ſixteenth year, ſeven heads are the proportions or meaſure, and the centre inclines to the upper parts of the pubis. Hence it appears, that as the growth of the body advances, there is a gradual approach to the proportion of an adult, of near eight heads in the whole length, of which, as mentioned above, the head makes one.

THE meaſures being regulated by thoſe of the head. The head is divided into four parts, one of which reaches from the lower part of the chin to the lower part of the noſe; another from the lower to the upper part of the noſe between the eye-brows; a third from between the eye-brows to the hairs upon the forehead; and a fourth from thence to the top of the head. Each part is divided into twelve minutes, and the minutes into halfs, thirds, and fourths.

PROPORTIONS of a MAN and of a WOMAN,

MEASURED FROM THE ANTIQUE.

THE whole height of the APOLLO, ſuppoſing him to ſtand upright, and to be equally poiſed on both his feet, from the ſole of the foot to the top of the head, meaſures 7 heads, 3 parts, 6 minutes.

THE whole height of the VENUS, ſuppoſing her alſo to ſtand erect, meaſures 7 heads 3 parts.

TABLE OF THE MEASURES.

	APOLLO.			VENUS.		
	Heads.	Parts.	Min.	Heads.	Parts.	Min.
Head and Trunk of the Body Lengths.						
From the top of the head to the bottom of the chin, 4 parts, or	1			1		
From the bottom of the chin, to the top of the ſternum or breaſt-bone,		1	7		1	8
From the top to the bottom of the ſternum, or pit of the ſtomach,		3	10		3	6
From the pit of the ſtomach to the navel,		2	10		2	7
From the navel to the pubis,		3	6		3	9
Length of the head and trunk of the body,	3	3	9	3	3	6
Lower Extremities Lengths.						
From the pubis to the ſmall of the thigh, above the patella or knee-pan,	1	2	6	1	2	3
From the ſmall of the thigh, to the joint or middle of the knee,		1	9		1	6
From the joint of the knee, to the ſmall of the leg above the ankle,	1	1	9	1	2	
From the top to the bottom of the ankle,		1			1	
From the bottom of the ankle to the bottom of the heel,			9			9
Length of the lower extremities,	3	3	9	3	3	6
Length of the head and trunk,	3	3	9	3	3	6
Length of the whole figures,	7	3	6	7	3	
Length of the Upper Extremities.						
From the top of the ſhoulders to the elbow,	1	2	3	1	2	3
From the elbow to the hand,	1	1	2	1		6
From the joint of the hand to the root of the middle finger,		1	8		1	6
From the root to the tip of the middle finger,		1	10		1	7
Length of the fore-arm and hand,	3	2	11	3	1	10

Breadth

Breadth of Different Parts.	APOLLO.			VENUS.		
	Heads.	Parts.	Min.	Heads.	Parts.	Min.
Between the outward angles of the eyes,		1	6		1	7
Of the face at the temples,		2	2		2	2
Upper part of the neck,		2			1	11
At the shoulders,	2			1	3	8
Below the armpits,	1	2	5	1	1	8
Between the nipples,	1		7		3	8
N. B. From the bottom of the chin to the horizontal line of the nipples, length,	1		7	1		1
At the small of the waist,	1	1		1		8
At the loins, or os ilium,	1	1	3	1	1	6
At the haunches, or tops of the the thigh-bones,	1	1	5	1	2	3
Of the thigh at top,		3			3	1
Of the thigh below the middle,		2	8½		2	7
Of the thigh above the knee,		1	8		2	
Of the leg below the knee,		1	6		1	10½
At the calf of the leg,		2	4		2	3
Below the calf,		1	7		1	11½
Above the ankle,		1	2		1	2
Ankle,		1	4		1	3
Below the ankle,		1	1½		1	1
Middle of the foot,		1	4		1	3
At the roots of the toes,		1	7		1	7
Of the arm over the biceps muscle,		1	8		1	9
Above the elbow,		1	6		1	5
Below the elbow over the long spinator,		1	10		1	7
At the wrist		1	1		1	
Over the first joint of the thumb,		1	9		1	8
Over the roots of the fingers,		1	7		1	6

Side-View Length.						
From the top of the head to the shoulder,	1	1	8	1	1	6
From the top of the shoulder to the loins above the hip,	1	3	3	1	1	7
From the loins to the lower part of the hip,	1		2	1	2	1
From the hip to the hollow of the thigh,	1	2		1		11
From the hollow of the thigh to the heel,	2		5	2		11
Length of the figures,	7	3	6	7	3	

Side View.						
From the forehead to the back of the skull,		3	6		3	4
From the wing of the nose to the tip of the ear,		1	8½		1	6
The neck,		2			1	11
From the breast to the back, over the nipples,	1		6	1		6
At the small of the back,		3	6		3	7
From the belly, above the navel, to the back of the loins,		3	9	1		2
From the bottom of the belly to the round of the hips,	1			1		5
From the fore-part of the thigh to the bottom of the hip,		3	2		3	7
At the middle of the thigh,		3	3		3	6½
Above the knee,		2	1		2	3
Middle of the knee below the patella,		2	1		2	2
Below the knee,		1	9		1	11
At the calf of the leg,		2	1½		2	3
Below the calf,		1	8		1	9
At the ankle,		1	5½		1	4
Thickest part of the foot,					1	3
Length of the foot,	1		6	1		4½

Measures

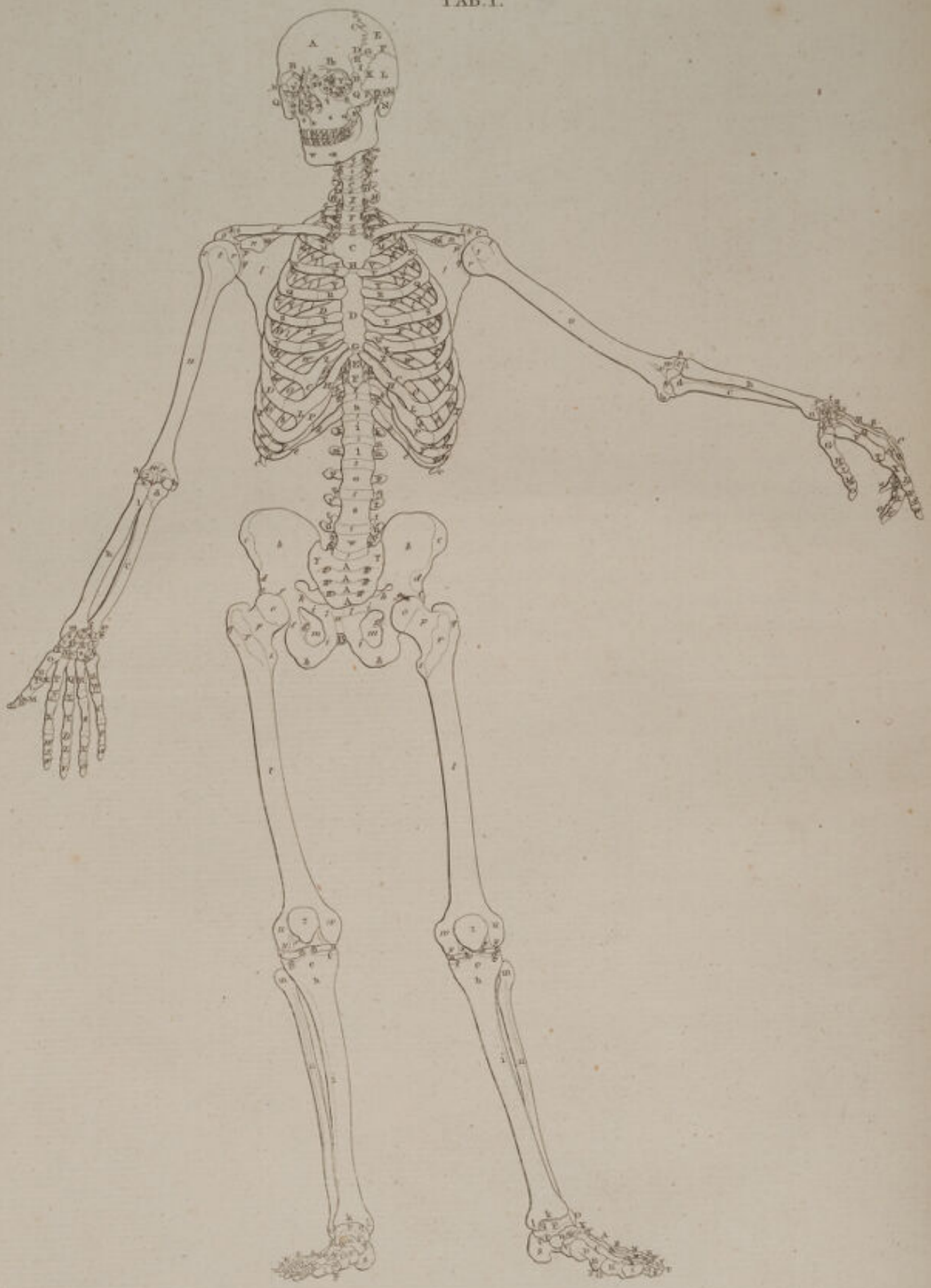
Measures of the Skeleton of a Man, from Table I. Part I. and of a Woman, Table XLIX. Part III.

N. B. The head of the female ſkeleton is turned, which apparently ſhortens its length, but if the ſcale is applied from the crown of the head to the top of the ſternum, it will exactly anſwer the Table.

	APOLLO.			VENUS.		
	Heads.	*Parts.*	*Min.*	*Heads.*	*Parts.*	*Min.*
From the top of the head to the bottom of the lower jaw,	1			1		
From the lower jaw to the top of the ſternum,		1	8			
Length of the ſternum,		3	8½			
From the ſternum to the top of the os ilium,		2	9			
From the top of the os iliam to the bottom of the pelvis,	1		0½			
From the pelvis to the joint of the knee,	1	3	2			
From the joint of the knee to the lower joint of the tibea or leg-bone,	1	3	4			
From the tibea to the bottom of the calcanei or heel-bone,			10			
Length of the ſkeleton,	7	3	0	1		

The moſt remarkable differences of the ſymmetry or proportions of a man and of a woman to be obſerved from the Table are: Firſt, the ſhoulders of a man are broader, meaſuring two heads; and the haunches narrower, meaſuring one head, one part, five minutes; whereas the ſhoulders of a woman meaſure only one head, three parts, eight minutes; and the haunches meaſure one head, two parts, three minutes. The ſternum or breaſt-bone of a man is longer, meaſuring three parts eight minutes; and the ſternum of the woman only three parts three minutes. On the contrary, the pelvis of a man is leſs, meaſuring from the top to the bottom only four parts; whereas the pelvis of a woman meaſures from the top to the bottom, four parts three minutes.

TAB. I.



J. Bell sculp.

THE

First Anatomical Table

OF THE

HUMAN SKELETON

EXPLAINED.

THIS first Table contains chiefly a front view or figure of the Human Skeleton; whereunto are added some of the Ligaments and Cartilages, without which the connection or joints of the Bones would be interrupted.

In the Head.

A The os frontis, or forehead bone.

B B The supercilliar foramina or holes, transmitting each a small artery and nerve out of the orbit, to the frontal muscles: The left of these holes is entire; but the right is partly absent, forming only a kind of notch.

C D The coronal suture. C the part of it which makes a serrated or true suture: D the part which is squamose or like a fish-scale.

E The left parietal bone.

F A squamose or scale-like suture, which is formed by the conjunction of the parietal with the temporal bone.

G A squamose suture, formed by a meeting of the parietal bone with the largest lateral process of the multiform or sphenoidal bone.

H A squamose suture, formed by a conjunction of the os frontis with the largest lateral process of the multiform bone.

I The largest lateral process of the multiform or sphenoidal bone.

K A suture common to the os squamosum or temporale with the largest lateral process of the multiform bone.

L The squamose or scale-like part of the temporal bone.

M The bony entrance or passage of the ear.

N The mastoide or mammillary process of the temporal bone.

O Zygomatic or jugal process of the temporal bone.

P A suture common to the jugal or cheek bone, with the zygomatic process of the temporal bone.

Q Q The ossa jugalia, or cheek bones.

R R Sutures which conjoin the frontal bone with the cheek bones, near the ends of the eye brows.

S S Sutures formed by the union of the cheek bones with the upper jaw bones.

T T Parts of the cheek bones which help to form the orbits or sockets for the eyes.

Betwixt T and W is a suture formed in the orbit by a conjunction of the cheek bone with the upper jaw bone.

Betwixt T and c: T and c appear sutures in common to the cheek bones with the forehead-bone, within the orbits or holes for the eyes.

Betwixt T and Y: T and Y appear sutures joining the cheek bones to the largest lateral process of the multiform bone.

V V A channel appearing in the bottom of the orbits or holes of the eyes, which opens to the cheek (at t) and transmits the upper maxillary branch of the gustatory nerve to the lips, palate, &c.

W X Part of the upper jaw bone belonging to the bottom of the orbit of the eye.

Betwixt W and X appears a suture running by the channel V, and extended along the bottom of the orbit of the eye. This suture passing over the lower margin of the orbit is extended towards the opening the said channel (at t) in the cheek.

Between X and d is a suture common to the upper jaw bone and the os planum (d) of the multiform bone.

Between X and e is a suture common to the upper jaw bone and the os unguis. (e f)

Y Y The orbitary surfaces of the largest lateral processes of the multiform or sphenoidal bone.

Betwixt Y and c: Y and c appear sutures common to the largest lateral processes of the multiform bone with the frontal bone, in the orbits of the eyes.

Z The foramen lacerum or hole through which the third pair of nerves of the brain, together with the fourth, fifth, and first branch of the fifth pair, pass out of the skull into the orbit for the muscles of the eye.

a The thin process of the multiform or sphenoidal bone.

b The hole through which the optic nerve passes out of the skull into the orbital cavity, accompanied with a branch of the internal carotid artery.

Betwixt a and c appears a suture within the orbit, common to the frontal bone with the thin process of the multiform bone.

Between a and d is a suture common to the os planum and the thin process of the multiform bone.

c c Parts of the frontal bone belonging to the orbits of the eyes.

Betwixt c and d is a suture common to the os planum and frontal bone.

Between c and e f is a suture common to the frontal bone with the os unguis.

d The os planum of the multiform bone.

Betwixt d and e is a suture common to the os planum with the os unguis.

e f The os unguis; in which f denotes a sinus or cavity belonging to the nasal canal.

Betwixt f and g is a suture common to the os unguis with the nasal process of the upper jaw bone.

g g The nasal processes of the upper jaw bones.

Betwixt g and k: g and k appear sutures common to the nasal bones with the nasal processes of the upper jaw bones.

h A suture common to the frontal bone with the nasal process of the upper jaw bone.

i i Sutures common to the frontal and nasal bones.

k k The ossa nasi, or bones of the nose.

Betwixt k and k is a suture common to the two nasal bones.

l The interior part of the nasal process of the upper jaw bone, belonging to the cavity of the nose.

m m The lower turbinated or spongy bones.

Betwixt l and m, on the right side, is a suture formed by the conjunction of the lower spongy bone with the upper jaw bone.

n o A thin plate of the ethmoidal or sieve-like bone, which makes part of the (septum narium) partition of the nostrils. o the extremity of the said bony plate which joins to the cartilaginous or gristly part of the partition.

p The os vomer, or plow-share bone.

Betwixt n and p is a kind of suture formed by the connection of the vomer (p) with the plate of the ethmoidal or cribriform bone.

q Part of the upper jaw bone, which belongs to the bottom of the nostrils.

r A suture common to the upper jaw bones.

s s The upper jaw bones, next the cheeks.

t t The foramina or holes of the channels (V V) which pass along the bottom of the orbits of the eyes.

u The pterygoide or winged process of the multiform bone.

w x y z The lower mandible or jaw bone. z a hole out of which pass a nerve of the fifth pair and blood-vessels to the chin, after passing through a canal within the jaw. y the acute process. x the neck of the obtuse process or head, by which the mandible is articulated to the temporal bone.

a The cartilage in the joint of the lower jaw, interposed betwixt its head and the temporal bone.

b c d e f g h i: b c d e f g h i The left teeth in each of the jaws. *b b* The first of the incisive or cutting teeth. *c c* the second incisive teeth. *d d* the canine or dog-teeth. *e e* the first of the grinders. *f f* the second. *g g* the third. *h h* the fourth. *i i* the fifth, (called dentes sapientiae) or eye-teeth.

In the Spine.

k The body of the atlas, or vertebra of the spine which sustains the head; and in this place it is connected to the epistrophaeus, or next vertebra.

l The body of the epistrophaeus where it sustains the atlas.

m The lower oblique process of the fifth vertebra of the neck.

n o p q The fourth vertebra of the neck. *n* its upper oblique process. *o* its lower oblique process. *p* its transverse process. *q* its body.

r The lateral opening betwixt the third and fourth vertebra.

r r, &c. The ligaments which are interposed betwixt the bodies of the vertebrae, and which tie them one to the other.

t u u v v x The third vertebra of the neck. *t* the body. *u u* the transverse processes. *v v* the upper oblique processes. *x* the lower oblique process.

y y z z C The second vertebra of the neck. *y y* the upper oblique processes. *z z* the transverse processes. *C* the body.

D D H H L L X The first vertebra of the neck. *D D* the upper oblique processes. *H H* the transverse processes. *L L* the lower oblique processes. *X* the body.

P P S W W Y The twelfth vertebra of the back. *P P* its upper oblique processes. *S* the transverse process. *W W* the lower oblique processes. *Y* the body.

O a a b b The eleventh vertebra of the back. *O* the body. *a a* the upper oblique processes. *b b* the transverse processes.

c The transverse process of the tenth vertebra of the back.

d d e e The third vertebra of the back. d d the body. e e the transverse processes.

f g g The second vertebra of the back. f its body. g g its transverse processes.

h The body of the first vertebra of the back.

i k k The fifth vertebra of the loins. i its body. k k its transverse processes.

l m m n The fourth vertebra of the loins. l its body. m m its transverse processes. n its upper oblique process.

o p p The third vertebra of the loins. o its body. p p its transverse processes.

q q r r s The second vertebra of the loins. q q the upper oblique processes. r r its transverse processes. s its body.

t t u u v v w The first vertebra of the loins. t t its upper oblique processes. u u its transverse processes. v v its lower oblique processes. w its body.

x x y y z z z z z z A A A A The os sacrum or great bone of the spine. x x the upper oblique processes of its first vertebra. y y the sides of this bone. z z z. z z z the three upper and anterior foramina or holes to transmit the nerves on each side. A A A A the four upper bodies of this bone; betwixt which are bony lines that were formerly ligaments.

B The fourth small bone of the coccyx.

In the Thorax, Clavicles, and Scapulae.

CDEF The sternum or breast bone consisting of three parts, of which C is the upper, D the middle, and E the lower; to which last is fixed the ensiform cartilage F.

G H The ligaments by which the bones of the sternum are connected together.

IKLM. IKLM The first ribs. K the small head by which it is articulated with the transverse process of the twelfth vertebra of the back. L the former part of the said head, which is connected with the body of the same twelfth vertebra of the back. M its cartilaginous end by which it is continued to the sternum.

NNOP. NNOP The second ribs. O the former part by which it is articulated with the bodies of the eleventh and twelfth vertebrae of the back. P the cartilaginous end of this rib.

QQQR. QQQR The third ribs. R its cartilaginous end.

SSST. SSST The fourth ribs. T its cartilaginous end.

VVVVWX. VVVVW The fifth ribs. W its cartilaginous end, spreading and adhering (on the left side X) to the cartilage belonging to the sixth rib.

YYYYZC. YYYYZC The sixth ribs. Z its cartilaginous end, spreading in the part C and adhering to the cartilage of the seventh rib.

DDDHL. DDDHL The seventh ribs. *H* the cartilaginous end which grows broad at *L*, and is attached to the cartilage of the eighth rib.

XXXXPS. XXXXP The eighth rib. *P* the cartilaginous end, which in some bodies spreads in the part *S*, and is attached to the cartilage of the seventh rib.

WWWWWY. WWWY The ninth rib. *Y* its cartilaginous end.

OOOOOOa. OOOOOOa The twelfth rib. *a* its cartilaginous end.

bbbbc. bbbbc The eleventh rib. *c* its cartilaginous end.

de. de The twelfth rib. *e* its cartilaginous end.

fgh fgh The clavicles or collar-bones. *g* the head which is sustained by the sternum. *h* the head fastened to the upper process of the scapula or blade-bone.

ii Cartilages interposed betwixt the joints of the clavicles with the sternum.

kk The cartilages interposed betwixt the joints of the collar-bones and the upper processes of the scapulae or blade-bones.

llllllllmnopq. llllllllmnopq The scapulae or shoulder-blades. *m* its spine or ridge. *n* its coracoide or crows-bill process. *o* its acromion or upper process. *p* the neck. *q* the cartilaginous crust which increases the neck.

In the Arms, Fore-arms, and Hands.

rstuwxyzab. rstuwxyzab The humeri or bones of the arms. *r* the head, incrusted with a smooth cartilage. *s* the greater unequal protuberance in the upper head of this bone. *t* the less unequal protuberance of the same. Betwixt these protuberances is a sinus, through which passes the tendon of the longer head of the biceps muscle of the arm. *w* a sinus or cavity which receives the upper head of the radius, at the time when the fore-arm is bent as much as possible. *x* a sinus that receives the upper head of the ulna, when the cubit is bent as much as it can be. *y* a round head incrusted with a smooth cartilage, and articulated with the ulna. *z* another round head incrusted with a smooth cartilage, and articulated with the radius. *a* the lesser condyle. *b* the greater condyle.

cdefg. cdefg The ulna or greater bone in each fore-arm. d its upper head, upon which appears a roughness, wherein is inserted the brachiaeus internus muscle. ef its lower head which sustains the radius; and here f denotes an arch or concavity lined with a smooth cartilage.

g A styloide or pointed process in the lower head of the ulna.

hinopq. hklm The radius or less bone in each fore-arm. i its upper head. k the circumference or rim of its upper head incrusted with a smooth cartilage. l a protuberance, at the posterior part of which the tendon of the biceps muscle of the arm is inserted, which bends the fore-arm toward the body when the palm of the hand is downwards. mnopq the lower head of this bone. n denotes a sinus or groove through which pass the tendons of the long abductor, and less extensor muscles of the thumb. o a sinus through which goes the tendon of the longer radialis externus muscle. p a sinus through which goes the tendon of the shorter radialis externus muscle. q a sinus for the tendon of the greater extensor of the thumb.

rst. rs The navicular bones of the wrists. s the convexity or head which is articulated with the radius, incrusted with a smooth cartilage. t a convexity covered with a smooth cartilage, and received by the multangular bones.

uw. u The lunar bones of the carpus or wrist. w a convexity incrusted with a smooth cartilage, and articulated with the radius.

xx The cuneiform or wedge-like bones of the wrists. In the right hand this bone appears with a smooth cartilaginous crust, by which it is articulated with the lunar bone and with the ulna.

y The roundish or pea-like bone of the wrist.

zAAB. zA The unciform or hook-like bones. AA the part which is covered with a smooth cartilage, articulated to the cuneiform and lunar bones. B the unciform process.

CD. CD Ossa magna vel capitata, the great or round-headed bones of the wrists. D the round head incrusted with a smooth cartilage, and articulated with the navicular and lunar bone.

EE The trapezoide, cubical, or least of the multangular bones in the wrists.

FF The greater trapezial or multangular bones of the wrists.

GH. GH The metacarpal bones of the thumbs. H the lower head incrusted with a smooth cartilage, by which it is articulated with the first bone of the thumb, and with the sesamoid bones, IK.

IK The sesamoid bones (*i. e.* like sesamum seeds) fixed at the joint of the thumb with its metacarpal bone.

LM. LM The first bones of the thumbs. M the lower head incrusted with a smooth cartilage, by which it is articulated with the last bone of the thumb.

N A sesamoid bone placed at the last joint of the thumb.

OO The last bones of the thumbs.

PQRST: PQRST The metacarpal bones of the hands. P the metacarpal bone of the index or first finger. Q that of the middle finger. R that of the ring finger. S that of the auricular or little finger. T the lower head, incrusted with a smooth cartilage in the first joint of the finger: And the same holds in the rest of these bones.

VW Small sesamoid bones sometimes found at the first joints of the index and little finger.

XYZCD: XYYZZCD The first phalanx, order, or row, of bones in the fingers. X that of the index. Y that of the middle finger. Z that of the ring finger. *C* that of the little finger. *D* the lower head, covered with a smooth cartilaginous crust, at its articulation or joint with the second bone of the finger: The same holds also in the rest of the fingers.

HLXPS: HLXPS The bones in the fingers of the second phalanx or order. *H* that of the index. *L* that of the middle finger. *X* that of the ring finger. *P* that of the little finger. *S* the lower head incrusted with a smooth cartilage, and jointed to the third or last bone of the finger: And so in the rest of these bones.

WYOa. WYOa The bones of the third phalanx or last order of the fingers. *W* that of the index. *Y* that of the middle finger. *O* that of the ring finger. *a* that of the little finger.

In the Pelvis Legs, and Feet.

bcdeefghiklm. bcdeefghiklm The innominate or bason bones, including three others. *bcd* the os ilium or flank-bone. *e* the spine or ridge of that bone. *d* a tubercle from whence arises the rectus or straight muscle of the thigh. *eef* the ischion, or hitch-bone. *f* a sinus or notch through which pass the internal iliac, and great psoas or lumbal muscle. *g* the sharp pointed process of the ischium. *h* the tubercle of the ischium. *iikl* the os pubis. *k* the spine or ridge of the os pubis, from whence arises the pectineus muscle of the thigh. *l* a tubercle, into which is inserted the lower and outer tendon of the double aponeurosis of the oblique external muscles of the abdomen. *m* the great foramen or hole of this bone.

n A cartilage or gristle interposed betwixt the bones of the pubis, and connecting them together.

opqrstuwxy. opqrstuwxyy The thigh bones. *o* the head incrusted with a smooth cartilage. *p* the neck. *q* the greater trochanter or spoke. *r* a rough protuberance, to which is fixed a ligament that secures the joint of the hip. *s* the less trochanter or spoke. *u* the outer condyle of the lower head. *w* the inner condyle. *x* a sinus or cavity incrusted with a smooth cartilage next the joint of the patella or knee-pan bone. *y* so far extends the smooth cartilaginous crust that covers the condyles or lower heads of the thigh bone, at its juncture with the tibia, or great bone of the leg.

zz The patellae or knee-pan bones.

ab. ab The interior semilunar cartilages in the joints of the knees: At bb, backwards, these turn into ligaments, and are inserted into the tibia.

cd. cd The outer semilunar cartilages, turning to ligaments in the back part of the joint dd, which are inserted into the tibia.

efghikl. efghikl The tibia or great bones of the legs. e the upper head. fg smooth cartilaginous incrustations covering the top of the tibia, next the femur, in the joint of the knee. h the protuberance into which is fixed the ligament of the patella, fastening the bone to that tibia. i the spine or edge of the tibia. kl its lower head. l the inner ancle.

mno. mno The fibulae or slender bones of the leg. m the upper head. n the spine or ridge. o the lower head, which makes the outer ancle.

pqr. pqr The astragalus or cockal bone. q the smooth cartilaginous crust that covers its convexity next the bones of the leg to which it is jointed. r a like crust covering its head or fore part.

st. st The calcanei or heel-bones. t the part that sustains the neck of the astragalus.

uu The navicular bones of the tarsus or ancle.

vv The greater cuneiform bones of the tarsus.

ww The small cuneiform bones of the tarsus.

xx The middle cuneiform bones of the tarsus.

y The cuboid or cubical bone of the tarsus.

zABCDE: zABCDE The bones of the metatarsus or instep. z that of the fourth or little toe. A that of the third. B of the second. C of the first, and D of the great toe. E a smooth cartilaginous crust that covers the lower head at its juncture with the first bone of the great toe: Which crust is also in the rest of these bones.

FG: F Sesamoid bones placed at the junctures of the great toes with their metatarsal bones.

HH The first bones of the great toes.

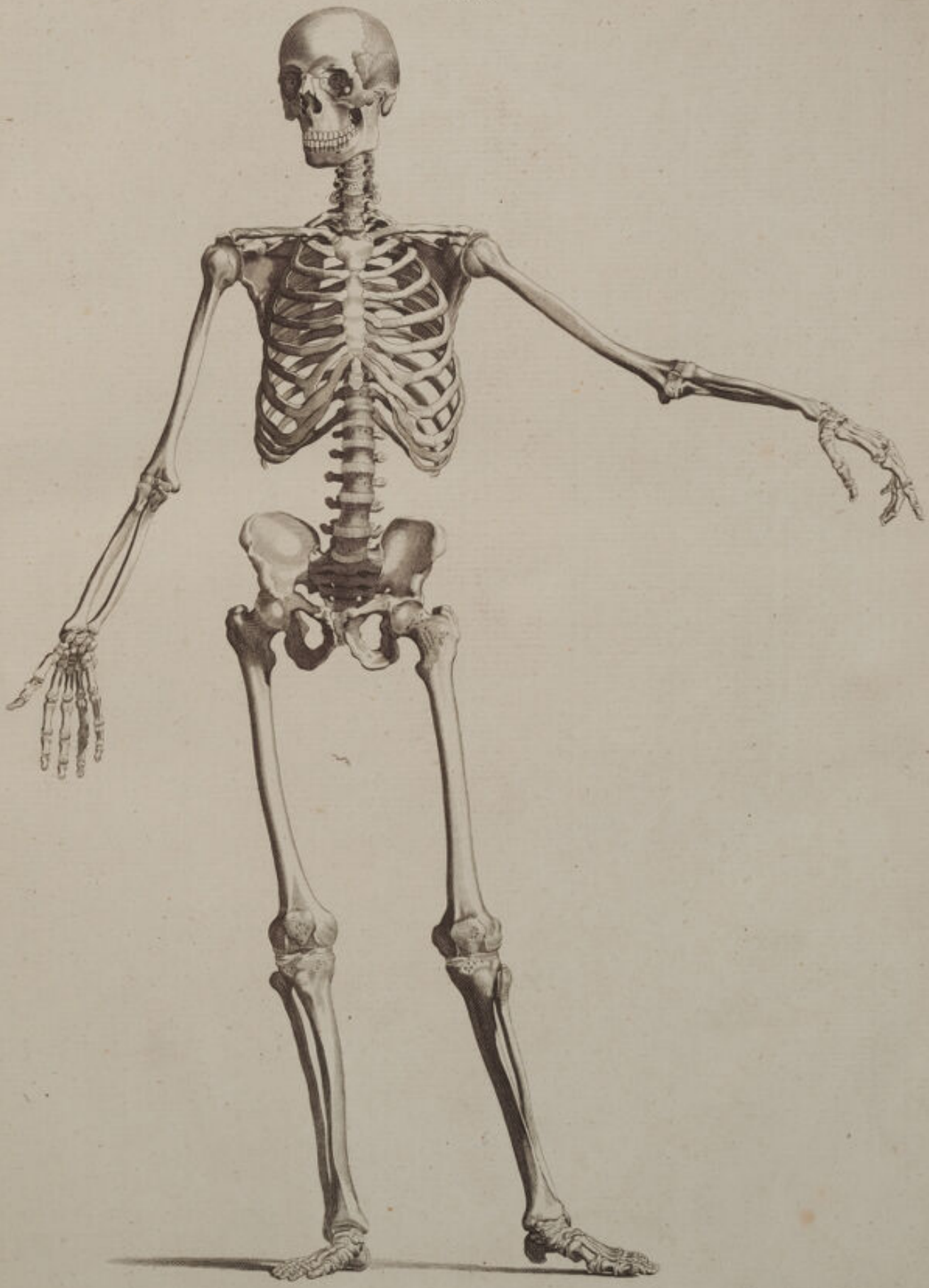
II The last bones of the great toes.

KLMN: KLMN The bones of the first phalanx or order of the smaller toes. K that of the first toe. L of the second. M of the third, and N of the fourth or little toe.

OPQR: OPQR The bones of the second phalanx or order of the smaller toes. O that of the first toe. P that of the second. Q of the third, and R that of the fourth or little toe.

STVW: STVW The bones of the last phalanx or third order of the smaller toes. S that of the first toe. T that of the second. V of the third, and W of the fourth or little toe.

TAB. I.



TAB. II.

THE

Second Anatomical Table

OF THE

HUMAN SKELETON

EXPLAINED.

THIS Table represents a back-view of the former Skeleton, and in the same position. We have likewise here added some of the ligaments and cartilages, where they appeared necessary to make up or continue the joints of the bones.

In the Head and Spine.

a a The verticle or parietal bones.

b b The verticle foramina or holes transmitting small veins to the longitudinal sinus.

c The sagittal or longitudinal suture.

d d The lambdoid or occipital suture.

e The occipital bone.

f The squamose suture, formed by a conjunction of the scaly part of the temporal and parietal bones.

g g True sutures, formed by a conjunction of the mastoid or dog-like processes of the occipital bone with the parietal bones.

h The os squamosum, or scaly part of the temporal bone.

i i. i i Appendages of the lambdoid suture.

k k Foramina or holes, through which pass branches of the internal jugular veins, to the lateral sinuses of the dura mater.

l l The mastoide or mammillary processes of the temporal bones.

m The frontal or forehead bone.

n A suture formed by the conjunction of the jugal with the frontal bone, near the extremity of the eye-brow.

o A suture made by the conjunction of the jugal process of the temporal bone with the cheek bone.

p p The os jugale or cheek bone.

q The jugal process of the temporal bone.

r Os maxillare superius, or the upper jaw-bone.

Betwixt r and p is a suture formed by a conjunction of the jugal or cheek-bone with the upper jaw-bone.

s A cartilaginous plate interposed betwixt the joint of the lower jaw with the temporal bone.

t u u u u The lower jaw or mandible. t the head which is joined to the temporal bone.

w w Those parts of the upper jaw-bones which sustain the palate or roof of the mouth.

The teeth in the jaws appear evidently of themselves.

x x The styloide or pointed processes of the temporal bones.

y y z A B C D D E The atlas, or uppermost vertebra, that sustains the head. y y its transverse processes. z a hole in the transverse process. A an arch or curvature found in some bodies: And this, with the sinus through which the vertebral artery is inflected behind the body of the atlas, makes the hole B, through which that artery penetrates into the great cavity of the vertebrae; as at other times it passes through a sinus or notch, marked C in the left side. C a sinus or notch in that part of the body of the atlas where it sustains the head; through which sinus the vertebral artery bends itself, when it is about to enter the great spinal cavity of the vertebrae. D D the lower parts of its body, by which it is connected to the epistrophaeus. E a rough protuberance, which is instead of a spinal process, and from whence arise the (musculi recti postici minores capitis) smaller, posterior, straight muscles of the head.

F G H H I I K K L The epistrophaeus, or vertebra upon which the head and atlas turn laterally. F its axis. G the inner part of its body. H H the two vertices or turning points which sustain the atlas. I I The transverse processes. K K the lower oblique processes. L the spinal process.

M N Two of the vertebrae of the neck. M the fifth. N the fourth in order, counting upwards.

O P P Q Q R R The third vertebra of the neck. O the spinal process. P P the upper oblique processes. Q Q the lower oblique processes. R R the transverse processes. From hence the parts of the other vertebrae of the neck may be likewise understood.

S T The two lower vertebrae of the neck. S the second, and T the first in order.

V W X Y Vertebrae of the back. V the twelfth. W the eleventh. X the tenth. Y the ninth.

Z Z *a a b b c* The eighth vertebra of the back. Z Z its upper oblique processes. *a a* the transverse processes. *b b* the lower oblique processes. *c* the spinal process. From this the parts of the other vertebrae of the back may be understood.

d e f g h i Vertebrae of the back. *d* the seventh. *e* the sixth. *f* the fifth. *g* the fourth. *h* the third. *i* the second.

k l l m m m The first vertebrae of the back, in which *l l* denote the transverse processes, as if they were inflected behind the junctures of the upper oblique processes of this vertebra with the lower oblique processes of the second vertebra. *m m m* its body.

n The fifth vertebra of the loins.

o p p q q r r s s The fourth vertebra of the loins. *o* the spinal process. *p p* the upper oblique processes. *q q* the transverse processes. *r r* the lower oblique processes. *s s s* the body of this vertebra. The parts of the other vertebrae of the loins may without difficulty be understood from this.

t u w The remaining vertebrae of the loins. *t* the third. *u* the second, and *w* the first of them, reckoning upwards with Albinus, which is contrary to the custom of British Anatomists.

x x, &c. The ligaments that are interposed betwixt the bodies of the vertebrae and connect them one to the other.

y y z z z z z z z z C C C D D H L The os sacrum or great bone of the spine. *y y* the upper oblique processes. *z z z z z z z z* the posterior foramina or holes. *C C C* the spinal processes. *D D* the lower oblique processes, with which are conjoined the upper oblique processes of the first bone of the coccyx. *H* the body of the fourth of those vertebrae which compose the os sacrum. Betwixt *H* and *L* is a bony part which was formerly a ligament, intervening and contiguous with the bodies of the fourth and fifth of these false vertebrae. *L* the body of the fifth vertebra of the os sacrum.

Betwixt *L* and *X* is a ligament, interposed between the bottom of the os sacrum and coccyx, and tying them together.

X P S The first bone of the os coccygis. *X* the body. *P* the transverse process; the fellow to which is also in the other side. S the upper oblique process; the fellow to which is also in the other side.

Betwixt *X* and *W* is a ligament that ties together the bodies of the first and second bones of the coccyx.

W Y O The lower bones of the coccyx, *W* the second, *Y* the third, *O* the fourth.

In the Thorax and Upper Extremities.

a a b b The sternum or breast-bone.

c c d d. c c d d The first or uppermost ribs. d d the cartilaginous part.

e e e f. e e e f The second ribs. f the cartilaginous part.

g g g h. g g g h The third ribs. h the cartilaginous part.

i i i k. i i i k the fourth ribs. k the cartilaginous part.

l l m. l l m The fifth ribs. m the cartilaginous part.

n n n n o o. n n n n o The sixth ribs. o the cartilaginous part.

p p p p p q q. p p p p p q q The seventh ribs. q the cartilaginous part.

r r r s. r r r r s The eighth ribs. s the cartilaginous part.

t t t u. t t u The ninth ribs. u the cartilaginous part.

w x x. w x x x The tenth ribs. x the cartilaginous part.

y z. y z The eleventh ribs. z the cartilaginous part.

A B. A B The twelfth ribs. B the cartilaginous part.

C C C C. C C C The clavicles or collar bones.

D D Cartilaginous plates fastened betwixt the junctures of the clavicles with the acromia or upper processes of the scapulae or shoulder blades.

E E F G H I. E E F G H I The scapulae or blade-bones. F the spine. G the acromion or upper process. H the neck. I the cartilage that lines the cavity of its neck.

K L M N O P. K L M N O P The humeri or bones of the arms. K the head incrusted with a smooth cartilage where it is jointed or received into the cavity of the scapula. L the greater unequal protuberance of the upper head. M a sinus or groove through which the brachial artery, vein, and nerve pass along. N a sinus or cavity that receives the olecranon or head of the ulna when the fore-arm or cubit is extended. O the lesser condyle, and P the greater condyle or protuberance in the lower head of the humerus.

Q R S T. Q R S T The ulna or greater bone of the cubit. R the protuberance of its upper head, called the olecranum or elbow. S its lower small head that sustains the radius. T the pointed process of its lower head.

V V W X. V X Y Z *a b* The radii or less bones of the cubit. W X the upper head. X the circumference or rim of the upper head incrusted with a smooth cartilage which moves in the concavity of the ulna. Y the sinus which contains the tendons of the long abductor of the thumb, and of the less extensor. Z a sinus that receives the tendons of the outer radial muscles. *a* the sinus or groove that conducts the tendon of the larger extensor of the thumb. *b* the sinus or groove that conducts the tendons of the common extensor of the fingers, with that of the extensor proper to the little finger, and to the index or first finger.

c d e. c The navicular bones of the wrists. *d* the small head incrusted with a smooth cartilage where it is joined to the radius. *e* the head covered with a smooth cartilage that meets the multangular bones.

f f The lunar bones, that on the right hand appears covered with a smooth cartilaginous crust where it is jointed to the radius.

g h. g The ossa triquetra or cuneiform bones of the wrists. *h* the part covered with a smooth cartilage which is jointed with the unciform bone (*k l*).

i i The ossa sabrotunda, pisiformia, or pea-like bones.

k l. k l The unciform bones of the carpus. *l* the surface incrusted with a smooth cartilage that is jointed with the cuneiform bone (*g*).

m n. m Ossa magna vel capitata, the great or round headed bones of the wrists.

h the round head incrusted with a smooth cartilage by which it is jointed to the lunar and navicular bone.

s s The trapezoid or less of the multangular bones in the wrist.

p p The trapezial or great multangular bones of the carpus.

q r. q The metatarpal bones of the thumbs. *r* the lower head covered with a smooth cartilaginous crust, where it is jointed to the first bone of the thumb, and with the sesamoid bones. The same is also true of the left thumb.

r r The sesamoid bones placed at the joint of the thumb with its metacarpal bone.

t u. t u The first bones of the thumbs. *u* a smooth cartilaginous crust that covers the lower head where it is jointed to the last bone of the thumb.

w w The last phalanges or bones of the thumbs.

x y z C D. x y z C D The bones of the metacarpus or hand. *x* that of the index or first finger. *y* that of the middle finger. *z* that of the ring finger. *C D* that of the little finger. *D* the cartilaginous crust that covers its lower head where it is jointed to the bone of the first phalanx or order. The same holds in the rest of these bones.

H L X P S. H L X P The bones of the fingers of the first phalanx or order. *H* that of the little finger. *L* that of the ring finger. *X* that of the middle finger. *P S* that of the index or first finger. *S* a cartilaginous crust covering the lower head, where it is jointed to the bone of the second phalanx: The same likewise holds in the other fingers.

W Y O a b. W O a The bones of the fingers of the second phalanx or order. *W* that of the index. *Y* that of the middle finger. *O* that of the ring finger. *a b* that of the little finger. *b* part of the lower head at its joint with the bone of the third and last order, incrusted with a smooth cartilage. The like in the other fingers.

c d e f. c d e f The bones of the fingers of the third and last phalanx or order.

g h i k l m m. g h i k l m The ossa innominata or haunch bones. g h the os ilium, hip or flank bone. h its spine or edge. i the ischium or hitch bone. k the sharp process of the ischium. l the tubercle or seat of the ischium. m the os pubis.

n o p q r s t u w x. o p q r s t u w x The thigh bones. n the round head, which being incrusted with a smooth cartilage is received or jointed into the acetabulum or cavity of the haunch bone. o the neck. p the great trochanter or spoke. q the less trochanter. r the linea aspera or roughness that is extended down the backside of the thigh bone. s t the outer condyle or protuberance of the lower head of the femur, of which t denotes the part belonging to the joint of the knee, covered with a smooth cartilaginous crust.

u w the inner condyle; w the part of it that belongs to the joint of the knee incrusted with a smooth cartilage. x the sinus or cavity between the condyles.

y y The exterior semilunar cartilages which end in ligaments that are inserted into the head of the femur and tibia in the joint of the knee, z z.

A A The interior semilunar cartilages, inserted in the joint of the knee; and affixed to the tibiae or greater bones of the legs B B by their extremities, turned into ligaments.

C D E F G. C D E F G The tibiae or greater bones of the legs. D E parts of the upper head of the tibia, which being incrusted with a smooth cartilage, belong to the joint of the knee. F the inner ancle. G a sinus or groove through which pass tendons of the tibialis posticus and long flexor of the toes.

H I K L. H I K L The fibulae or slender bones of the legs. I the upper head which is fixed to the tibia. K the outer ancle. L the sinus or notch through which pass the tendons of the long and short peronei muscles.

M N O P. M N O P The astragali or cockal bones. N O the smooth cartilaginous incrustation that covers its convexity; and N denotes that part which is jointed to the tibia; O that which is jointed to the os perone or fibula. P its head.

Q R. Q R The calcanei or heel bones. R a protuberance at which the tendon of the peroneus longus muscle is inflected.

S S The navicular bones of the tarsus or ancle.

T T The less cuneiform bones of the tarsus.

V V The middle cuneiform bones of the tarsus.

W W The cubical bones of the tarsus.

X Y Z *a*. X X Y Z *a* The bones of the metatarsus or instep. X that of the first of the smaller toes, Y that of the second, Z of the third, and *a* that of the fourth or little toe.

b c d e. b c d The bones of the first phalanx or order of the smaller toes. *b* that of the fourth or little toe, *c* that of the third, *d* that of the second, *e* of the first.

f g. f The bones of the second order or phalanx of the smaller toes; *f* that of the fourth, *g* of the third.

h i k. h The bones of the third or last phalanx of the smaller toes; *h* that of the fourth or little toe, *i* of the third, *k* of the second.

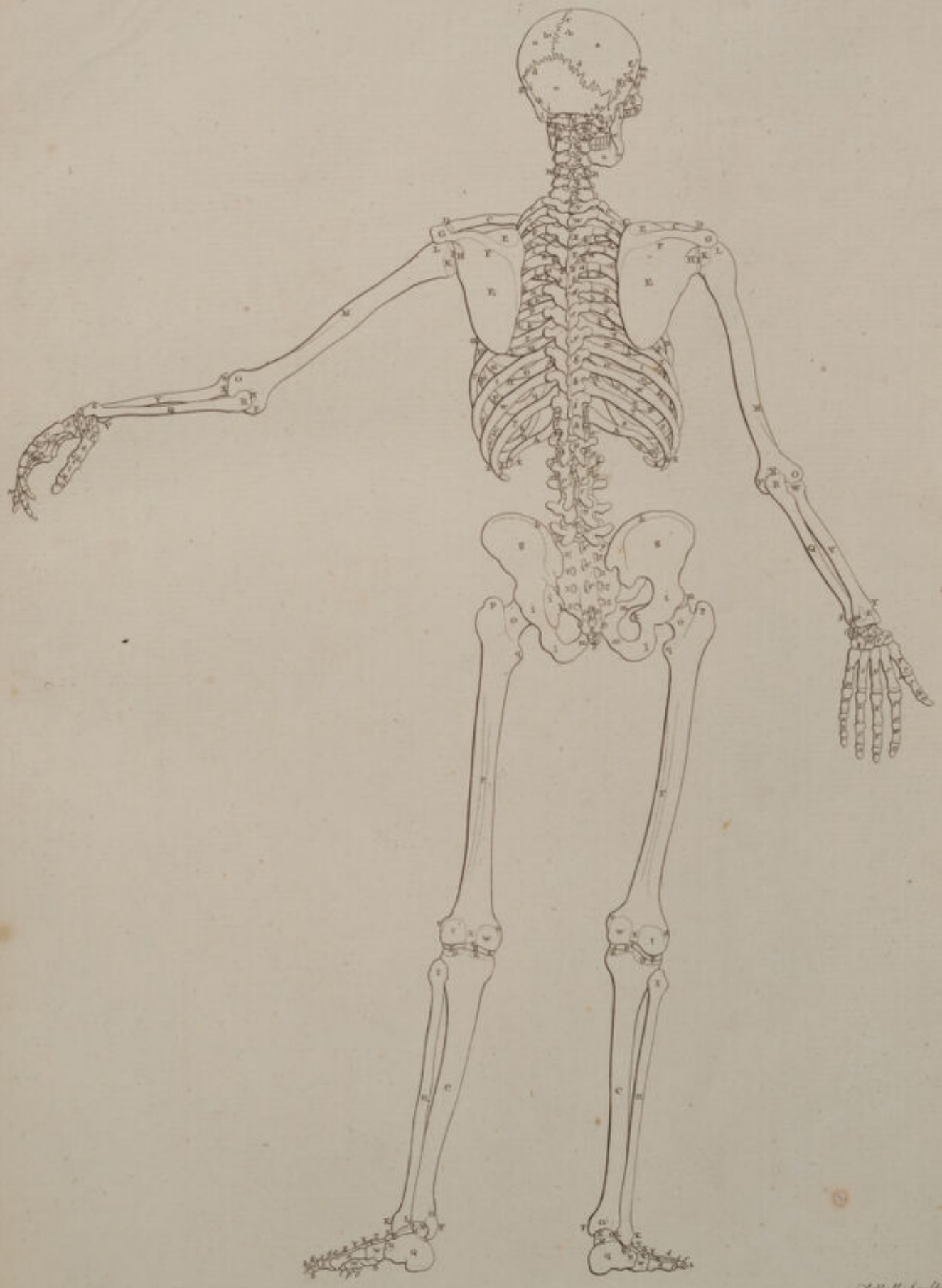
l The first bone of the great toe.

m The metatarsal bone of the great toe.

n The greater cuneiform bone of the tarsus.

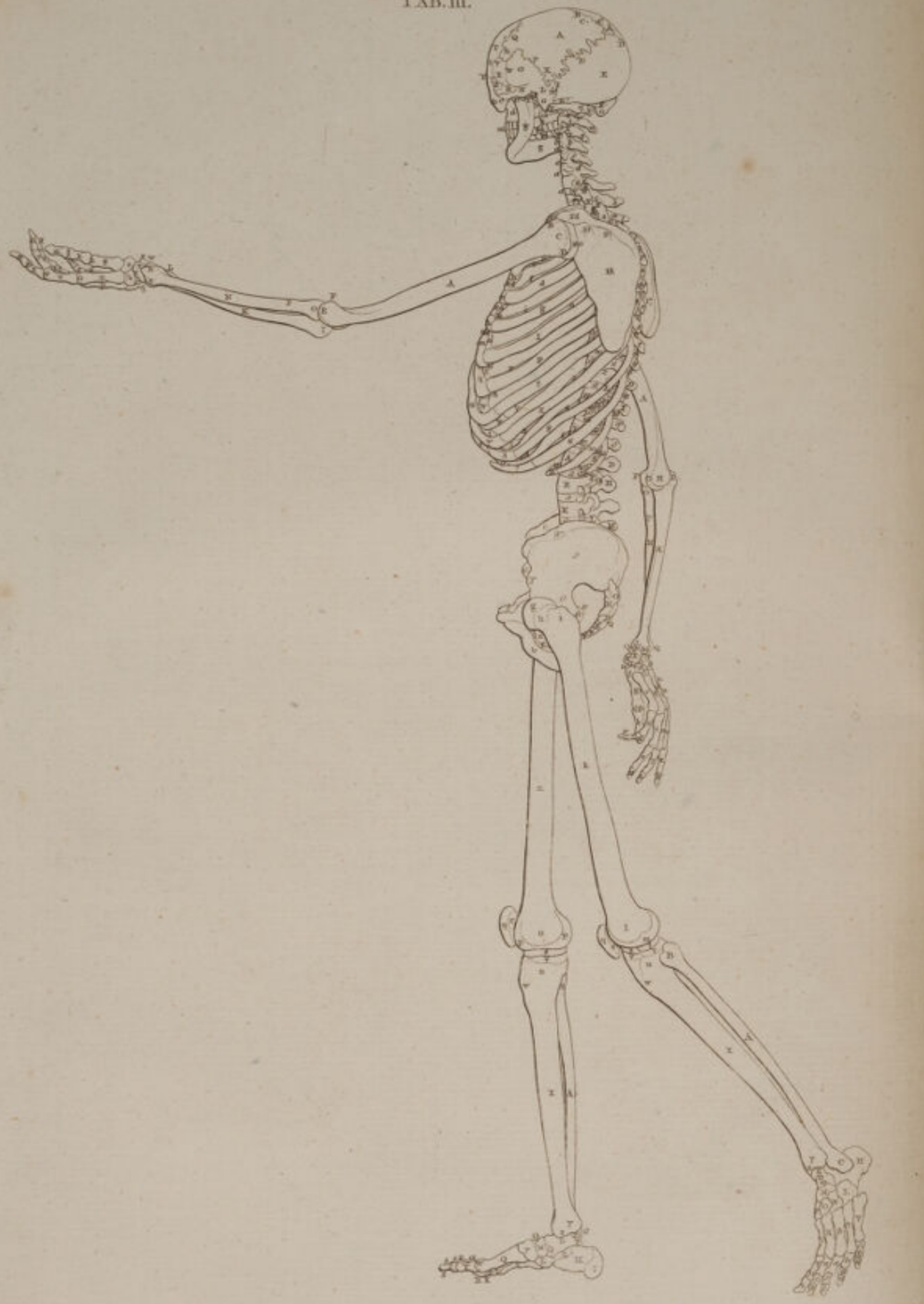
o p The small sesamoid bones that are placed at the joint of the great toe with its metatarsal bone. *o* the inner, and *p* the outer of these small bones.

TAB. II.



A. Bell Sculp.

TAB. III.



THE

Third Anatomical Table

OF THE

HUMAN SKELETON

EXPLAINED.

THIS Table represents a side-view of the same Skeleton, as before; but in a different attitude or position. And to this figure we have likewise, in some places, added ligaments and cartilages, where they seemed necessary to continue the joints of the bones.

In the Head and Spine.

A A The vertical or parietal bones.
B The sagittal or longitudinal suture.
C C The vertical foramina or holes transmitting small veins to the longitudinal sinus of the dura mater.
D D The lambdoid suture.
E The occipital bone.
F G. G The mammillary processes of the temporal bones. F a protuberance from whence arises the digastric muscle of the lower jaw.
H Two foramina or small holes; one in the mastoid process of the temporal bone, near the appendix of the lambdoid suture: The other in the appendix itself of that suture; through which last foramen a vein passes to the lateral sinus of the dura mater.
I An appendix or addition to the lambdoid suture.
K A true suture, formed by a conjunction of the mastoid part of the temporal bone with the parietal bone.
L The mastoid or mammillary process of the temporal bone.
M The bony meatus or entrance of the ear.
N The zygomatic or jugal process of the temporal bone.
O The squamose or scaly part of the temporal bone.
P The squamose suture, formed by a conjunction of the temporal with the parietal bone.
Q R S The coronal suture. Q that part which is a serrated or true suture. R S that part of the frontal bone which like a scale shoots under the parietal bone R. S the multiform or sphenoidal bone.
T The frontal bone.
V The squamose suture, formed by the conjunction of the multiform bone with the parietal bone.
W A suture formed by the conjunction of the largest lateral process of the multiform bone with the squamose part of the temporal bone.
X The largest lateral process of the multiform bone.
Y A suture common to the os frontis and cheek bone near the extremity of the eye-brow.
Z Part of the os jugale or cheek bone in the temporal cavity.
Below Z is a suture common to the cheek bone with the upper jaw bone in the temporal cavity.
Betwixt Z and X is a suture common to the cheek bone with the largest lateral process of the multiform bone.
a The os maxillare superius or upper jaw bone.
Betwixt a and X is a fit or aperture that is left betwixt the upper jaw, cheek, and multiform bone.
b The outer part of the os jugale or cheek bone.
c A suture common to the cheek bone with the zygomatic process of the temporal bone.
d The os maxillare superius, or upper jaw bone.
e f g g The mandible or lower jaw. e its coronal or acute process. f its condyle or head that is jointed with the temporal bone. Just above f appears the moveable cartilaginous plate that is interposed in the articulation of the lower jaw.
h i The concave part of the left winged process of the multiform bone. i the little hook that supports and confines the tendon of the circumflex muscle of the palate.
k l The basis of the upper jaw bone. k that part which forms the gums or sockets of the teeth. l that which is in the palate.
m m m The teeth in each of the jaws.
n o o p p q The atlas or uppermost vertebra. n the left part of its body, into which is received the coronoid process of the occipital bone, which sustains the head with a moveable joint. o o the two lower parts of its body by which it is fastened with moveable articulations to the epistrophaeus. p p the transverse processes. q the protuberance or inequality that is instead of a spinal process, and from whence arise the (recti postici minores capitis) the less posterior and straight muscles of the head.
r r s t u The epistrophaeus or second vertebra of the neck. r r the two parts of its body which sustain the atlas or uppermost vertebra, with moveable junctures. s the transverse process, in which is a foramen or small hole to give a passage to the vertebral artery and vein. t the lower oblique process. u the spinal process, the extremity or end of which is forcated or divided into two.
v w x y z The fifth vertebra of the neck (if we reckon upwards, otherwise the third, if we count downwards, as is most usual). v its body. w its transverse process. x its upper oblique process. y its lower oblique process. z its spinal process.
a a, &c. The ligaments interposed betwixt the bodies of the vertebrae and tying them to each other.
b c d e The lower vertebrae of the neck. *b* the fourth. *c* the third. *d* the second. *e* the first. The parts or processes of these vertebrae are intelligible from the last explained.
f g h The twelfth or uppermost vertebra of the back. *f* the body. *g* the transverse process. *h* the spinal process.
i k l The eleventh vertebra of the back. *i* the transverse process. *l* the spinal process.
m The transverse process of the tenth vertebra of the back.
n n, &c. Openings made betwixt the vertebrae for the spinal nerves to come out, &c.
o p q r s The spinal processes of the vertebrae of the back. *o* that of the tenth. *p* of the ninth. *q* of the eighth. *r* of the seventh, and *s* of the sixth.
t u The fifth vertebra of the back. *t* the spinal process. *u* the body.
w x y The fourth vertebra of the back. *w* the body. *y* the spinal process.
z C D The third vertebra of the back. *z* the body. *C* the lower oblique process. *D* the spinal process.
H H L X The second vertebra of the back. *H H* the body. *L* the upper oblique process. *X* the spinal process.
P S W The first vertebra of the back. *P* its body. *W* its spinal process.
Y Y O The uppermost vertebra of the loins. *Y Y* it body. *O* its spinal process.
A A Æ B C C D The fourth vertebra of the loins. A A the body. Æ the upper oblique process. B the transverse process. C C the lower oblique process. D the spinal process.
E F G H I The third vertebra of the loins. E the body. F the transverse process. G the upper oblique process. H the spinal process. I the lower oblique process.
K The second vertebra of the loins, the parts and processes of which may be understood from the last mentioned.
L M The lowest vertebra of the loins. L its upper oblique process. M its spinal process.
N O P The os sacrum, or great bone of the spine. N the unequal or rough part of its side below the os ilium. O the third spinal process. P the lower oblique process, which is jointed to the upper oblique process of the first small bone of the coccyx.
Q R The first small bone of the coccyx. Q its upper oblique process. R its body.
S T The lower small bones of the coccyx. S the second. T the third.

In the Thorax, Shoulder-blades, and Clavicles.

V W X The first rib of the left side. V the first head or anterior part of its spinal end that is fastened into the body of the twelfth vertebra of the back. W The second head that is jointed with the transverse process of the same vertebra.
Y Z a a b The second rib of the left side. Y the first head that is fastened into a sinus or small cavity, common to the bodies of the eleventh and twelfth vertebrae of the back. Z the second small head that is jointed with the transverse process of the eleventh vertebra of the back. b its cartilaginous end.
c The second rib of the right side.
d d e The third rib of the left side. e its cartilaginous end.
f f The third rib of the right side.
g h The fourth rib of the left side. h its cartilaginous end.
i i k The fourth rib of the right side. k its cartilaginous end.
l m The fifth rib of the left side. m its cartilaginous end.
n n o o The fifth rib of the right side. o o its cartilaginous end.
p p q The sixth rib of the left side. q its cartilaginous end.
r r s s The sixth rib of the right side. s s its cartilaginous end.
t t u The seventh rib of the left side. u its cartilaginous end.
v v w w The seventh rib of the right side. w w its cartilaginous extremity.
x y The eighth rib of the left side. y its cartilaginous end.
z z z z The eighth rib of the right side. z z its cartilaginous end.
2 3 The ninth rib of the left side. 3 its cartilaginous end.
4 4 4 5 5 The ninth rib of the right side. 5 5 its cartilaginous end.
6 6 7 The tenth rib of the left side. 7 its cartilaginous end.
8 8 9 The tenth rib of the right side. 9 its cartilaginous end.
10 10 11 The eleventh rib of the left side. 11 its cartilaginous end.
12 12 13 The eleventh rib of the right side. 13 its cartilaginous end.
14 15 15 16 The twelfth rib of the left side. 14 its first head that is fasten-

ed to the body of the lowermoſt vertebra of the back. 16 its cartilaginous end.

17 The inner ſide of the right ſcapula or ſhoulder-blade.

18 19 20 21 22 The left ſcapula. 19 its neck. 20 the cartilaginous part that enlarges its neck, and covers the cavity into which the humerus is jointed. 21 the ſpine. 22 its acromion or upper proceſs.

23 The left clavicle, or collar-bone.

24 24 24 The os pectoris, or breaſt bone.

In the Upper Extremities.

A B C D E F. A F G H The humeri, or bones of the arms. A in the left humerus denotes a protuberance where the deltoid muſcle is inſerted. B C C the upper head. B the leſs protuberance of the upper head. C the greater protuberance of the upper head. Betwixt B and C is a ſinus or groove wherein is lodged the tendon of the lower head of the biceps muſcle of the arm. D a ſmooth cartilaginous cruſt that covers the part of the head which is jointed into the cavity of the ſcapula. E the leſs condyle of the lower head. F the head covered with a ſmooth cartilage with which the radius is articulated. G a convexity incruſted with a ſmooth cartilage to which the ulna is articulated. H the greater condyle.

I K L. I K L M The ulnæ, or greater bones of the cubit. I the olecranon, or elbow. L a ſmall head, in its circumference incruſted with a ſmooth cartilage where it is articulated to the radius. M the ſtyloid or pointed proceſs.

N O P Q Q. N O P R S The radii, or leſs bones of the fore-arm. O the upper head. P a tubercle, at the back part of which the tendon of the biceps muſcle of the arm is inſerted, which bends the fore-arm towards the body when the palm of the hand is downwards. Q Q R S the lower heads. R a ſinus or groove through which paſs the tendons of the leſs extenſor and long abductor muſcles of the thumb. S a ſinus or groove that is again partitioned into two, through which paſs the tendons of the external radial muſcles.

T V. T The navicular bones of the wriſts. V the head incruſted with a ſmooth cartilage by which it is jointed to the multangular bones.

W W The lunar bones of the carpus.

X Y The os triquetrum, or cuneiform bone of the wriſt. X that part which is incruſted with a ſmooth cartilage, where it is jointed to the ulna by a ligament that paſſes from the bottom of the head of the ulna to the bottom of the radius, where the latter is jointed to the ulna.

Z Z The oſſa rotunda, or pea-like bones of the carpus.

a a The trapezial, or great multangular bones.

b b The trapezoid, or leſs multangular bones of the carpus

c c c The oſſa magna vel capitata, the great or round-headed bones of the wriſts.

d d e f The unciform bones of the wriſts. e the part incruſted with a ſmooth cartilage where it is articulated with the cuneiform bone (X Y). f the unciform proceſs.

g g h The metacarpal bones of the thumbs. h a cartilaginous cruſt that covers the lower head where it is jointed to the firſt phalanx and the ſeſamoid bone. The ſame is alſo true in the right thumb.

i i The ſeſamoid bones placed at the joint of the thumb with its metacarpal bone.

k k l The firſt phalanx, or bone of the thumb. l a cartilaginous cruſt covering the lower head where it is jointed with the laſt bone.

m m The laſt phalanx, or bones of the thumbs.

n n p q r: n o p r The metacarpal bones of the hands; n that of the index or firſt finger, p that of the middle finger, q that of the ring finger, r that of the little finger. o the ſmooth cartilaginous cruſt that covers the lower head of the metacarpal bone of the index, where it is jointed to the bone of the firſt phalanx: And the ſame holds of the reſt of theſe bones in each hand.

s t u v: s t u v w The bones of the firſt phalanx, or order of the fingers. s that of the little finger, t that of the ring finger, u that of the middle finger, v that of the index. w a ſmooth cartilaginous cruſt that covers the lower head where it is jointed to the bone of the ſecond phalanx, or order. And the ſame alſo holds in the reſt.

x y z *C*. x y z *C D* The bones of the ſecond phalanx, or order of the fingers: x that of the index, y that of the middle finger, z that of the ring finger, *C* that of the little finger. *D* the lower head incruſted with a ſmooth cartilage, where it is jointed to the bone of the third, or laſt order: And ſo of the reſt.

H L X P: *H L X* The bones of the third, or laſt phalanx of the fingers. *H* that of the index, *L* that of the middle finger, *X* that of the ring finger, *P* that of the little finger.

In the Pelvis and lower Extremities.

S W W Y O a b The left os innominatum. *S W Y* the os ilium, hip, or flank bone. *W* its ſpine. *Y* the protuberance from whence ariſes the rectus muſcle of the leg. *O* a the os iſchium or hich bone, a the acute proceſs of the iſchium, b the os pubis.

c d e f f The right os innominatum. c the ſpine or edge of the os ilium. d the tubercle from whence ariſes the rectus muſcle of the leg. e the acute proceſs of the iſchium. f f the os pubis

g h i k l m The left femur, or thigh bone. g the head incruſted with a ſmooth cartilage where it is jointed in the acetabulum. h the neck. i the greater trochanter. l the outer condyle of the lower head. m ſo far extends the ſmooth cartilaginous cruſt that covers part of the condyles at their juncture with the knee.

n n o p p The right femur, or thigh bone. o the inner condyle. p p the boundaries of the ſmooth cartilaginous cruſt that covers the part of this condyle where it is jointed to the tibia and patella.

q r. q r The patellæ, or knee-pan bones. r that part which is covered with a ſmooth cartilaginous cruſt which forms part of the joint at the knee.

s s The inner ſemilunar cartilages that are interpoſed in the joints of the knees.

t The outer ſemilunar cartilage in the joint of the knee.

u v v w x y z. u v w x y z The tibiæ or greater bones of the legs. u the upper head, v that part of the upper head which belonging to the joint of the knee is covered with a ſmooth cartilaginous cruſt. w a protuberance in which terminates the ligament that comes from the patella, and ties the ſame to the tibia. y z the lower head, z the inner ancle.

A B C. A B C The fibulæ, or ſmall bones of the legs. B the upper head. C the outer ancle.

D E F G. D E G The aſtragali, or cockal bones. E that part which helps to form a juncture with the bones of the leg, covered with a ſmooth cartilaginous cruſt. F a ſinus or groove through which paſſes the tendon of the long flexor muſcle of the great toe. G the cartilaginous incruſtation that covers this head of the aſtragalus.

H. H I K The calcanei, or heel bones. I the tubercle by which it begins; and into the back and lower part of which is inſerted the tendo Achillis with the tendon of the plantaris muſcle; it is inclined upward and backward when we bend the leg and foot forwards. K the projecting part that ſuſtains the head of the aſtragalus.

L L The cubical bones of the tarſus, or ancle.

M M The navicular bones of the tarſus.

N The middle cuneiform bone of the tarſus.

O O The leſs cuneiform bones of the tarſus.

P P The greater cuneiform bones of the tarſus.

Q R S T V: Q R S T V W The bones of the metatarſus, or inſteps: Q that of the great toe, R that of the firſt of the ſmall toes, S that of the ſecond, T that of the third, V that of the fourth. W the head of the metatarſal bone of the great toe covered with a ſmooth cartilaginous cruſt at its juncture with the bone of the firſt phalanx and ſeſamoid bones. The ſame is alſo true of the other bones of the metatarſus.

X The ſeſamoid bones that are placed at the joint of the great toe with its metarſal bone.

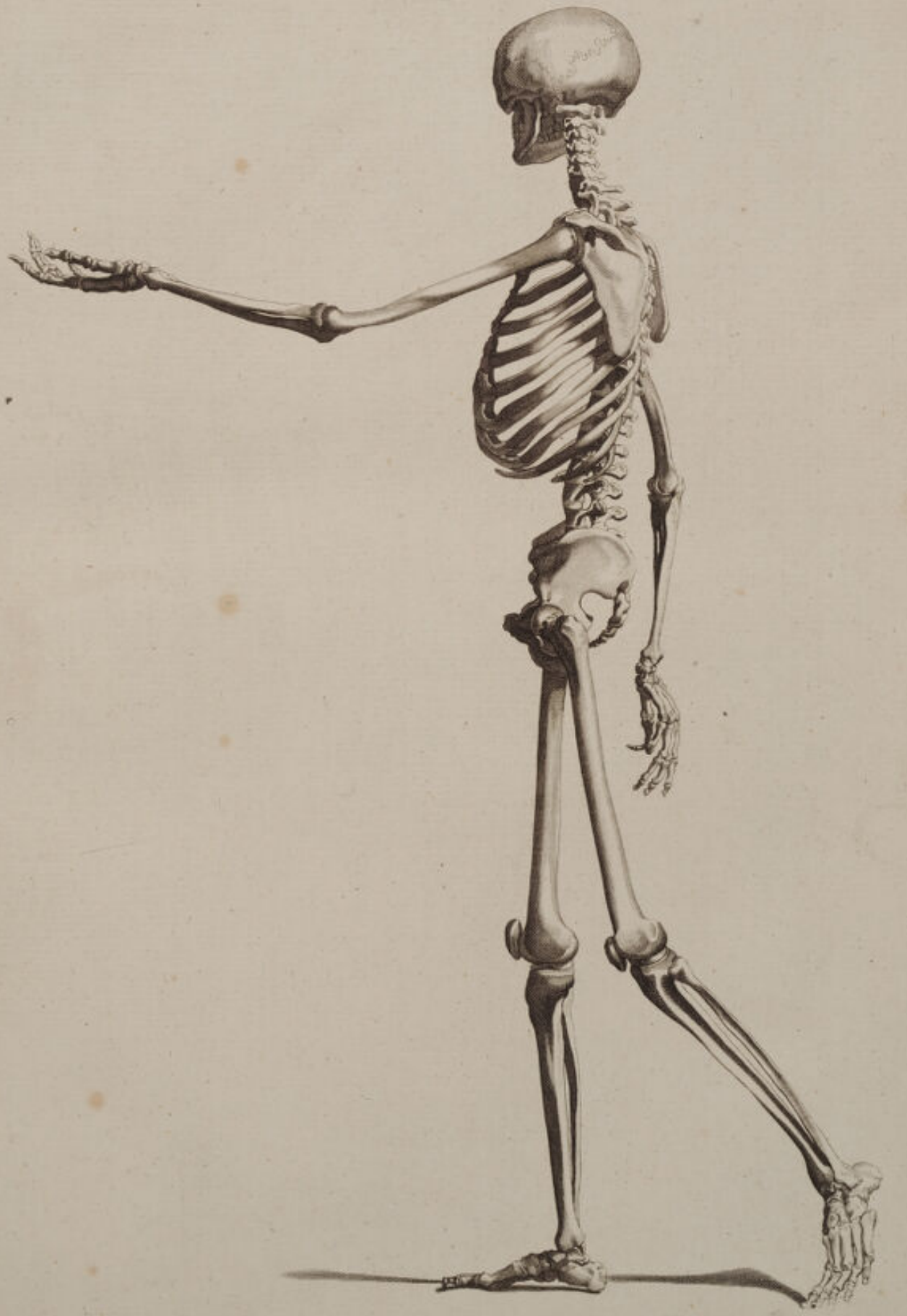
Y Z *a*: Y Z *a b c D* The bones of the firſt phalanx, or order of the great and ſmall toes: Y that of the great toe, Z that of the firſt of the ſmall toes, *a* that of the ſecond, *b* that of the third, *c* that of the little toe. *D* the round head incruſted with a ſmooth cartilage where it is jointed to the next bone. The ſame likewiſe holds in the reſt of theſe bones.

e e f g h The bones of the ſecond phalanx, or order of the ſmall toes: *e* that of the firſt toe, *f* that of the ſecond, *g* that of the third, and *h* of the little toe.

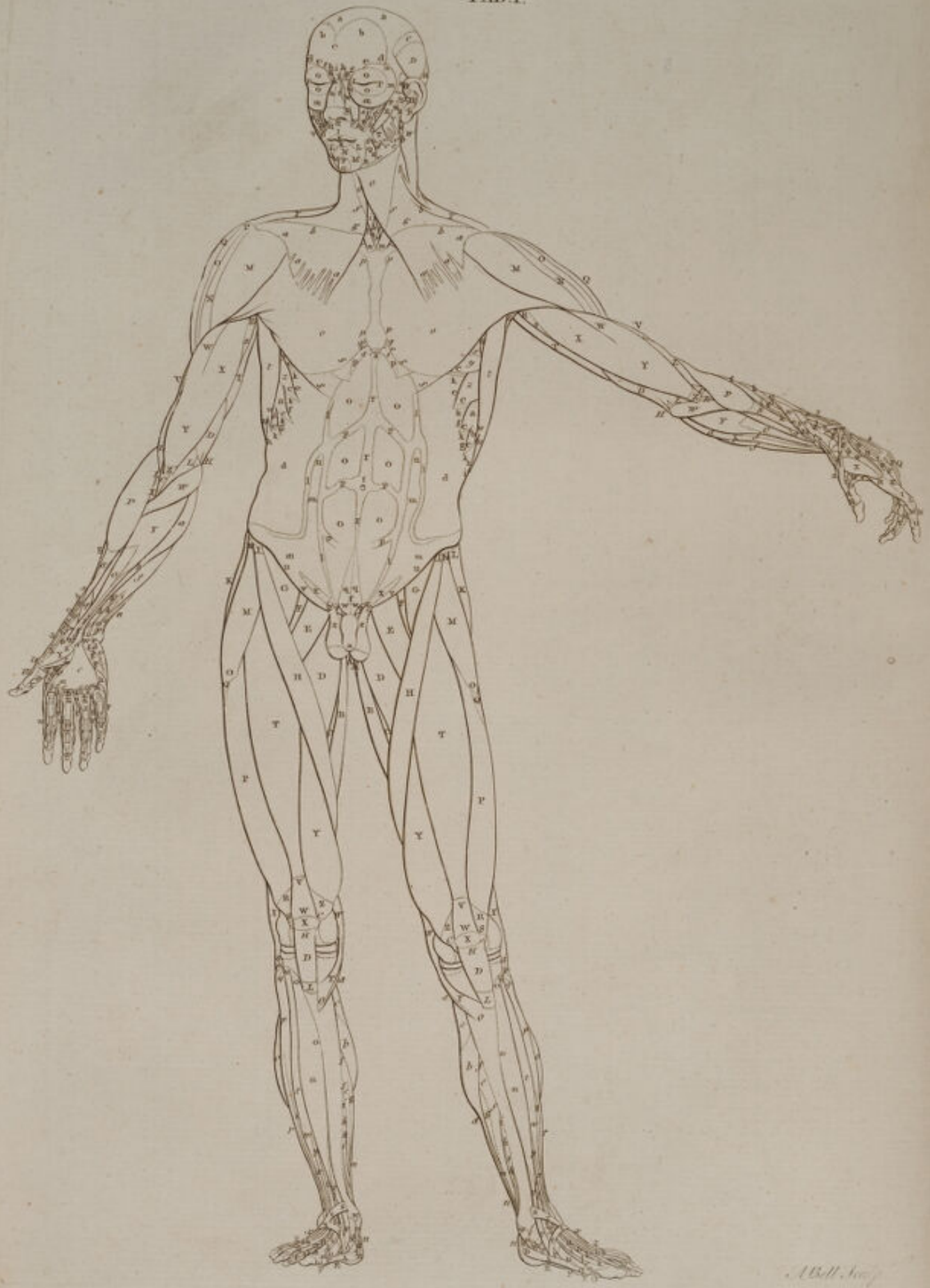
i i The laſt bones of the great toes.

k k: *k l m n* The bones of the third and laſt phalanx, or order of the ſmall toes: *k* that of the firſt, *l* of the ſecond, *m* of the third, and *n* of the little toe.

Tab . III



TAB. I.



THE
First Anatomical Table
OF THE
HUMAN MUSCLES
EXPLAINED.

IN this Table are exhibited the outermoſt of the muſcles, juſt as they are ſituated, behind the common integuments and tendinous faſciæ, throughout the whole anterior part of the body; to which we have added ſome of the ligaments belonging to thoſe faciæ, and to the Skeleton, or proper to ſome other parts, as thoſe of the noſe, ears, and pudends, which are not covered with muſcles.

In the Head, Neck, and Trunk.

a a a b b c d e f g h d. e f g h i k l The Epicranius or muſcle of the ſcalp. a a a the tendinous expanſion betwixt the occipital and frontal muſcles. b b, &c. The frontal muſcles. b b the round margins from whence they ariſe. c the conjunction of the frontal muſcles along the middle of the forehead. d-c. d-c the termination of the frontal muſcles at the orbicular muſcles of the eye-lids. e f. e-f their inflexion along the eye-lids to the greater or inner corners of the eyes, according to the courſe of the orbiculares palpebrarum. g, g the points that inflect themſelves into the greater angles. h. h portions that go to the elevators of the upper lip and wings of the noſe. i the part that runs betwixt the eye-brows, and upon the noſe. k l the conjunction of the frontal muſcles with the compreſſores narium; with which, at k, they are interwove, and at l they are continued with them.

m m n o o p q r. m o o p The orbicular muſcles of the eye-lids. m m that part which is expanded round the margin of the orbit of the eye. n the part that comes from the corrugator of the eye-brow. o o the part that is ſpread over the eye-lid. p an interexture or implication of the fibres, which, coming from the eye-lids, meet together near the leſſer canthus or angle. q r the origin of the fibres from the ligament, by which the conjunction of the eye lids in the greater canthus is tied to the noſe.

s The ligament by which the tarſi, or cartilaginous edges of the eye-lids meeting in the greater canthus, are tied to the noſe, and partly to that origin of it that ſpringe from the upper jaw-bone.

t u The compreſſor of the noſtril. t the fleſhy part. u its tendinous expanſion, by which the right and left of thoſe muſcles are conjoined, along the back of the noſe.

w x y. y The elevators of the upper lip and of the noſtril. x that part which goes along the ſide of the noſe to the wing of the noſtril. y that end which is expanded thro' the upper lip and there diſappears.

z A. z The elevators of the upper lip. A the extremity, which being extenuated, runs thro' the upper lip, and therein diſappears.

B. B Portions which come to the upper lip, from the orbicular muſcles of the eye lids.

C. C The leſs zygomatics, which, being extenuated thro' the upper lip, diſappear.

D D. D The elevators of the corners of the mouth. D D continues itſelf partly to the depreſſor of the angle of the mouth, and partly bends itſelf round the ſaid angle to the lower lip, and there it forms the outer part of the orbicular muſcle of the mouth.

E F G. E The greater zygomatics. F the origin from the os jugale. G the lower extremity continued to the depreſſor of the angle of the mouth.

H. H The naſal muſcles of the upper lip. Here may be ſeen its origin from the noſe, and the manner in which it is inſerted into the orbicular muſcle of the mouth.

I Part of the orbicular muſcle of the mouth in the upper lip, where it goes round the angle of the mouth, it receives a portion from the elevator of the angle (D D) which paſſes round with it.

K K Part of the orbicular muſcle of the mouth which is in the red margin of the lips.

L L. Thin faſciculi or expanſions, that come partly from the greater zygomatics, extended hither; and partly from the depreſſors of the corners of the mouth; they croſs the faſciculi of the ſubjacent depreſſors of the lower lip.

M. M N The depreſſors of the lower lip, which decuſſate or traverſe each other at N.

O P The elevators of the chin. P fibres that intermix with the fat of the chin.

Q R R S. Q The depreſſors of the corners of the mouth. R R its origin from the lower jaw. S its continuation to the greater zygomatic.

T The buccinator, or trumpet-muſcle.

V W X Y. V The maſſeters. V the anterior and outer part. W the origin of part of it from the os jugale. X the poſterior part which is naked before. Y the origin of this poſterior part from the os jugale, and from the jugal proceſs of the temporal bone.

Z The anterior muſcle of the outer ear.

C D The elevator of the outer ear. *C* its tendinous beginning by which it goes off from the epicranius. *D* the fleſhy part.

H The greater muſcle of the helix.

L The muſcle of the tragus.

X The leſs muſcle of the helix.

P The antitragicus muſcle

S The digaſtric muſcle of the lower jaw.

W The ſternomaſtoid and cleinomaſtoid muſcles conjoined together into one.

Y Y Part of the cucullaris muſcles.

O a a a b b b c c d e e f g h. O a a a f g h The quadratus genæ, or broad muſcle of the neck. *a a a* its origin, conſiſting of thin and ſcattered faſciculi. *b b b* faſciculi or fibres, that in ſome people are detached to the ſide of the neck. *c c* ſcattered fibres, which, diſappearing in the cheek, terminate this muſcle. *d* a faſciculus that is extended towards the angle of the mouth, over the fore-part of the depreſſor of that angle. *e e* the lower jaw projecting under this thin and broad muſcle of the neck (*f g h*). in like manner, the ſternomaſtoideus *f*, and cleinomaſtoideus *g*, with the clavicle *h*, appear protuberant under this muſcle.

i i The ſternohyoidei muſcles.

k k The aſpera arteria, or wind-pipe.

l m. m The ſternomaſtoidei. *m* The tendinous beginning ariſing from the ſternum.

n n The ſternothyroid muſcles.

o p p q r s. o p p q r s o The pectoral muſcles. *p p* its origin from the ſternum. *q* from the cartilage of the ſixth rib. *r* from the ſeventh, by a beginning that is for ſome way thin and tendinous. *s* a coheſion with the aponeuroſis of the oblique external muſcle of the abdomen. *s s* part of this muſcle coming from the aponeuroſis of the external oblique muſcle; which part is in this ſubject thin and tendinous, in others it is thicker and fleſhy, varying its condition in various bodies.

t t The teres major.

t u w. t u w The latiſſimi dorſi. *u u* two heads ariſing, the former form the tenth, and the latter form the ninth rib.

x y z a b c c c c. y z a b c c c c The ſerrati magni, vel antici inferiores. *x* the head ariſing from the fifth rib, *y* that from the ſixth rib, *z* from the ſeventh, *a* from the eighth, *b* from the ninth. *c c c c* the origin of the heads themſelves from the ribs.

d e f g h i k k k k l l l m m n o o o p p p p q r r r r s s t u v v w w x. d e f g h k k k k l l l m m n o o o p p p p q r r r r s s t u v v w w x, The external oblique muſcles of the abdomen. d the fleſhy part. e the head ariſing from the fifth rib, f from the ſeventh, g from the eighth, h from the ninth, i from the tenth. k the origin of the heads themſelves from the ribs. l l l m m n o o o p p p p q r r r r s s t u v v w w x its aponeuroſis or tendinous expanſion, under which, at m m, is protuberant the fleſh of the internal oblique muſcle, and under the aponeuroſis of both theſe, at n, protuberates the fleſh of the tranſverſe muſcle. Here the recti o o o, and their innervations p p p p, appear through the ſaid aponeuroſes, and under the ſame at q, protuberates the pyramidal muſcle. r r r r the lineæ albæ, into which the aponeuroſes of the oblique external muſcles are continued, and croſs each other, and are conjoined to the ſubjacent ones. s an aponeuroſis inſerted into the breaſt bone. The part s may be ſaid to belong either to the aponeuroſes of the oblique external, or to the pectoral muſcle; and ſo either to ariſe from the cartilage of the ſeventh rib, or to be inſerted into it. t an opening in the linea alba, through which, in the fœtus, paſs out the umbilical arteries, the umbilical vein, and urachus. u the bottom of the tendinous margin that is extended from the ſpine of the ilium to the pubes. v v. w w the two parts into which the aponeuroſes ſplits itſelf, and continues diſtinct from thence to the pubes, under the appearance of a tendon, wherein is an aperture, through which paſſes out the chord of the ſpermatic veſſels with the cremaſter muſcle. x a thin expanſion continued from one tendon to the other, and connecting them together. Under this expanſion the ſpermatic chord paſſes along, a little protuberant and conſpicuous through it; till at length the ſaid chord comes out from beneath the expanſion, through an oblique ring or aperture, near the pubes; which ring is ſmall, and formed betwixt the expanſion x, the tendons v v. w w, and the os pubis. Laſtly, the fibres of the aponeuroſis that are expanded under the appearance of fleſh or muſcle, decuſſate other ſmall and thin tendinous fibres; as ſufficiently appears from the figure; and from both thoſe kinds of fibres is formed the expanſion x, that runs from one tendon through the other.

y. y The naked chords of the ſpermatic veſſels.

z. z The cremaſter muſcles.

In the lower Extremities.

A. A The glutei maximi.

B. B The graciles.

C. C The great abductors of the triceps of each thigh.

D. D The long abductors of the triceps of each thigh.

E. E The pectinei muſcles.

F. F The great pſoas or lumbal muſcle of the thigh, coming out of the abdomen.

G. G The internal iliac muſcles.

H I. H I The Sartorius or Taylor's muſcle. I its origin, which is outwardly tendinous from the ſpine of the ilium.

K L. K The glutei medii. L its origin from the ſpine of the ilium.

M N O. M N O The faciales or extenſors of the aponeurotic faſciæ of the thighs. N its origin from the ſpine of the ilium. O its extremity, when the tendinous part is cut off that joins the faſcia or vagina of the thigh.

P Q R S. P Q R S The vaſti externi. Q the tendinous part. R the lower tendon, inſerted into the patella at S.

T V W X. T V W X The recti or ſtraight muſcles of the thighs. V the tendon inſerted into the patella or knee-pan bone. W the place where the tendon inſerts itſelf into the patella. X an aponeuroſis that runs over the patella from the rectus, and afterward joins itſelf to the fore-part of the ligament that ties the patella to the tibia.

Y Z *C*. Y Z *C* The vaſti interni. Z the tendon of its end, inſerted into the patella at *C*.

D H L. D H L The ligament that ties the patella to the tibia. *H* the part where it ariſes from the patella. *L* the whole ſpace by which it is inſerted into the tibia below.

X P S. X P S Part of the biceps muſcle of each leg. *P S* its tendinous end, of which the principal part *P* is inſerted into the head of the fibula; *S* the part which belongs to the tibia.

W Y O. W Y O. The ſartorius (H). *Y* the tendon which is inſerted into the tibia at *O*.

a. a Lower end of the ſemitendinoſus, or ſeminervoſus.

b c d. b c The gemelli or gaſtrocnemii. *b* aponeuroſis. *d* the tendon.

e f f g. e f f g The ſolei. *f f* the origin from the tibia. *g* the tendinous ſurface.

h i i k. h i i k The long flexors of the toes. *i i* the origin from the tibia. *k* the beginning of the tendon.

l. l The tendons of the tibiales poſtici.

m. m The tendons of the plantares muſculi.

n n. n The great tendons of the heel, called Achilles.

o. o The ſolei muſcles.

p q r. p q r The peronæus longus. *q* its origin from the head of the fibula. *r* the tendon ariſing from the outer part of its fleſhy body.

s. s The peronæus brevis.

t u. t u The long extenſors of the toes conjoined into one with the peronei tertii. *u* the origin from the tibia.

w x x. w x x The peronei tertii. *x x* the tendon on the leg and foot.

y z a b c. y z a b c The long extenſors of the toes. *y* the tendon which is divided into four other tendons, *z a b c*, running over the back of the foot, and on the ſmall toes.

d e f g h These letters are engraved only upon the first of the small toes of the right foot, (there not being room enough for them on the other small toes of each foot); but, from this one, the corresponding parts of the rest may easily be understood. d the common tendon of the long and short extensor of the toes, inserted into the bone of the second phalanx. e the tendon running to the bone of the third or last order, which tendon comes from the short extensor of the toes; but there is no such tendon goes to the little toe. f part of the common tendon of the long and short extensor, running to the third or last bone. g the common end of the two tendinous portions belonging to the third bone, into which they are inserted. h the aponeurosis that joins the tendon d, coming partly from the capsula of the joint of the toe with its metatarsal bone, partly from the tendon of the interosseus and lumbrical muscle of this side, and, in part, from the side of the bone of the first phalanx.

iiik iiik The tendons of the extensors proper to the great toes. k the end inserted into the last bone of the great toe.

lll. lll Branches of the tendons of the extensors proper to the great toes, which are sometimes found.

m. m Aponeuroses which the tendons proper to the great toes receive from the capsules of the joints of the said toes, with their metatarsal bones.

n o o p p p. n o o p p p The tibialis antici. o o the origin from the tibia. p p p the tendon.

q r s t. q r s t The ligaments that cover and confine the tendons at the bottom of the leg, and on the back of the foot. r the upper horn affixed to the tibia at s. t the lower horn.

u w. u w The ligaments that retain the tendons near the inner ancles. w its origin from the said ancle.

x x The ligaments that retain the tendons of the tibiales postici.

y y. y The tendons of the tibiales postici inserted partly into the navicular bones, and running partly to the greater cuneiform bones.

z. z The muscular heads which arise from the calcanei or heel-bones, and go to the long flexors of the toes in the sides of the feet.

A B C. A B C The abductors of the great toes. B the origin from the side of the heel-bone. C the tendon.

D D The short flexor muscles of the great toes.

E E The short flexor muscles of the other toes.

F F. F The tendons of the long flexors of the great toes.

G The tendon of the long flexor of the great toe in the left foot, where it passes under the first phalanx, confined in a tendinous sheath that splits into two horns.

H I K. H I The short extensors of the toes. H a part belonging to the great toes. I a portion running to that side of the first of the less toes, which is next the great toe; sometimes found. K a portion belonging to the first of the less toes.

L L The first of the interossei muscles, belonging to the first of the small toes.

In the upper Extremities.

M N O P Q. M N O Q The deltoid muscles. M the first portion of the anterior order of fasciculi that compose this muscle. N the first of the lateral order. O P the third portion of the first or anterior order. P its origin from the acromion or upper process of the scapula. Q the middle portion of the second order.

R S The coracobrachialis; at the part R they are conjoined with the lower head of the biceps muscle of the arm.

T. T The long portions of the triceps muscles of the arms.

V. V The short portions of the triceps muscles of the arms.

W X Y Z C. W X Y Z C The biceps muscles of the arms. W the longer head. X the shorter head. Y the common belly. Z the aponeurosis that gives the tendinous fascia to the fore-arm, here cut off. *C* the tendon by which it is inserted into the radius.

D H. D H Portions of the triceps muscles of the arms, which are commonly called the brachiæi externi. *H* a tendon, which, arising from the surface, the said brachiæus goes to the posterior condyle of the humerus.

I I I. I I I. The brachiæi interni muscles.

X The short supinator muscle of the radius

P S. P S The long supinators. *S* the tendon.

W W The round pronators of the radius.

Y O. Y O The radiales interni. *O* the tendon.

a b d e e e e e e e. a b The palmares longi. *b* the tendon. *c d e e e e e e e* its aponeurosis, or tendinous expansion, first slightly distinguished into four portions, which become afterwards more distinct and strengthened by transverse tendinous fibres. *d* the portion which it sends off to the short abductor of the thumb. *e e e e e e e* the extremities which this aponeurosis sends to the roots of the fingers.

f g h i k l l l m. f f f The sublimes. *g h* a portion that belongs to the middle finger; *h* the tendon. *i k* the portion that belongs to the ring finger; *k* the tendon. *l l l* the portion to the index. *m* the portion to the little finger.

n o p The ulnaris internus. *o* the tendon, inserted into the pisiform bone of the wrist *p*.

q r. q The long flexors of the thumbs. *r* the tendon.

s The tendon of the profundus that goes to the index.

t The pronator quadratus.

u u The ligaments under which pass the tendons of the long abductors and less extensors of the thumbs.

w y z b b. x z z a b b The long abductors of the thumbs. *z* the upper part. *y* the lower part. z z the tendon of the upper part. a the portion which it sends off to the short abductor of the thumb. b b the tendon of its lower part.

c d. c d The less extensors of the thumbs. d the tendon.

e The outer part of the armillary, or round ligament.

f g g g g h The longer external radialis muscle. g g g g h the tendon inserted into the metacarpal bone of the index at h.

i The tendon of the less radialis externus longior.

k k l l l l The shorter radialis externus. l l l l the tendon.

m n o p q The common extensor of the fingers. n o the portion that belongs to the index, of which o denotes the tendon. p the tendon to the middle finger. q the tendon to the ring finger.

In the Left Hand.

r s The extensor proper to the little finger. s the tendon.

t The aponeurosis by which the tendon of the index o, and that of the middle finger p are conjoined together. By like aponeuroses also are conjoined the tendons of the middle and ring finger, of the ring and little finger: But these, as well as the conjunctions and divisions of the tendons of the common and proper extensor of the little finger, are not marked with letters; because the whole may be better understood from the first of the back views, which makes the fifth muscular table.

u u The tendon of the indicator muscle.

w The first or outermost interosseus muscle of the index.

x The abductor of the index.

y The tendon of the greater extensor of the thumb.

z The opposing muscle of the thumb.

A B The common tendon of the greater and less extensor of the thumb, inserted into the last bone or phalanx of it.

C The aponeurosis that invests the capsule of the joint of the thumb with its metacarpal bone, adhering to the said capsule and to the tendon of the common extensor of the thumb.

D The posterior tail of the short flexor of the thumb.

E The aponeurosis which the posterior tail of the short flexor of the thumb sends to the tendon of the common extensor of the thumb.

F G The abductor of the thumb. G the tendinous end inserted into the first bone of the thumb.

H The aponeurosis which, arising partly from the first lumbrical and abductor muscle of the index, joins itself to the tendon of the common extensor of the index.

I The tendon of the first lumbrical muscle.

K L The common tendon of the indicator and extensor muscles belonging to the index.

M The tendon of the first lumbrical muscle, enlarged by a portion it receives from the common tendon of the extensors of the index, and running to the third or last bone of that finger.

N The tendon of the posterior interosseous muscle of the index, which being increased by a portion received from the common tendon of the extensors of the index, goes on to the third bone or phalanx of the index.

O The common end of the tendons M and N, inserted into the third bone of the index, formed by the tendons of the interossei muscles (M N) conjoined into one.

P P The tendons of the common extensor of the fingers, where they descend over the backs of the fingers, with the aponeurosis they receive.

Q The common tendon of the extensors of the little finger, descending over the back of that finger.

R A tendon common to the outer interosseous muscle of the middle finger and second lumbrical muscle; which tendon being augmented by a portion it receives from the tendon of the common extensor, runs down to the last or third bone.

S A tendon of the sublimis muscle.

T A ligament that invests the tendon of the profundus, together with the extremities of the tendon of the sublimis.

V A tendon of the profundus.

The same (S T V) also holds in the other three fingers, in which the parts being very small, are not marked with letters.

In the Right Hand.

W W The ligament of the carpus that, with the hollow of the wrist, forms a canal that holds and confines the tendons which go to the fingers and thumb from the sublimis, profundus, and long flexor of the thumb.

X The opponent muscle of the thumb.

Y Z *C D* The short abductor of the thumb. Z its origin from the ligament of the wrist. *C* part of its tendinous end inserted into the first bone of the thumb. *D* tendinous fibres which pass over the back of the thumb, and join to the other part of the tendon of the extensors of the thumb, and continues itself to a like aponeurosis of the short flexor of the thumb.

H The common tendon of the extensors of the thumb.

L Part of the short flexor of the thumb, which may be reckoned another short abductor of the thumb: Its tendinous end being inserted into the first bone of the thumb.

X X P The tendon of the long flexor of the thumb in a manner split in two. *P* the end that belongs to the last bone of the thumb.

S The ligament by which the tendon of the long flexor of the thumb is retained upon the first phalanx; which ligament is oblique and simple at first, but is afterwards divided, or split into two extremities.

W The posterior tail of the short flexor of the thumb.

Y The abductor of the thumb.

O The first lumbrical muscle.

a The anterior, or outer interosseous muscle of the index.

b The abductor of the index, its tendinous end being inserted into the first bone of the index.

c d e The abductor of the little finger. d its origin from the ligament of the carpus, and from the round or pisiform bone of the wrist, e.

f The abductor of the metacarpal bone of the little finger.

g g The palmaris brevis, or square muscle of the palm.

h The small flexor of the little finger.

i The fourth lumbrical muscle.

k The third lumbrical muscle.

l The second lumbrical muscle.

m The former interosseous muscle of the middle finger.

n The former interosseous muscle of the ring finger.

o The former interosseous muscle of the little finger.

p The common tendon of the small flexor, and abductor of the little finger.

q The common tendon of the fourth lumbrical, and former interosseous muscle of the little finger.

r The tendon of the posterior interosseous muscle of the ring finger.

s The common tendon of the third lumbrical, and former interosseous muscle of the ring finger.

t The tendon of the posterior interosseous muscle of the middle finger.

u The common tendon of the second lumbrical, and former interosseous muscle of the middle finger.

v The tendon of the posterior interosseous muscle of the index.

w The tendon of the first lumbrical muscle.

x The tendon of the sublimis: By the side of which, next the thumb, is a tendon of the profundus, on which there is not room for a letter to be marked.

y z A tendon of the profundus, split as it were lengthwise, and inserted into the third bone or phalanx.

2 2 The two horns or tails of a tendon of the sublimis.

3 The ligament that invests the tendons of the sublimis and profundus as they pass along the first bone or phalanx: Which ligament is fixed on each side of the margin of the said first bone.

4 4 4 Three small ligaments which retain the tendons of the sublimis and profundus, near the joint of the finger, with its metacarpal bone; they are thick and continued to each other, and to the next ligament, 3. by thin tendinous fibres.

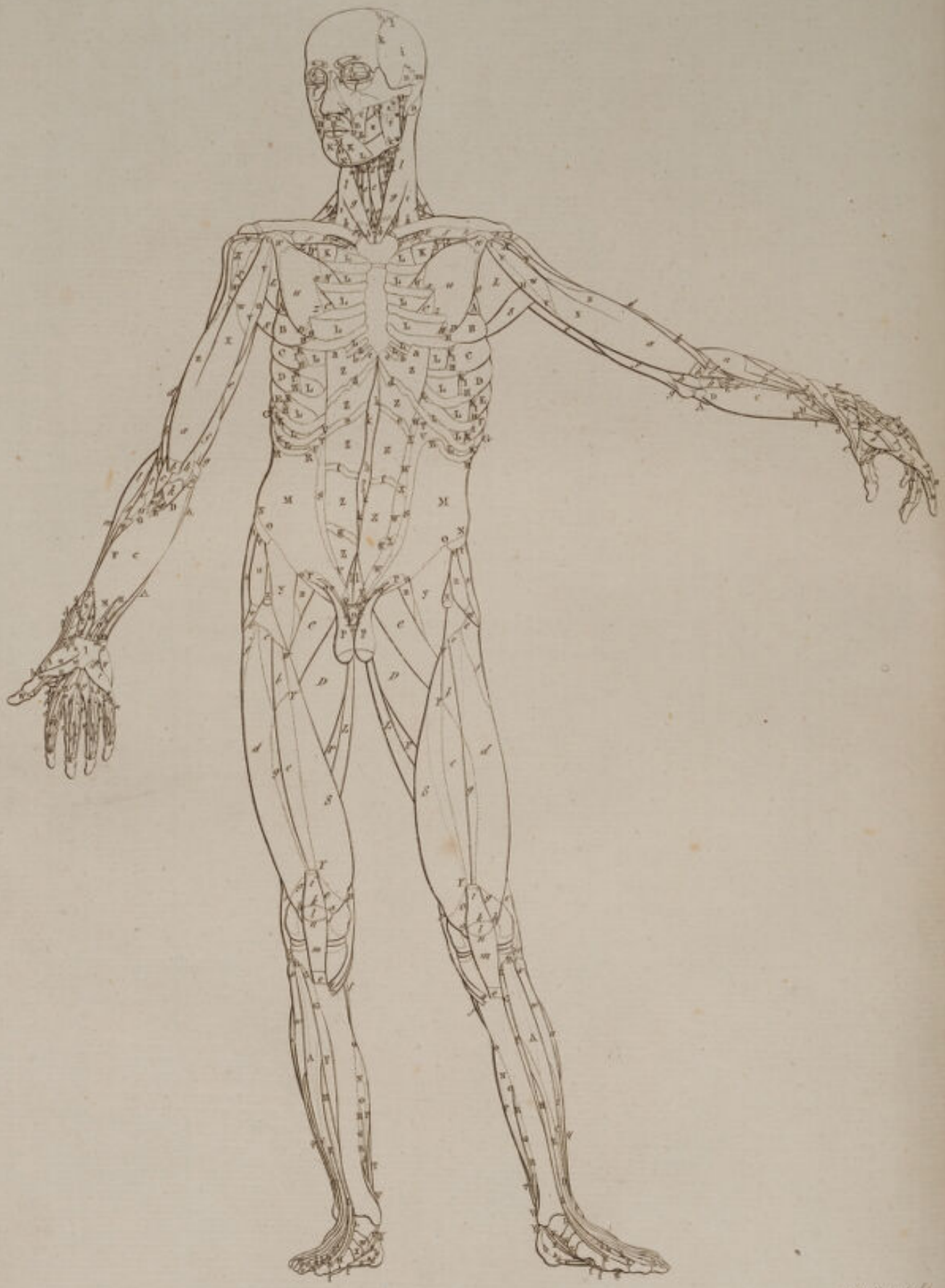
5 The ligament that invests the tendon from the profundus, and the extremities or tails of the sublimis tendon, about the middle of the length of the second bone, or phalanx; which ligament is affixed on each side to the margin of the second bone.

The same parts (x. y z. 2 2. 3. 4 4 4. 5.) are likewise in the rest of the fingers; and are sufficiently apparent, although they are not marked with letters.

The parts of the Skeleton which appear betwixt the muscles are not marked with explanatory letters; since they may easily be understood from the first table of the Skeleton, in which the figure is plainly the same, and makes the basis or back-foundation of this; to the bones of which Skeleton the muscles are inscribed to form this and the other muscular tables.

TAB. I.

TAB. II.



J. Bell. Sculp.

TAB. II.

THE

Second Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

MOST of the primary or outermost muſcles contained in the firſt Table, being here taken away; we exhibit in the preſent figure the next order of muſcles, together with ſome of the ligaments and naked parts of the Skeleton, which make the foundation of thoſe muſcles.

The parts taken off from this figure are from the *head*, the epicranius, the elevator and anterior muſcle of the outer ear, with the ear itſelf.——From the *face*, the orbicularis of the eye-lids, the compreſſors of the noſtrils, the elevators of the upper lip and ſides of the noſe, the elevators proper to the upper lip, the portion detached from the orbicularis of the eye-lids to the upper lip, the greater and leſs zygomatics, and the depreſſors of the corners of the mouth.—From the *neck*, the latiſſimus or quadratus, and the cucullares.—From the *trunk*, are taken the pectorales, latiſſimi dorſi muſcles, and oblique external ones of the abdomen, with the penis.—From the *thighs*, the extenſors of their tendinous coverings, with the Taylors and ſtraight muſcles of the thighs and legs.—From the *legs* and *feet* are taken, the gaſtrocnemii, the tibiales antici, the ligaments that confine the tendons at the bottom of the leg and upon the back of the foot, the ligaments that retain the tendons near the inner ancles, the ligaments that retain the tendons of the tibiales poſtici, the abdactors of the great toes, the aponeuroſes which the tendons of the extenſors proper to the great toes receive from the capſules of the joints of thoſe toes with their metatarſal bones.—From the *arms* are taken the deltoide muſcles. From the *fore-arms* and *hands*, the long ſupinators, the round pronators, the internal radials, the palmares longi, the ligaments under which paſs the tendons of the long abductors and leſs extenſors of the thumbs. Alſo from the right hand are taken the ſhort abductor of the thumb, the ligaments which retain the tendon of the long flexor of the thumb, the palmaris brevis, the ligaments confining the tendons of the ſublimis and profundus where they paſs along the fingers. Alſo from the left fore-arm and hand are taken, the common extenſor of the fingers, the extenſor proper to the little finger, the outer part of the round or carpal ligament, and the ligaments which confine the tendons of the ſublimis and profundus in the fingers.

In the Head, Neck, Thorax, and Shoulders.

a b. a b The corrugators of the eye-brows. b their origin from the os frontis.

c d e. c d e The elevators of the upper eye-lids. c the fleſhy part. d e the part that is like a thin tendinous expanſion, ſpread over the tarſus, which makes it project out in the part e.

f f f. f &c. The membranous part of the eye-lids.

g The ligament that ties the meeting of the eye-lids, in the greater canthus, to the naſal proceſs of the upper jaw-bone. The ſame is alſo in the other ſide of the face.

h h. h h Some continuations of the orbicular muſcles of the eye-lids, ariſing from the extremity of the aforeſaid ligament, and ſpread round the margin of the eye-lids in one continued courſe.

i k l m n The temporal muſcles. k l m the firſt beginning of its origin, from the os frontis at k, from the parietal bone at l, and from the temporal bone m. n its tendon.

o p q r s t u w w x. r The maſſeters. o the back part, where it is not covered, ariſing from the zygomatic proceſs of the temporal bone p, and from the os jugale q. r the anterior and outer part. s its tendinous beginning. t u its origin from the upper jaw bone t, from the os jugale u. w w its tendinous ending, the extremity of which x is inſerted into the lower jaw.

y The digaſtric muſcle of the lower jaw.

z The buccinator muſcle.

A The external pterygoide muſcle.

B C D E. B. The elevators of the corners of the mouth. C its origin from the upper jaw. D the part where it joins to the naſal portion of the upper lip, and by which it joins the ſphincter of the mouth. E the part by which it is continued to the depreſſor of the corner of the mouth, which is cut off near this part.

F The depreſſor of the wing of the noſtril into which it is inſerted; part of the right is alſo viſible.

G. G The natals of the upper lip; in which may be ſeen the manner of their ariſing from the noſe, and joining to the ſphincter of the mouth.

H I I The ſphincter of the mouth. H that part which is in the upper lip. I I the part in the red margin of the lips.

K L. K M The depreſſors of the lower lip. L the origin from the jaw. M the part where the right and left croſs each other.

N O The elevators of the chin. O fibres which mix with the fat of the chin.

P The digaſtric muſcle of the lower jaw.

Q The mylohyoides, inſerted into the os hyoides.

R The ſtylohyoideus muſcle.

S The baſioglaſſus muſcle.

T The ceratoglaſſus muſcle.

V A ligament extended from the end of the horn of the os hyoides to the upper proceſs of the thyroide cartilage, which it ties to the ſaid horn.

W The ſtylopharingeus muſcle.

X The lower conſtrictor of the pharynx.

Between W and X is the upper proceſs of the thyroide cartilage.

Y Z. Y The hyothyroides. Z the origin from the os hyoides.

a a b. a a b The coracohyoides. *b* the end inſerted into the baſis of the os hyoides.

c c c d. c c c d The ſternohyoides. *d* the end inſerted into the baſis of the os hyoides.

e e e. e e e The ſternothyroides muſcles.

f The windpipe or trachia.

g h i l m. g h i k l m The ſternal and clavicular portions of the maſtoide muſcle conjoined. *g h* the ſternal part or ſternomaſtoideus. *h* its origin from the ſternum by a tendon, and afterwards tendinous. *i k* the clavicular portion or cleidomaſtoideus. *k* its origin from the clavicle. *l* the conjunction of them both together into one. *m* the inner ſide of them. *n* the end which is inſerted tendinous into the maſtoide proceſs.

o The greater internal ſtraight muſcle of the head.

p p. p The middle ſcaleni.

q q The elevators of the ſhoulder blades.

r r The interior ſcaleni where they ariſe from the firſt ribs.

f s v v. f s v v The ſubclavian muſcles. *s* their tendinous origin from the cartilaginous end of the firſt rib, the aponeuroſis running along the lower ſide of the muſcle. *v v* the end which is inſerted into the clavicle.

n w x y z C D H. n w x y z C D H. The anterior and upper ſerrati muſcles. *w* the tendinous end that is inſerted into the coracoide proceſs of the ſcapula; the aponeuroſis of which tendon begins to appear firſt in the margin of the muſcle towards the axilla. *x y z C D H* the three heads. *n* the fleſhy part of the firſt head. *y* the thin tendinous part ariſing from the upper ſide of the bony and cartilaginous end of the third rib. *z* the fleſhy part of the ſecond head ariſing in an oblique courſe from the whole breadth of the fourth rib, while its thin tendinous part *C*, ariſes from the bony and cartilaginous end of the ſame rib. *D H* the third head; *H* the thin tendinous part ariſing from the upper ſide of the bony end of the fifth rib.

I I X P. I I X The ſubſcapular muſcles. *X* the tendinous part of its end inſerted into the leſs protuberance of the upper head of the humerus; *P* the fleſhy part, inſerted into the humerus itſelf below the ſaid protuberance.

S. S The teres major on each ſide.

W The tendinous end of the latiſſimus dorſi joined with the teres major and inſerted into the os humeri.

In the Trunk.

Y O A B C D E F G. Y A B C D E F G The greater anterior and lower ſerratus muſcle. *Y* the part that ariſes from the ſecond rib. *O* the head ariſing from the third rib. A the head from the fourth. B from the fifth. C from the ſixth. D from the ſeventh. E from the eighth. F. from the ninth. G from the tenth rib.

H H, &c. The origin of its heads from the ribs.

I I, &c. The conjunction of its heads with the outer intercoſtals.

K K, &c. The outer intercoſtal muſcles.

L L, &c. The internal intercoſtal muſcles.

M N O O P Q R R S T U V V. M N O O P Q R R S T U W W W W X X X Y The internal oblique muſcles of the abdomen. M N O O P Q R R the fleſhy part. N its origin from the ſpine of the ilium. O O the edge of it coming from the tendinous margin of the external obliqui muſcle of the abdomen. P the part under which runs the chord of the ſpermatic veſſels, a little protuberating and conſpicuous through it. Q the part under which the pyramidal muſcle appears protuberant. R R the fleſhy part inſerted into the tenth rib. S T the aponeuroſis which is ſimple in this part. T the aponeuroſis inſerted into the cartilage of the ninth

ta. U the fleshy part of the transverse muscle protuberant under this aponeurosis. V V the anterior of the two plates cut off, into which this aponeurosis S, splits itself, near the rectus. W W W W X X X Y the anterior of the two plates into which the left aponeurosis S divides near the rectus: This lamella is cut off according to the length of the abdomen, just by where it first joins to the aponeurosis of the external oblique muscle. W W W W X X X the rectus here appears protuberant under the aponeurosis, divided into fleshy portions W W W W, by tendinous lines X X X. The pyramidal muscle appears also protuberant under a part of this aponeurosis at Y.

Z Z Z Z Z a b c d e f g. Z Z Z Z a b c d e f g The straight muscles of the abdomen. a b c their ends, inserted into the fifth rib at a, the sixth at b, and the seventh at c d e f. g the tendinous lines. h i the white line. i an opening in that line, through which pass out, in the foetus, the umbilical arteries and vein with the urachus.

k k. k k The aponeuroses of the external oblique muscles here cut off, together with the anterior of those lamellae into which the tendons of the internal oblique muscles divide themselves.

l m. l m The pyramidal muscles. m their beginning from the ligaments by which the ossa pubis are tied together before, at their synchondrosis.

n The synchondrosis of the ossa pubis, tied by its ligaments.

o The penis cut off.

p q. p q The cremasters. q their beginning, which goes off from the flesh of the internal oblique muscle.

In the Lower Extremities.

r r The chords of the spermatic vessels.

s t. s t The middle gluteus. t its origin from the spine of the ilium.

u v w. u v w The least of the glutei. v The origin from the spine of the ilium. w the tendon inserted at the root of the greater trochanter.

x x The beginning of the straight muscles of the thighs cut off.

y y The internal iliacs.

z z The great psoas, or lumbal muscles of the thighs.

C C The pectinei muscles of the thighs.

D H. D H The long abductors of the thighs. *H* its origin from the ligaments that tie the synchondrosis of the ossa pubis.

L X. L X The gracilis. *X* its origin from the ligaments that tie the sychendrosis of the ossa pubis.

P P The great abductors of the thighs.

S W Y Y O a. S W Y Y O a The internal vasti. *W* the origin from the femur. *Y Y* the part where it joins to the tendon of the cruralis. *O* the tendon which is inserted into the patella at *a*. In this muscle, near the crureus, is an impression from the rectus.

bc. bc The crurei muscles. *c* the tendon.

d e e f g g h. d e e f g g h The external vasti. *e e* the origin from the thigh bone. *f* part of the tendinous beginning. *g g* the tendon inserted into the patella *h*. Near the crureus is a considerable impression made in this muscle by the rectus. See Tab. I.

i k l. i k l The tendons of the straight muscles of the thighs cut off. *k* the place where it is inserted into the patella. *l* the aponeurosis which runs from the tendon of the rectus over the fore part of the patella to the ligament that ties the patella to the tibia; afterwards joining itself to the fore part of the said ligament.

m n o. m n o The ligament that belongs to the tibia from the patella. *n* the place where it arises from the patella. *o* in this part it is fixed to the tibia beneath.

p q. p q. The tendons of the gracilies, inserted into the tibia at *q*.

r r The tendons of the semitendinosi inserted into the tibiae.

s s. s s The popliteí muscles.

t v t. t v t The biceps in each thigh. *t t* its tendinous extremity, *v* its principal part inserted into the head of the fibula, *t* the part that belongs to the tibia.

u u The solei muscles.

w x y. w x y The long peronei muscles. *w* the origin from the head of the fibula. *y* the tendon arising from the outer part of the muscular flesh.

z z The short peronei muscles.

A B C D E. A B C D E The long extensor of the toes of each foot, with the third peronei muscles. A the muscular flesh common to the extensor and peroneus. B its origin from the tibia. C the third peroneus, D its tendon. E the tendon of the long extensor of the toes, which divides into four tendons, belonging to the four small toes, of which, that belonging to the little toe arises sooner, and upon the leg itself, but the rest arise where they are about to pass the ligament q in Tab. I. Where the long extensor and peroneus are joined, there is a considerable impression from the tibialis anticus. See Tab. I.

F G G. F G G The tibiales postici. F the part that comes from the fibula. G G the part arising from the tibia.

H I K L M. H I K L M The proper extensors of the great toes. I the tendon inserted into the last bone of the said toe. L M a branch of the tendon, which I have sometimes found inserted into the first bone of that toe.

N O O P. N O O P The soleí. O O the origin from the tibia. P the tendinous surface, where the tendon arises.

Q R R S. Q R R S The long flexors of the toes. R R the origin from the tibia. S the beginning of the tendon.

T. T The tendon of the plantaris in each leg.

V V W X V V W X The tendons of the tibiales postici. W the end that is inserted into the navicular bone, and runs in part to the greater cuneiform bone.

Y Y The great tendons called Achillis.

Z Z The tendons of the long flexors of the toes.

a b. a b Muscular heads which go to the long flexors of the toes in the sole of the foot. b the origin from the calcanium.

c d. c d The short flexors of the toes, arising from the calcanium at d.

e The outer tail of the short flexor of the great toe.

f f g. f f The tendons of the long flexors of the great toes. At g it is confined in a ligamentary sheath, that is split into two horns.

h. h The first interossei belonging to the first of the small toes.

i k l. i k The short extensors of the toes. i the part that belongs to the great toe. k a portion running to that side of the first toe that is next the great toe, sometimes found. l the portion belonging to the first of the small toes.

m n o p q. m The common tendon of the long and short extensor of the toes, that is inserted into the bone of the second order. n a portion of the common tendon of the long and short extensor running to the third bone. o a tendon from the short extensors of the toes, to the third bone. p the common end of the two portions belonging to the third bone into which it is inserted. q an aponeurosis joining the tendon m, in part from the capsule of the joint of the toe with its metatarsal bone, and in part from the lumbrical muscle and side of the bone of the first order. The same is to be understood of the rest of the toes in each foot; except, that there is no portion from the short extensor of the toes, detached to the tendon of the little toe.

In the Arms.

r s. r s the supraspinati. s the tendon inserted into the great and rough tubercle of the humerus.

t. t The common origin of the coracobrachialis and shorter heads of the biceps muscles of the arms, from the coracoide processis of the shoulder blades.

u u The coracobrachiales, in the part v v. v v conjoined with the shorter heads of the biceps muscle of each arm.

w x y z a b c. w x y z a b c The bicipital muscles of the arms. w x the shorter head. w the part that is outwardly tendinous, x the fleshy part. y z the longer head; y the tendon by which it arises, running over the head of the humerus, and then through the sinus that is betwixt its two protuberances. z the fleshy part. *a* the common belly. *b* the aponeurosis, which it gives to the tendinous vagina of the fore-arm, here cut off. *c* the tendon by which it is inserted into the radius.

d e f g. d e f g The triceps extensor of each arm. *d* the short head. *e* the long head. *f* the brachialis externus. *g* the tendon which, arising from the surface of the brachialis externus, belongs to the posterior choudyle of the humerus.

h h i k. h h i k the internal brachiei muscles. *i* the lower part that lies near the supinator longus. *k* the tendinous surface.

l m The longer external radialis muscle of the right arm. *m* the tendon.

n o p q r The longer external radialis muscle of the left arm, here dividing itself into two, each of which form a tendon. *o* the principal tendon of the chief part. *p* the tendon of the less part which joins itself to the other tendon. *q* the common tendon, inserted into the metacarpal bone of the index.

f s. f f s s The shorter radiales externi. *s* the tendon inserted into the metacarpal bone of the index and middle finger.

t t v u w. t w The short spinators. *v u* the end inserted into the root of the tubercle of the radius, and into the radius itself below that tubercle. *w* the posterior part.

x. x x The profundi muscles bending the fingers.

y The round pronator of the radius cut off

z. z The common origins of the ulnares interni and sublimes; arising tendinous from the greater condyles of the humeri.

A. A A B The ulnares interni. B the tendon inserted into the pisiform bone.

C D E F G H I I K L M N N O O P Q Q. C D E F H I M N The sublimes. D the thicker part arising from the greater condyle of the humerus. E the portion arising by a small tendon from the ulna, near the end of the internal brachialis. F G the thinner part arising from the radius, G its origin from the radius. H I I a portion belonging to the ring-finger, I I its tendon. K L the portion belonging to the little finger, L its tendon. M N N the portion belonging to the middle finger, N N its tendon. O O P Q Q the portion belonging to the index, P its tendon; Q Q the two horns into which the tendon splits, inserted into the bone of the second phalanx of the index. In like manner are divided into horns, and inserted the tendons I L N.

R the tendon of the profundus belonging to the index.

S T. S T V W The long flexors of the thumbs. T V the tendon in the part V, as if it were split length-wise, and inserted into the last bone of the thumb.

X X The tendons of the long supinators cut off.

Y The pronator quadratus.

Z b d. a b c d The long abductors of the thumbs. a the upper part. b the tendon of the upper part, a portion of which c, that it gives to the short abductor of the thumb, is here cut off. d the tendon of the lower part.

e f. e The less extensors of the thumbs. f the tendon.

g. g The greater extensor of the thumb.

h. h i The common tendons of the greater and lesser extensors of the thumbs. i the insertion of the common tendon into the last bone of the thumb.

In the Right Hand.

k The end of the short abductor of the thumb cut off.

l m n o p The ligament of the wrist, which, with the carpal sinus, forms a channel confining the tendons in their passage from the fore-arm to the fingers and thumb, viz. of the sublimis, profundus, and long flexor of the thumb, m the origin of the ligament from the pisiform bone of the wrist, the multangular bone n, and from the navicular bone o. p the canal thro' which passes the tendon of the internal radialis muscle.

q r s t The opposing muscle of the thumb, r its origin from the larger multangular bone, and ligament of the carpus s. t its tendon inserted into the metacarpal bone of the thumb.

u v w Part of the short flexor of the thumb, which may be reckoned a second short abductor of the thumb. v its origin from the ligament of the carpus. w its tendinous end inserted into the first bone of the thumb.

x The posterior tail of the short flexor of the thumb.

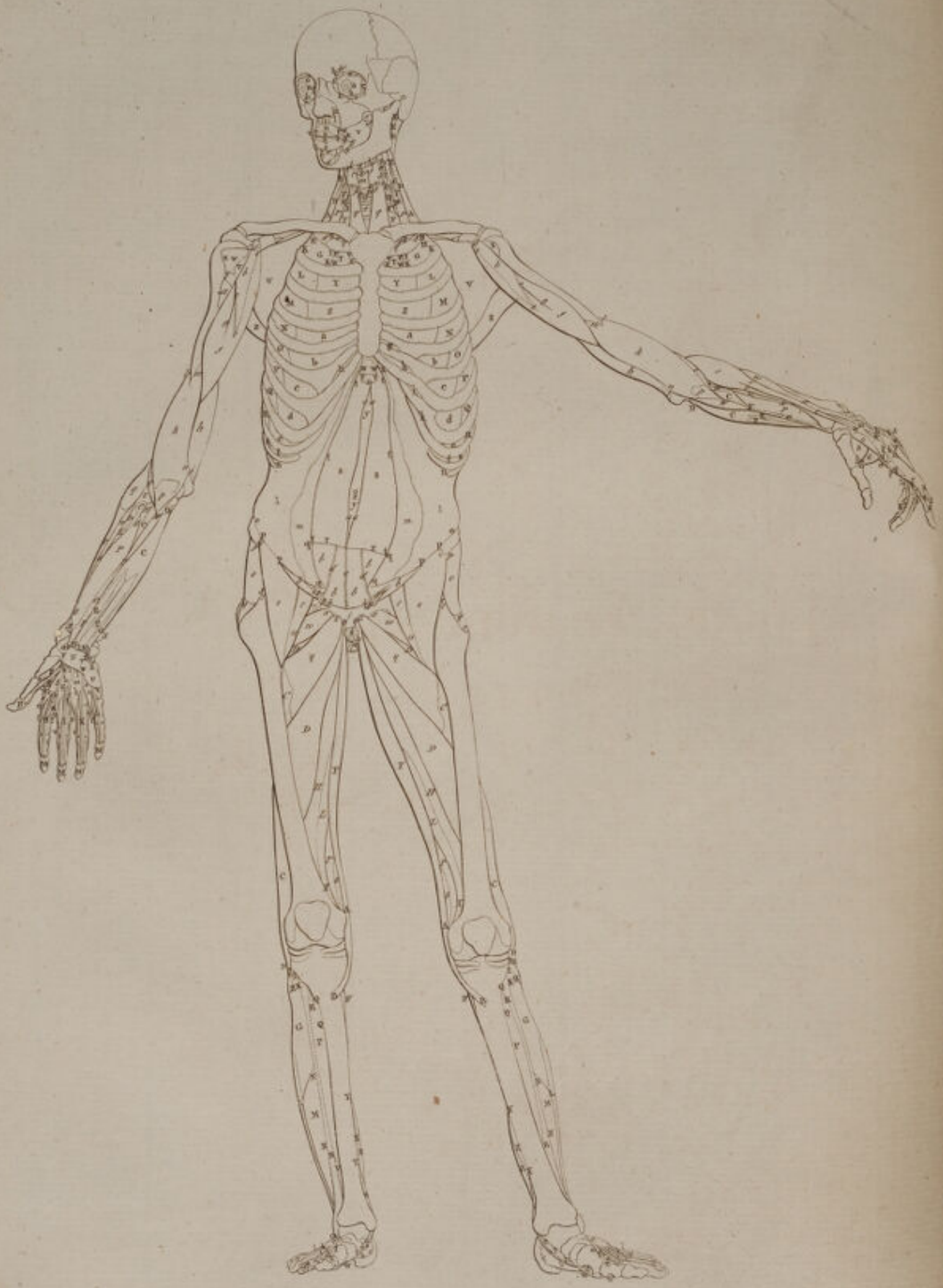
y The abductor of the thumb.

z The outermost interosseus muscle of the index.

a b The abductor of the index. *b* the tendinous end inserted into the first bone of the index.

c d e. The first lumbricalis. *d* its origin from the tendon of the profundus belonging to the index. *e* the tendon that joins itself with the common tendon of the extensors of the index, and then goes to the third bone of the index.

TAB. III.



A. Bell Sculp.

f g h Lumbrical muſcles, *f* the ſecond, *g* the third, *h* the fourth. They end in tendons like the firſt, which are not marked here on account of their minuteneſs. Theſe tendons join with the tendons of the outer interoſſei.

i i i. i i i. i i i. i i i The tendons of the profundus, ſlit in a manner length wiſe, and inſerted into the bones of the third order, *k k k k*.

l The poſterior or inner interoſſeus muſcle of the index, with its tendon.

m The outer interoſſeus muſcle of the middle finger.

n The common tendon of the ſecond lumbricalis and outer interoſſeus muſcle of the middle finger.

o The poſterior or inner interoſſeus muſcle of the middle finger with its tendon.

p The outer interoſſeus muſcle of the ring-finger.

q The common tendon of the third lumbrical and outer interoſſeous muſcle of the ring-finger.

r The tendon of the inner interoſſeus muſcle of the ring-finger.

ſ The tendon of the outer interoſſeus muſcle of the little finger.

t The common tendon of the fourth lumbrical and outer interoſſeous muſcle of the little finger.

t u The ſmall flexor of the little finger. *u* its origin from the ligament of the carpus.

w The tendon common to the ſmall flexor and abductor of the little finger.

x x The abductor of the metacarpal bone of the little finger.

y z The abductor of the little finger. *z* its origin from the piſiform bone and ligament of the wriſt.

In the Left Hand.

C The oppoſing muſcle of the thumb.

D The aponeuroſis encompaſſing the capſule of the joint of the thumb with its metacarpal bone, connected to the ſaid capſule and to the common tendon of the extenſor of the thumb.

H The inner tail of the ſhort flexor of the thumb.

L The aponeuroſis which the inner tail of the ſhort flexor of the thumb gives to the common tendon of the extenſor of the thumb.

X P The abductor of the thumb. *P* the tendinous end inſerted into the firſt bone of the thumb.

S The abductor of the index.

W The outer interoſſeous muſcle of the index.

Y Y The tendon of the indicator.

O The head of the outer interoſſeous muſcle of the middle finger ariſing from the metacarpal bone.

1 The head of the inner interoſſeous muſcle of the middle finger ariſing from the metacarpal bone of the ring finger.

2 The head of the inner interoſſeus, from the metacarpal bone of the little finger.

3 The common tendon of the extenſors of the little finger cut off as it paſſes along the back of that finger.

4. 5 The tendons of the common extenſor of the fingers cut off. 4 that of the ring finger. 5 that of the middle finger, paſſing afterwards over the backs of thoſe fingers 6. 6 with the aponeuroſis they receive.

7 The tendon of the common extenſor of the fingers belonging to the index cut off.

8. 9 The common tendon of the indicator and common extenſor of the fingers belonging to the index. 9 its end inſerted into the ſecond bone of the index.

10 The aponeuroſes, which, ariſing partly from the firſt lumbrical, and in part from the abductor of the index, joins itſelf to the common tendon of the extenſor indicis.

11 The tendon of the firſt lumbrical muſcle.

12 The tendon of the firſt lumbrical muſcle, increaſed by a portion received from the tendon of the common extenſor of the index, and running to the third bone of the index.

13 The tendon of the inner interoſſeous muſcle of the index, which being enlarged by a portion received from the common tendon of the extenſor of the index, runs to the third bone of the index.

14 The common tendinous end inſerted into the third bone of the index. This is formed of the tendons 12 and 13 conjoined together.

15 The tendon common to the outer interoſſeous and ſecond lumbrical muſcle of the middle finger; which tendon being increaſed by a portion from the tendon of the common extenſor, runs to the third bone of the middle finger.

Upon the inner ſide of the fingers may be ſeen the tendons of the ſublimis and profundus.

THE

Third Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

HERE again, moſt of the parts in the preceeding Table being removed, in this third Figure, we exhibit the next Order of Muſcles, together with ſome of the Ligaments and parts of the Skeleton, which now appears more Naked.

In this figure are taken off, from the *head*, the temporal muſcle, the maſſeters, the corrugators of the eye-brows, the elevators of the upper eye-lids, the ligaments by which the junctures of the eye-lids, in the greater angles, are tied to the naſal proceſſes of the upper jaw-bones, the eye-lids themſelves, with the continuations of the orbicular muſcles which ſurround their margins, the naſals of the upper lips, the elevators of the corners of the mouth, the depreſſors of the lower lip. From the *neck*; the ſterno-cleido-maſtoidei, the elevators of the ſcapulae, the coracohyoidei, the ſternohyoidei, the digaſtric of the lower jaw, the ſtylohyoideus. From the *trunk*; the ſubclavians, the anterior ſerrati, both upper and lower, the recti, pyramidales and internal oblique muſcles of the abdomen, the cremaſters and teſticles. From the *thighs*; the middle glutei, pectinei, long abductors, the recti, internal and external vaſti, with the crurei. From the *legs* and *feet*; the ligaments belonging to the knee-pan and ſhin-bones, the tendons of the ſeminervoſi, the proper extenſors of the great toes, the long extenſors of the toes, with the tendinous ends belonging to the firſt three of the ſmaller toes, the peronei tertii, the tendons of the plantares, the ſolei, the tendons of Achilles, the ſhort flexors of the toes, the outer tail of the ſhort flexor of the great toe, the capſule or ſheath confining the tendon of the long flexor of the great toe, near the firſt bone of the toe. From the *arms*; the ſcapraſpinati, the bicipital flexors, with the long and ſhort extenſors of the cubit. From the *fore-arms* and *hands*; the ſublime flexors, the ulnaris interni, ends of the long ſupinators, long abductors of the thumbs, and leſs extenſors of the thumbs. From the *right hand*; the end of the ſhort abductor of the thumb, part of the ſhort flexor, which may be reckoned a ſecond abductor, the oppoſer of the thumb, the abductor of the index, the ſmall flexor and abductor of the little finger. Alſo from the cubit and *left-hand* are taken the tendon of the indicator, the greater extenſor of the thumb. The common tendon of the greater and leſs extenſor of the thumb, with its adjoining aponeuroſis that inveſts the capſule of the joint of the thumb with its metacarpal bone, the oppoſer of the thumb, the abductor of the index, with its aponeuroſis that joins to the common tendon of the extenſors of the index.

In the Head and Neck.

a a The balls of the eyes.

b The cartilage of the hole through which paſſes the tendon of the upper oblique muſcle of the eye; which cartilage ſupports and confines the ſaid tendon.

c d The tendon of the ſuperior oblique muſcle of the eye, c part of it going to the notch or pully near the internal ſide of the orbit. d the part that runs back to the globe of the eye after paſſing the pully.

e e The ſtraight muſcles turning the eyes upward, and inſerted into their hard coats.

f The rectus that turns the eye to the noſe, fixed into the ſclerotica.

g The rectus that turns the eye from the noſe, fixed to the ſclerotica.

h h The recti depressing the eyes, fixed into the sclerotica.

i. i k The lower obliquo muscles of the eyes. k their origin from the upper jaw, in the bottom of the orbit, near its edge, betwixt the future proper to the said jaw, and the os unguis.

l. l m The depressers of the wing of the nostrils. m the end inserted round the root of the wing.

n o p p Part of the sphincter of the mouth in the upper lip. o the part that is in the red margin of the lip. p p denote where the depressors of the corners of the mouth are cut off, from their insertion into the said sphincter, where it surrounds the upper lip at the angles of the mouth.

q r s t t Part of the sphincter of the mouth that is in the lower lip. q the part in the red margin of the lip. s here it passes under the fasciculus z, and is continued to the buccinator, and to part of the elevator of the corner of the mouth, and of the greater zygomatics joining it. t t portions to the sphincter of the mouth, which they join from the lower jaw; afterwards they pass under portions of the buccinators z, and join themselves to the said buccinators.

u A sinus or space betwixt the portion of the buccinator z, and the portion t, where the latter joins the sphincter of the mouth; in which space are fixed some glandules.

v. v w x y z a The buccinators. w the part that goes into the sphincter of the mouth in the upper lip. x here part of it joins to the elevator of the corner of the mouth, and to part of the greater zygomatics. y the portion that goes into the sphincter of the mouth in the lower lip. z the portion that goes to the upper lip, and there joins the internal part of the sphincter of the mouth. a here it continues itself to the portion t, that joins the sphincter of the mouth.

b. b c d The elevators of the chin. c the part in which they are joined together. d the fibres they intermix with the fat of the chin.

e e The external pterygoideus, having a tendinous end.

f The internal pterygoideus.

g The stylohyoideus, inserted into the base of the hyoidal bone.

h The hyoglossus arising from the basis and horn of the hyoidal bone.

i Ceratoglossus arising from the horn of the hyoidal bone.

k k l The os hyoides. k its base. l l its horns.

m n The larynx. m the thyroide cartilage: Betwixt x y and z is its upper process. n the cricoide cartilage.

o The wind-pipe.

p. p The cricothyroidei muscles. p the anterior part arising from the cricoide cartilage: And a little below this part is its back part.

q q r r. q q r r s The sternothyroidei. r a separate portion that joins it; s part of its extremity inserted into an eminence of the thyroide cartilage, which runs obliquely through its external side: s a part that joins itself to the posterior edge of the hyothyroidei, and with that belongs to the horn of the hyoidal bone.

t u w w. t u w w The hyothyroidei. t the origin from the horn and basis of the hyoidal bone. w w the extremity inserted at the bottom of the margin of the thyroide cartilage u, before the eminence which runs obliquely through the outside of the said cartilage. w the eminences themselves.

x The common extremity into which the stylopharyngeus, palatopharyngeus, and salpingopharyngeus conjoin themselves, the part produced from the stylopharyngeus.

y The ligament which belongs to the end of the horn of the hyoidal bone, from the upper process of the thyroide cartilage.

z The lower constrictor of the pharynx.

C C The internal great recti muscles of the head.

D H The longus colli. H the end coming from the back to the transverse process of the second vertebra of the neck; the tendinous part of which end, for in the table following.

L L The first anterior intercostales of the neck.

X X The elevators of the first rib.

P S W Y O. P S W Y O The first or anterior scaleni. S the origin from the first rib. W Y O its three extremities, of which W belongs to the transverse process of the second vertebra of the neck, reckoning from the back; Y to the third, and O to the fourth vertebra.

A B C D E. A C D E The middle scaleni. B the origin from the first rib. C D E the extremities of which C belongs to the transverse process of the first vertebra of the neck from the back, D to the fifth, and E to the sixth and seventh.

F The tracheolaryngeus muscle.

F. The complexus muscle.

G G The upper oblique muscle of the head.

F F. F F Betwixt q and r appears the pleura.

In the Trunk and Thighs.

G H I K K. L M N O P Q R S. G H I K K. L M N O P Q R S The external intercostals. G H I K K the first, L the second, M the third, N the fourth, O the fifth, P the sixth, Q the seventh, R the eighth, S the ninth. The first arises from the cartilaginous end of the first rib, H from the bony part of the rib, is inserted into the bony part of the second rib K K; in the same manner the following muscles arise from the bony part of the upper rib, and are inserted into the bone of the lower rib.

T U V W X Y Z. a b c d e f. T U V W X Y Z. a b c d e f The internal intercostals. T U V W X the first, Y the second, Z the third, a the fourth, b the fifth, c the sixth, d the seventh, e the eighth, f the ninth. The first arises from the cartilaginous end of the first rib U, and from the sternum V; it is inserted into the bony part of the second rib W, and its cartilaginous end X. In the same manner appears in the following muscles how they arise from the cartilaginous end and bony part of the upper rib, and are inserted into the cartilaginous and bony part of the lower rib. g h i k l. h denote parts of those intercostals which are inserted betwixt the cartilages of those ribs, after the meeting or conjunction of their cartilages.

l m n o p p q q r. l m n o p p q q r The transverse muscles of the abdomen; l the fleshy part, m the aponeurosis, n the origin from the cartilaginous end of the eleventh rib, o the origin from the spine of the ilium, p p the margin that comes from the tendinous edge of the external obliquus of the abdomen; q q here is cut off a part of the aponeurosis, which passes before the rectus and pyramidalis muscle. r the bottom margin of the upper part of the aponeurosis, which passes behind the rectus, and immediately adheres to the peritoneum.

s t t t. s t t t The posterior lamellæ of the aponeuroses of the internal obliquo muscles spread over the aponeuroses of the transverse muscles. t t t here it is cut off in the part where it first joins with the aponeuroses of the transverse muscles.

u v w. v w Here the aponeuroses of the transverse, with the posterior covering lamellæ of the aponeuroses belonging to the internal oblique muscles, insert themselves into the fore part of the ensiform cartilage, not far from its tip u, into the edges of the said cartilage v v, and into its bony part w w.

x The triangular muscle of the sternum conjoined with the transversalis of the abdomen, and inserted with it. The same also holds on the other side.

y y The linea alba. z The opening in it, through which, in the embryo, pass out the umbilical arteries, with the umbilical vein and urachus.

a a. a a From hence are cut off the aponeuroses of the external oblique muscles of the abdomen, with the anterior lamellæ of the aponeuroses belonging to the internal oblique muscles.

b b b b b c d d The peritoneum. c d d the footsteps of the ligament c, which was formerly the urachus, and of the ligaments d d, which were formerly the umbilical arteries.

e f g h. e f g h The chords of the spermatic vessels. e f the two veins. g the artery, the veins, together with the artery, pass along beneath the transverse muscle, through the peritoneum to the upper part of the os pubis; to these vessels the vas deferens h joins itself coming out of the pelvis, and then passes down together with them, through the groin to the scrotum.

i The synchondrosis, or conjunction of the ossa pubis, tied together by their ligaments.

k The penis cut off. See Table IV. following.

l The external sphincter of the anus.

m The accelerator urinæ; and the same is on the other side.

n The erector penis, which is also on the other side.

o p q r s. o p q s The left glutei. p the origin from the os ilium. q the tendon which is inserted into the root of the great trochanter r. q the fore-part of the muscle.

s t. s t The internal iliaci. t the origin from the spine of the ilium.

t u. t u The great psoæ, or lumbal muscles. u the tendon to which joins the flesh of the iliacus internus.

w x. w x The external obturators. x the origin from the os pubis.

y z C. y z C The short abductors of the thighs, in which are impressed the footsteps of the long abductors and pectinei: see Tab. II. z the head, which is outwardly tendinous, arising from the os pubis near its juncture. C its tendinous end from the same part.

D D H L X. D D H L X The large adductors of the thighs. D D the part which is inserted into the ridge or spine of the thigh bone. H L X the other part belonging to the condyle of the thigh bone. L its tendinous surface, passing into the tendon X.

P S W. P S W The semimembranosi. S the tendinous surface passing into a tendon. W the thinner portion which sends out the tendon belonging to the internal margin of the tibia, or shin bone.

T O A B. T O A B The gracilei, in which are impressed the footsteps of the long adductors of the thighs; see Tab II. O the origin from the ligament, tying together the ossa pubis at their juncture. A the tendon, inserted into the tibia B.

C D E F. C D E F The shorter heads of the bicipital muscles of the legs. D E F the tendinous end, of which the principal part E, is inserted into the head of the fibula; F the part belonging to the tibia.

In the Legs and Feet.

G H I K K L. G H I K K L The long peronei, in which are impressed the marks of the long extensors of the toes (see Tab. II.) H the beginning of its upper origin from the head of the fibula, and from the tibia I. K is the beginning of its lower part arising from the spine of the fibula. L the tendon arising from the outer part of its flesh.

M N N. M N N O The short peronei, in which are impressed the marks of the long extensors of the toes; see Tab. II. N N the origin from the fibula. O the tendon.

P Q Q R R S S T U. P Q Q R R S S T U The tibiales postici. Q Q the origin from the tibia, and from the spine of the fibula. R R S S T U the tendon, which being partly inserted into the navicular bone T, the portion U runs to the greater cuneiform bone.

V W. W W The long flexors of the great toes. W the tendon.

X Y Y Z a. X Y Y Z a The long flexors of the toes. Y Y the origin from the tibia. Z the beginning of the tendon, a the tendon itself.

b c. b c The portions which join the long flexors of the toes in the soles of the feet. c the origin from the calcaneum.

d The inner tail of the short flexor of the great toe, that is next the small toes.

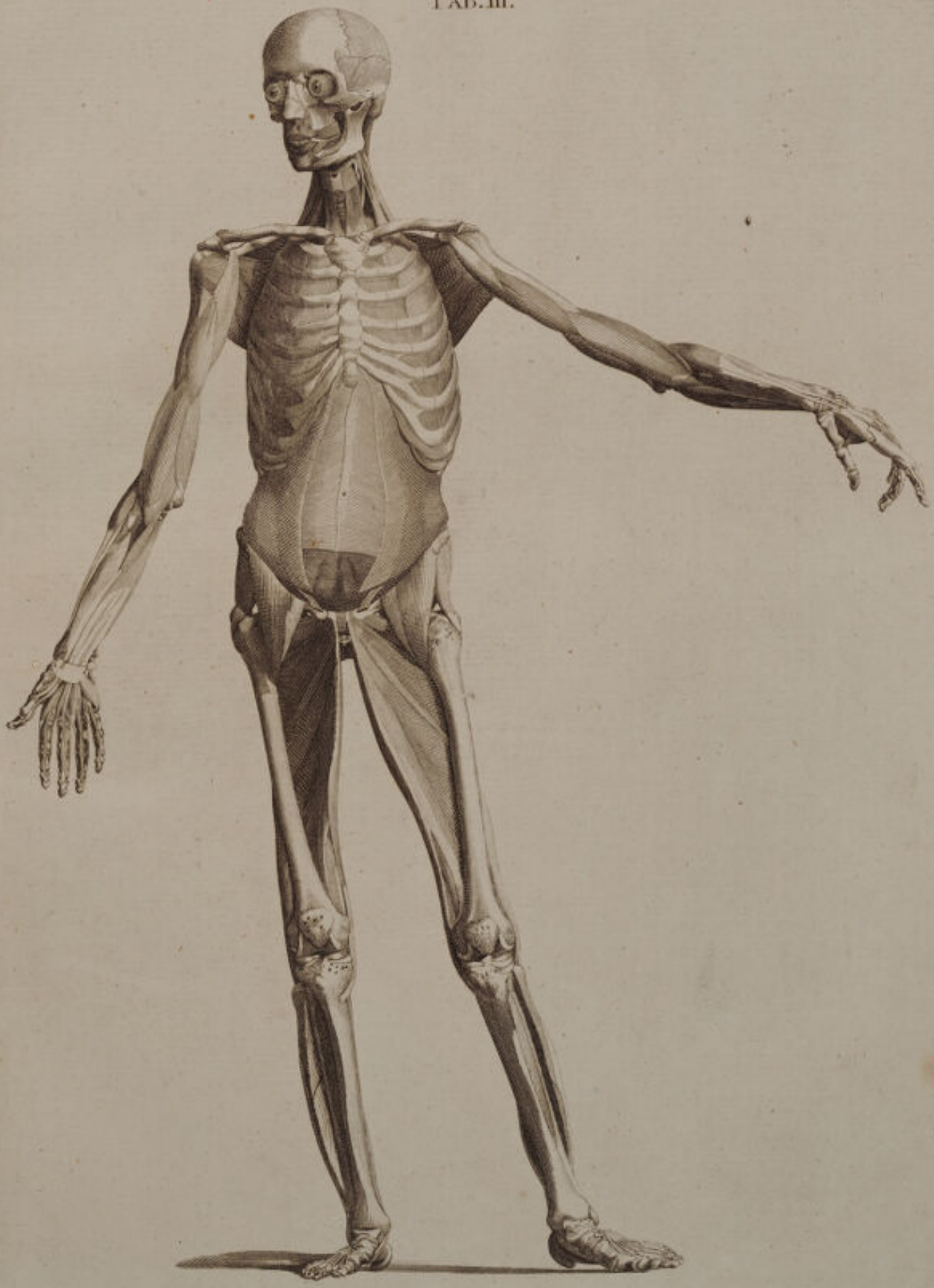
e f g h i k l. e f g h i k l The short extensors of the toes, which divide into five portions. f the tendon of the portion belonging to the great toe, inserted into the first bone at g. h the tendon of a portion sometimes found running to the side of the first toe that is next to the great toe. i the tendon of the portion belonging to the first of the small toes, k that to the second, and l to the third.

m m. m The first interossei muscles of the first small toes. Betwixt i and k in the left foot is the second interosseus of the first small toe, betwixt k and l, left, is the second interosseus of the second small toe.

n o. p left. The tendons of the long extensors of the toes cut off. n that which belongs to the first of the small toes, o that of the second, p that to the third, and so likewise in the right foot.

q The common tendon of the long and short extensors of the toes inserted into the bone of the second phalanx. r part of the same, running to the third bone. s the tendon to the third bone from the tendon of the short extensor of the toes. t the common end of the two portions to the third bone, wherein it is inserted. u an aponeurosis joining to the tendon q, and going partly to the capsule of the joint of this toe, with its metatarsal bone, coming partly from the interossei of that side, in part from the lumbrical muscle, and partly from the side of the bone of the first phalanx. The same holds in the second and third of the small toes of this foot, and in the three first of the left foot.

TAB. III.



In the Shoulders, Arms, and Hands.

v v w x y. v x The subscapularis. *w x* the tendinous part of its extremity, inserted into the less unequal protuberance of the upper head of the humerus, at *x*. *y* the fleshy part of its end inserted into the humerus below its head.

w a. x The teres major. *a* its tendinous end inserted into the humerus.

b c d e e. b c d e e Part of the shorter heads of the bicipital muscles of the arms, outwardly tendinous, and cut off at *e e*; having a common origin with the coracobrachiales at *d d*, from the coracoide process of the scapula; at *e e*. *e e* they are conjoined with the coracobrachiales.

f g. f g The coracobrachiales, divided by a nerve that passes thro' in the part *f*.

h i. h i The external brachiales. *i* the tendon, which, arising from its surface, ends in the posterior condyle of the humerus.

l m n o p. l m n o p The brachiales interni. *l m* the forked beginning by which it arises from the humerus. *n* its origin from the edge of the humerus. *o* the lower part upon which lies the long supinator. *p* the tendinous surface.

q r The longer external radialis muscle of the right hand. *r* the tendon.

s t v u The longer external radialis muscle of the left hand, which here divides itself into two. *s* the tendon of the principal part, which is also itself the most considerable. *v* the tendon of the less portion which joins itself with the other, and together forms the common tendon, *t* inserted into the metacarpal bone of the index *u*.

w x. w w x x y The shorter external radial muscles. *x x* the tendon inserted into the two metacarpal bones *y* of the index and middle finger.

z C D H. z H The short supinators. *C D* the end which is inserted at the root of the tubercle of the radius, and into the radius itself, below the said tubercle *D*. *H* the back part.

L The extremity of the round pronator which is here cut off.

X X The pronator quadratus, or square pronator of the radius

P P S S W Y O A B. P W Y O The long flexors of the thumbs. *S S* its origin from the radius, *W T* the portion which joins it arising from the greater condyle of the humerus, but seldom found; and which forms a tendon *Y*, that joins itself to the fleshy part of the flexor, and makes up the first rise of its tendon *O A B*, of which the part *O* adheres to the fleshy portion of the flexor, the part *A* going along by the metacarpal bone of the thumb, is there in a manner split longitudinally, and at length inserted into the extremity of the last bone of the thumb *B*.

C C D E F G H H I I K K L L M M M M. C C D E F I K L. The profound flexors. *D* its origin from the ulna. *F F G* three tendons arising from its fleshy belly, and betwixt which are fleshy fibres. The first of these, *E*, goes into the tendon of the index *H H*; the second, *F*, into the middle tendon *I I*; and the third, *G*, into the two *K L*, of which one *K K* belongs to the ring finger, and the other to the little finger *L L*. Where these tendons run along the fingers and palm, they are in a manner flit longitudinally, up to their extremities *M M M M*, which are inserted backwards into the bones of the third or last phalanx.

In the right Hand.

N O P Q R The ligament of the wrist, which, together with the carpal sinus, forms a canal that confines or retains the tendons coming from the fore arm to the fingers and thumb, namely, of the sublimis, profundus, and long flexor of the thumb. O its origin from the navicular bone of the wrist, and from the internal protuberance of the larger multangular bone P, from the pisiform bone Q, and from the crooked process of the cuneiform bone R, S the canal through which passes the tendon of the internal radialis.

T The ligament from the pisiform bone belonging to the fourth metacarpal bone.

U V W X Y The adductor of the metacarpal bone of the little finger. V its origin from the crooked process of the cuneiform bone, and of the ligament of the wrist W. It is inserted into the metacarpal bone of the little finger at X Y.

Z Z a The short flexor of the thumb, a its tendinous end inserted into the sesamoide bone of the thumb which is farthest from the index.

b b The adductor of the thumb. c d d e f the first lumbrical. d d its origin from the tendon of the profundus belonging to the index; and from the thicker part of those two tendons, in which the profundus is in a manner divided longitudinally. e the aponeurosis which joins it with the aponeurosis of the abductor indicis, and with that communicates with the common tendon of the extensor indicis. f the tendon which joins itself with the common extensor of the index, and then goes to the third bone of the index.

g h i The second lumbrical muscle. h i its origin, from the tendon of the profundus of the middle finger h, and from the thicker part of those into which that tendon is in a manner split longitudinally: But the thinner part of it arises from the tendon of the profundus i, belonging to the index. Its tendon joins that of the former interosseus of the middle finger.

k l m The third lumbrical muscle. l m its origin from the tendon of the profundus belonging to the middle finger l, and from the thinner portion of those into which it is split in a manner longitudinally; also from the tendon of the profundus the thicker part of it belonging to the ring finger m. Its tendon joins the tendon of the outer interosseus of the ring finger.

n o The fourth lumbrical muscle. o its origin from the tendon of the profundus belonging to the little finger; and from the thicker of those portions into which the tendon is in a manner split longitudinally. Its tendon joins that of the outer interosseus of the little finger.

p The tendon common to the fourth lumbrical muscle with the outer interosseus of the little finger; which tendon joins itself with that of the common extensor, and goes to the third bone of the little finger.

q The tendon of the posterior or inner interosseus muscle of the ring finger, where it joins with the tendon of the common extensor, running afterwards to the third bone of the ring finger.

r The outer interosseus of the ring finger.

s The tendon common to the third lumbrical muscle, with the outer interosseus of the ring finger, which tendon joins itself with that of the common extensor, and goes to the third bone of the ring finger.

t u The inner interosseus of the middle finger. u the tendon by which it joins the tendon of the common extensor, and goes to the third bone of this finger.

v The outer interosseus of the middle finger.

w The tendon common to the second lumbricalis and outer interosseus of the middle finger, which joining the tendon of the common extensor, goes to the third bone of the middle finger.

x y The inner interosseus of the index. y the tendon by which it joins the tendon of the common extensor of the index, and then goes to the third bone of the index.

z The outer interosseus of the index, its tendinous end being inserted into the first bone of the index.

In the left Hand.

a b The short flexor of the thumb. b the tendinous expansion, by which it joins the aponeurosis that invests the capsule of the joint of the thumb with its metacarpal bone, and therewith joins to the tendon of the common extensor of the thumb.

c d The adductor of the thumb. d the tendinous end inserted into the first bone of the thumb.

e f The outer interosseus of the index, arising from the metacarpal bone of that finger, and inserted with its tendinous end f, into the first bone of the index.

g The head of the outer interosseus of the middle finger, arising from the metacarpal bone of that finger.

h The head of the inner interosseus of the middle finger, arising from the metacarpal bone of the ring finger.

i The head of the inner interosseus of the ring finger, arising from the metacarpal bone of that finger.

k The tendon of the indicator muscle cut off.

l The tendon of the common extensor to the index cut off.

m The tendon common to the indicator, and common extensor belonging to the index; n its extremity inserted into the third bone of the index.

o p q The first lumbrical muscle. p the tendon. q the aponeurosis which joins it with the aponeurosis of the abductor indicis, and with that adheres to the tendon of the common extensors of the index. r the tendon of this muscle conjoined with the tendon of the common extensors of the index, and, being increased by a portion received from thence, it runs down s, to the third bone of the index.

t The tendon of the inner interosseus of the index, which being increased by a portion received from the tendon of the extensors common to the index, runs to the third bone of the index.

u The tendinous end common to the tendons s and t joined together in one, and inserted into the third bone of the index.

v w The tendons of the common extensors cut off, belonging to the middle finger v, and to the ring finger w; after which they run down the backs of the fingers with the aponeuroses which they receive.

x The tendon of the common extensors, to the little finger cut off, descending along the back of that finger.

y The tendon common to the outer interosseus of the middle finger, and second lumbrical muscle; which tendon having received a portion from the common extensor, that supplies the middle finger, is thereby enlarged, and joins itself with the tendon z of the inner interosseus of the same finger; it is also increased by a portion which it receives from the tendon of the common extensor belonging to the middle finger; and the common tendinous end, arising from this conjunction, then ends in the third bone of this finger.

THE

Fourth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

IN this Figure, which represents the fourth order of the muſcles, we have not only removed moſt of the outer parts of the Figure laſt preceding, but we have alſo taken away every thing from the bony cavities of the eyes, except the muſcles; from the neck we have removed the whole pharynx and gula, together with the larynx and windpipe; from the opened thorax all the parts that are above the diaphragm, the heart, lungs, pericardium, and two pleuræ: Alſo the whole peritonæum, with the abdominal viſcera which it contains, and whatever elſe lies near the loins on this ſide, except the muſcles.

Here, from the third table, are taken *off* from the *head*, balls of the eyes, with the extremities of the muſcles inſerted into them, the cartilage of the notch or pully through which the tendon of the obliquus ſuperior paſſes to the eye, the depreſſors of the ſides of the noſe, the ſphincter of the mouth, the buccinators, the elevators of the chin, the external pterygoidei. From the *neck*, the mylohyoidei, the baſioglaſſus, the ceratoglaſſus, hyoidal bone, larynx, windpipe, cricothyreoidei, ſternothyreoidei, hyothyreoidei, the common extremity in which the ſtylopharyngeus, palatopharyngeus, and ſalpingopharyngeus join together, and the part produced from the ſtylopharyngeus; the ligament that goes from the upper proceſs of the thyroide cartilage, to the end of the horn of the os hyoides, the lower conſtrictor of the pharynx, the larger internal ſtraight muſcles of the head, the firſt or anterior ſcaleni, the trachelomaſtoideus, complexus, and two pleuræ. From the *trunk* are taken the left external intercoſtals, the anterior extremities of the fourth, fifth, ſixth, ſeventh, eighth, ninth, and tenth ribs, together with the lower part of the breaſt-bone, and the intermediate intercoſtal muſcles; the tranſverſe muſcles of the abdomen, with the poſterior plates of the aponeuroſes, belonging to the internal obliqui of the abdomen, the triangulares ſterni, the linea alba, chords of the ſpermatic veſſels, and peritonæum. From the *pelvis* are taken the left glutei. From the *thighs* the ſhort abductors, the ſemimembranoſi, graciles, and bicipital muſcles of the legs. From the *legs* and *feet* are taken the long peronei, the long flexors of the great toes, the long flexors of the ſmall toes, the muſcular portions which join the long flexors of the toes in the ſoles of the feet, the ſhort extenſors of the toes, the tendons of the long extenſors of the toes, together with the other tendons and aponeuroſes ſtretched over the backs of the toes: Alſo from the left foot is taken the inner tail of the ſhort flexor of the great toe. From the ſhoulder blades are taken the teretes majores. From the arms the coracobrachiales, together with the ſhorter heads of the bicipital muſcles of the arms, and the brachiales external and internal. From the *fore-arms* and *hands* are taken the longer and ſhorter external radiales, the long flexors of the thumbs, and the profundi. From the right ſolid the cut extremity of the pronator teres. Alſo from the right hand is taken the internal ligament of the wriſt, the ligament from the piſiform to the fourth metacarpal bone, the adductor of the metacarpal bone of the little finger, and the lumbricales. From the left hand are taken all the muſcles, tendons, and aponeuroſes, except the adductor and ſhort flexor of the thumb.

In the Head, Neck, and Trunk.

a b b. b b The elevators of the upper eye-lids. b b the extremity cut off.

c d The upper obliquus of the eye. c its origin from the internal ſide of the margin of the optical hole. d the end cut off, where it enters the pulley.

e f. f The ſtraight elevators of the eyes. e the origin, partly from the upper ſide of the margin of the optical hole, and in part betwixt the ſaid hole, and what follows below it. f the extremity cut off.

g h The ſtraight adductor of the eye. g its origin from the edge of the optical hole towards the note. h its extremity cut off.

i i k l The ſtrait abductor of the eyes. i the origin from the lower part of the margin of the hole that lies below the optical foramen; it beginning where the round hole is near the ſlit into which it opens. l the extremity cut off.

l m. n The ſtrait depreſſors of the eyes. m the origin from the lower part of the bony portion, which divides the optical hole, and from thence downward.

o p q. o q The lower obliqui muſcles of the eyes cut off where they inſert themſelves into their globes. p the origin from the edge of the bony orbit. q the inner part.

r The internal pterygoideus.

s The upper obliquus muſcle of the head.

t u v w x y z *a*. t u w x y z *a* The long muſcles of the neck. t u v w x the principal part which belongs to the bodies of the vertebræ, a part of which, marked u, is tendinous. v w x the heads from a tendinous origin, ariſing from the tranſverſe proceſſes of the vertebræ of the neck: v that from the fourth, w from the third, x from the ſecond. y z *a* the part which belongs to the tranſverſe proceſſes, the tail of which z *a* belongs to the tranſverſe proceſs of the ſecond vertebra of the neck, being tendinous in the part *a*.

b c d e f g h i k l m n. *b d e f g h i k l* The middle ſcaleni. *c* the origin from the firſt rib. *d e* the tail belonging to the tranſverſe proceſs of the ſecond vertebra of the neck, *e* the tendinous end. *f g* the tail to the ſecond, *g* the tendinous end. *h i* the tail to the third, *i* the tendinous end. *k l* the tail to the fourth, *l* the tendinous end. *m* the tail to the fifth. *n* the part which divides into the two laſt tails.

o p q r: *q r* The intertranſverſales on the foreſide of the neck. *o* the fourth, *p* the third, *q* the ſecond, *r* the firſt.

f. f The elevators of the firſt ribs inſerted into thoſe ribs.

s s v v t t u u w w x x y y z z A The external intercoſtals. *s s* the firſt, &c. the left are here taken away.

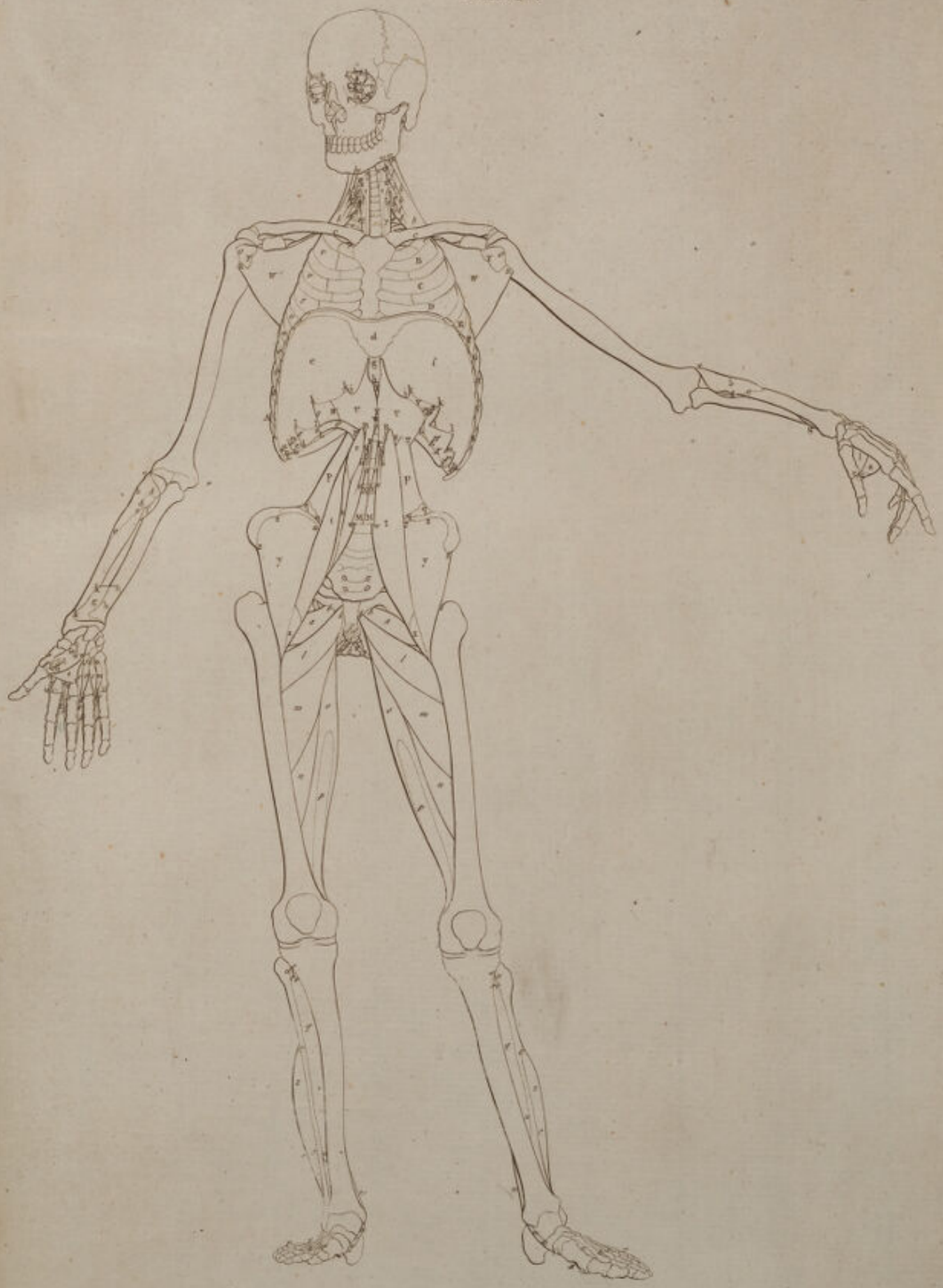
B C C D E F G H I K L L. B C C C D L L L The internal intercoſtals. B B the firſt, &c. L L. L L L the eleventh.

M M N N N N O O P P Q Q R R S T U U V W X Y Z *C D H L X P P S S S W T O* a b c c d e f g h i i k k k k l l l l m m n n o o The diaphragm. M M N N O O P P Q Q R R S T U U V W X Y Z *C D H L X P P S S S W T O* a b c c that part which lies next the abdomen. d e f g h i i k k k k l l l l m m n n o o the part which lies next the thorax. M N O P. M N O P the firſt heads; M M the tendinous expanſions which ariſe from the ligaments, which run on the ſurfaces of the bodies of the vertebræ of the loins, and join to thoſe heads outwardly; at N N below they ariſe with a thick tendon O, from the lower part of the body of the third vertebra of the loins: P P the fleſhy portions in which thoſe tendons terminate. Q Q the ſecond heads. R R the third heads. S S the fourth head of the left ſide. T a beginning which I have ſometimes found ariſing from the ſurface of the quadratus of the loins. U U the firſt fleſhy parts of the diaphragm formed by the conjunction of its heads. V a portion of the left firſt head going to the firſt fleſhy portion of the right ſide, and afterwards running through the right margin of the hole through which the gula paſſes out. W part of the firſt right head, which going behind the portion V, croſſes the ſame, and goes beyond it in the firſt left fleſhy part. X the hole through which the gula paſſes out. Y Z *C D* the left part of the middle tendon, of which the part Y ariſes from the firſt fleſhy portion, and goes into the ſecond fleſhy portion of the left ſide Z; *C* a part climbing over the former and croſſing the ſame. *D* climbs over the next part, *C* croſſes it and goes into the ſecond fleſhy portion of the left ſide in the lower part. *H* the ſecond left fleſhy portion; *L X* its extremity inſerted into the twelfth rib as well the bony part *L*, as the cartilaginous *X*: *P P* the margin of it cut off where it was continued to the tranſverſalis of the abdomen betwixt the two laſt ribs. *S S S W* the ſecond right fleſhy portion, here *W* firſt climbing over and croſſing, ſoon afterwards becomes tendinous.

In the Trunk and lower Extremities.

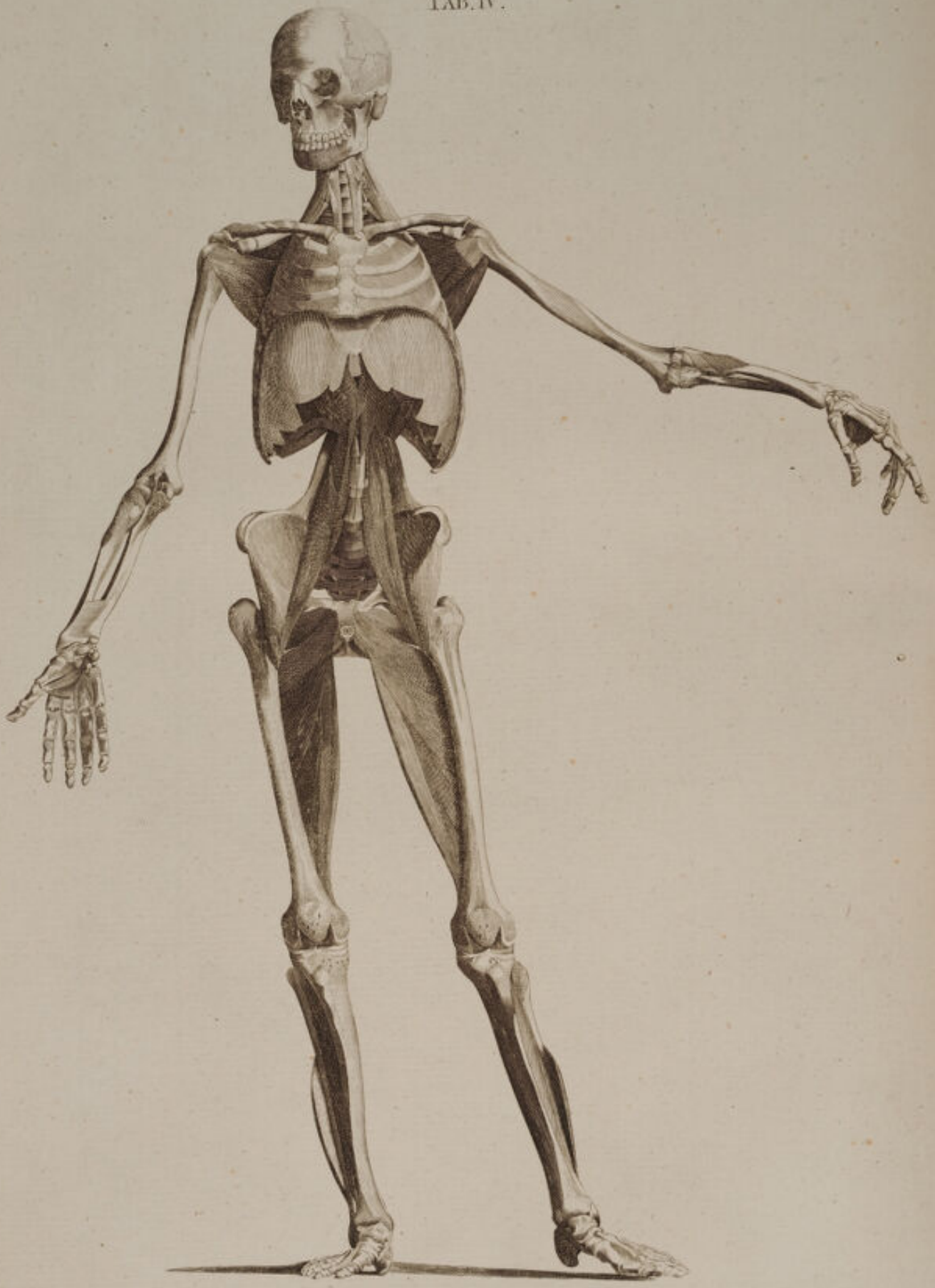
T O a portion ſometimes found in one, and ſometimes in both ſides, forming the lower margin of the diaphragm in this part; and which in this body (but variouſly in others) ariſes from the tranſverſe proceſs of the fourth ver-

TAB. IV.



A. Bell Sculp.

TAB. IV.



tebra of the loins, and alſo from that of the fifth, firſt of all tendinous *Y*; (but differently in different ſubjects) and then the fleſhy portion *O* joins itſelf to the ſecond fleſhy part *S*, uniting with it behind a, and is inſerted into the cartilage of the twelfth rib b. c c the margin cut off which was continued to the tranſverſalis of the abdomen betwixt the two laſt ribs. d the middle tendon in which the tendinous fibres croſs each other. e f the fleſhy parts right and left. g the extremity of the middle fleſhy part that belongs to the enſiform cartilage from whence it is cut off at h. i i the extremities which unite to the peritonaeum. k k k k the extremities cut off from the inner ſide of the ſeventh rib. l l l l thoſe from the eighth rib. m m thoſe from the ninth. n n thoſe from the tenth. o o thoſe inſerted into the eleventh rib.

p q q. p q q The ſquare muſcles of the loins. q q the origin from the ſpine of the os ilium beginning outwardly tendinous.

r s The ſmall pſoas. s the tendon. The left is not exhibited.

t u v w x. t u v w x The great pſoae or lumbal muſcles. u the third head and its origin from the lower part of the body of the fourth vertebra of the loins, and from the ligament interpoſed betwixt that and the body of the third vertebra. v the fourth head, and its origin from the lower part of the body of the third vertebra of the loins and the ligament betwixt that and the ſecond. w the fifth head and its origin from the lower part of the body of the ſecond vertebra of the loins and the ligament betwixt that and the body of the firſt. x the tendon which joins to the fleſhy part of the iliacus internus.

y z z z. y z z z The internal iliacs. z z z the origin from the edge of the os ilium.

a b. a b The external obturators. b The origin from the os pubis.

c d d e The penis cut off. d d the larger cavernous bodies. e the left cavernous body with the urethra.

f f The erectors of the penis.

g g The accelerators.

h The external ſphincter of the anus.

i i The tranſverſe muſcles of the perinaeum.

k l m n o p. k l m n o p The large adductors of the thighs. k the origin from the os pubis. l m n The portions which are in ſome meaſure diſtinguiſhed from each other chiefly by the courſe of their fibres, which all together make the upper part of this muſcle inſerted along the poſterior rough line of the thigh bone. o p the part which is more diſtinct going from thence to the lower extremity belonging to the inner condyle: p the tendon ariſing from the fleſhy part.

q r f f f t u u w w x y. q r f f f t u u w w x y The tibiales poſtici. r the beginning that ariſes from the tibia. f f the origin from the tibia. t the beginning of its origin from the fibula. u u the origin itſelf from the fibula. w w x y the tendon inſerted into the navicular bone x, and running along in a more ſlender portion to the great cuneiform bone y.

z C C D. z C C The ſhort peronei. C C the origin from the fibula. D the tendon.

H H The firſt interoſſei of the ſecond toes ariſing from the metatarſal bones of theſe toes.

L L The heads of the ſecond interoſſei of the ſecond toes which ariſe from the metatarſal bones of the third toes.

X X The heads of the ſecond interoſſei of the third toes ariſing from the metatarſal bones of the fourth toes.

P P The heads of the ſecond interoſſei of the fourth toes which ariſe from the metatarſal bones of the fifth.

S The adductor of the great toe.

In the Shoulders, Arms, and Hands.

W Y O a. W Y O a The ſubſcapulares. Y the tendinous ends inſerted into the leſs unequal protuberance of the upper head of the humerus O a: the fleſhy part inſerted into the humerus below the ſaid tubercle.

b c d d e e f. b c e f The ſhort ſupinators. e the tendon by which it begins. d d its inſertion round the tubercle of the radius and into the radius itſelf below the ſaid tubercle e e. The poſterior part f appears betwixt the ulna and radius.

g. g h i k k The ſquare pronators. h the tendinous ſurface. i the origin from the ulna. k k the inſertion into the radius.

l m n o p q. l r The ſhort flexors of the thumbs. m the origin from the leſs multangular bone, from the unciform bone n, and from the cuneiform bone o. p the other tail inſerted by a tendinous end into the ſeſamoide bone that is fartheſt from the index. q the other inſerted alſo by a tendinous end into the ſeſamoide bone that is neareſt the index, and into the next part of the firſt bone of the thumb. r the aponeuroſis which the ſhort flexor ſends out, and which joins with the aponeuroſis inveſting the capſule that joins the thumb with its metacarpal bone, and together therewith adheres to the common tendinous extremity of the extenſors of the thumb, the extremity of which is here cut off.

s t u. s u The adductors of the thumbs. t the origin from the metacarpal bone of the middle finger. u the tendinous end inſerted into the firſt bone of the thumb.

v w The outer interoſſeus muſcle of the index which is inſerted by a tendinous end w, into the firſt bone of the ſaid index.

x The poſterior or inner interoſſeus of the index. y its tendon, which being increaſed by a portion received from the tendon of the extenſors of the index, runs to the third bone of the ſaid index.

z The outer interoſſeus muſcle of the middle finger.

a The tendon of the ſecond lumbrical muſcle cut off.

b The tendon common to the ſecond lumbrical and outer interoſſeus muſcles of the middle finger, which tendon being increaſed by a portion received from the tendon of the common extenſor belonging to the middle finger, runs at laſt to the third bone of the ſaid middle finger.

c The inner interoſſeus muſcle of the middle finger. d its tendon, which being increaſed by a portion received from the tendon of the common extenſor belonging to the middle finger, runs at laſt to the third bone of the ſaid middle finger.

e f The outer interoſſeus muſcle of the ring finger. f its origin from the metacarpal bone of that finger.

g The tendon of the third lumbrical muſcle cut off.

h The tendon common to the third lumbrical and outer interoſſeus muſcle of the ring finger, which tendon being increaſed by a portion received from the tendon of the common extenſor belonging to the ring finger, runs to the third bone of the ſaid ring finger.

i k The inner interoſſeus muſcle of the ring finger. k its origin from the metacarpal bone of that finger. l its tendon, which being increaſed by a portion received from the tendon of the common extenſor belonging to the ring finger, runs to the third bone of that finger.

m n The interoſſeus muſcle of the little finger. n its origin from the metacarpal bone of that finger.

o The tendon of the fourth lumbrical muſcle cut off.

p The tendon common to the fourth lumbrical and interoſſeus muſcle of the little finger, which tendon being increaſed by a portion received from the tendon of the extenſors of the little finger, then runs to the third bone of the ſaid finger.

THE

Fifth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

THE Figure of this table is the back part of that contained in the first muscular table; and it represents the whole system of the outer muscles together, after the common integuments and tendinous coverings are removed: It also represents many of the ligaments belonging to the muscles, with the ears, part of the scrotum, and naked parts of the Skeleton.

In the Head, Neck, Back, and Thighs.

a b c. a b c d d. c The epicranius or occipite-frontal muscles. a b the occipitalis. a its tendinous beginning. b its fleshy part. c d d the tendinous expansion betwixt the occipitalis and frontalis. d d shews the temporal muscle through the said expansion protuberant. e the membranous part by which the occipitales and their aponeuroses are joined together, arising above the origin of the cucullares from the occipital bone.

f g The elevator of the outer ear. f its tendinous beginning which goes off from the epicranius. g the fleshy part.

h The frontal muscle.

i The orbicular muscle of the eye-lids.

k The anterior muscle of the outer ear.

l The less muscle of the helix.

m n o The three muscles drawing back the outer ear.

p q The masseter. p the back part of its inward portion, which is not covered by the outer portion. q the outward portion.

r The greater zygomatic muscle.

s the internal pterygoide muscle.

t The mylohyoideus muscle.

t The latissimus colli or broadest muscle of the neck.

u w x The sternomastoideus with the cleidomastoideus conjoined together into one. w the tendinous end inserted into the occipital bone at x.

y y The biventral muscle of the neck inserted into the occipital bone.

z z The splenii muscles of the head.

A the elevator muscle of the scapula or shoulder-blade.

B C D E F G H H. B C D E F G H H The cucullares. B the fleshy part. C D E F the tendinous beginning. C the part arising from the occipital bone and adhering outwardly with its fellow muscle along the tract D E F, which arises internally from all the spines of the back, the two lowermost of the neck, and the cervical ligament. E the tendinous expansion of its beginning which is broader towards the bottom of the neck and upper part of the back. F another part of the same in the lower angle. G the end of the tendinous part which is inserted into the spine of the scapula not far from its basis. H H the tendinous part of the extremity inserted into the spine of the scapula and its upper process.

I K. I K The infraspinatus on each side. K its origin from the basis of the scapula.

L L The larger rhomboidal muscles inserted into the basis of each scapula.

M M The sacrolumbalis muscles.

N N The less teretes.

O O The larger teretes.

P Q R R S T V. P Q R R S T V The latissimi dorsi or broadest muscles of the back. P the fleshy part. Q The broad tendon by which it arises. R R its origin from the spines of the vertebræ of the loins and os sacrum. S its origin from the oblique processes that are at the sides of the opening of the os sacrum. T its adhesion with the gluteus magnus. V its origin from the spine of the ilium.

W X. W X The fleshy parts of the external oblique muscles of the abdomen, X X their insertions into the spines of the ossa ilia.

Y Z. Y Z *a* The middle glutei. Z the origin from the os ilium. *a* the tendon.

b b The extensors of the tendinous coverings of the thighs.

c d d. c d d The largest glutei. *d d* in this part it arises from the spine of the ilium and os sacrum, and coheres with the latissimus dorsi.

e The elevator of the anus. A small part of the right elevator may be also seen on the right side.

Betwixt *f* and *g* is the transverse muscle of the perinæum.

g The external sphincter of the anus.

h h The large adductors of the thighs.

i i. i i The gracilis. *i* the tendon.

l l The sartorii, or Taylor's muscles.

m m The internal vasti muscles.

n n p. n n p The semimembranosi. *n* the origin of the tendon from the fleshy part. *p* the tendon.

q r. q r The seminervosi or semitendinosi. *r* the tendon.

s t t u w x. s t u w y The bicipital muscles of the legs. *s* the longer head. *t t* the shorter head. *u w x* the tendon. *u* the first portion arising from the surface of the fleshy part of the longer head, and afterwards increased by the joining of the shorter head *x*. *w* the extremity inserted into the upper head of the fibula.

y z. y z The external vasti. *y* the tendinous surface.

C c. C c The plantares.

In the Legs and Feet.

D D The poplitei or muscles of the hams.

H i, &c. H i, &c. The long peronei.

L X X P S S W. L X X P S S W The gemelli or gastrocnemii muscles. *L X X* the outer head. *X X* the tendinous surface. *P S S* the inner head. *S S* the tendinous surface. *W* the tendon which forms part of the tendo Achillis.

Y O. Y O The tendons called Achillis inserted into the heel bones *O O*.

a a b, a a b The solei. b the tendinous surface.

c c The tendons of the plantal muscles.

d d The tendons of the tibiales postici.

Betwixt the tendons d and *y* in the left foot; and d and the tendon of the right plantaris, appear the tendons of the long flexors of the toes.

e e The ligaments which confine the tendons near the internal ancles under which they pass along.

f f The long flexors of the great toes.

g h i i k. g h i k The short peronei. h the origin of the tendon from the fleshy part. i i the tendon. k its insertion into the fifth metatarsal bone.

l m m m. l m m m The long peronei. m m m the tendon.

n n The ligaments by which the tendons of the long and short peronei are retained at the outer ancles.

o o The ligaments proper to the short peronei.

p p The ligaments proper to the long peronei.

q q The ligaments by which the tendons are confined at the bottom of the leg and upon the back of the foot.

r r The tendons of the long extensors of the toes.

s s The tendons of the third peronei inserted into the metatarsal bones of the little toes.

t t The short extensors of the toes.

u w x y z. u w x y z The abductors of the little toes, in the part u covered with a tendinous expansion. w its origin from the calcaneum. x the aponeurosis that covers the part which is inserted into the metatarsal bone of the little toe. y the tendon of the abductor inserted into the first bone of the little toe. z the aponeurosis which joins the tendon of the long extensor belonging to the little toe.

a b. a The short flexors of the little toes. *a* the part inserted into the metatarsal bone of the little toe. *b* the part inserted by a tendinous end into the first bone of the little toe.

c c The tendon of the long flexor of the great toe, passing along betwixt the sesamodial bones.

d The abductor of the great toe.

e The short flexor of the toes.

In the Arms.

f g g h i k l m n. f g g h i k l m The deltoide muscles. *f g g* the first order of the portions of which it is composed, *g g* the second and posterior order, arising from the spine and upper process of the scapula. *h i* the posterior portion of the second order, arising from the upper process *i*. *k l* the fourth portion of the second order, arising with the flexor of the cubit from the upper process *l*. *m n* the middle portion of the second order, arising from the upper process *n*.

o p q r s t u w x. o p q r s t u w x The tricipital extensors of the arms. *o* the brevis. *p* the longus. *q* the brachialis externus. *r* the common tendon of these three heads. *s* the tendinous part that is formed by the longus and joins the common tendon. *t* the tendinous part in the right arm, formed by the external brachialis, and joining the common tendon: in the left arm *t* is placed at the origin of this tendon from the fleshy part. *u* the tendinous part arising from the surface of the external brachialis, and belonging to the greater condyle of the humerus. *w* the common tendon inserted into the elbow. *x* the thinner horn of the said tendon, inserted into the anterior edge of the elbow, and adjacent spine of the ulna.

y y The internal brachiales.

z z The long supinators.

In the Fore-arms and Right Hand.

A B C D D D D. A B C The longer external radiales. B the origin from the less condyle of the humerus. C its conjunction and common origin with the common extensor of the fingers and outer ulnaris. D D D D the tendon inserted into the metacarpal bone of the index.

E E The external brachiales arising from the roots of the less condyles.

F G. F. The anconei. G the tendon arising from the less condyle of the humerus.

H. H I I I. The shorter external radiales. I I I the tendon.

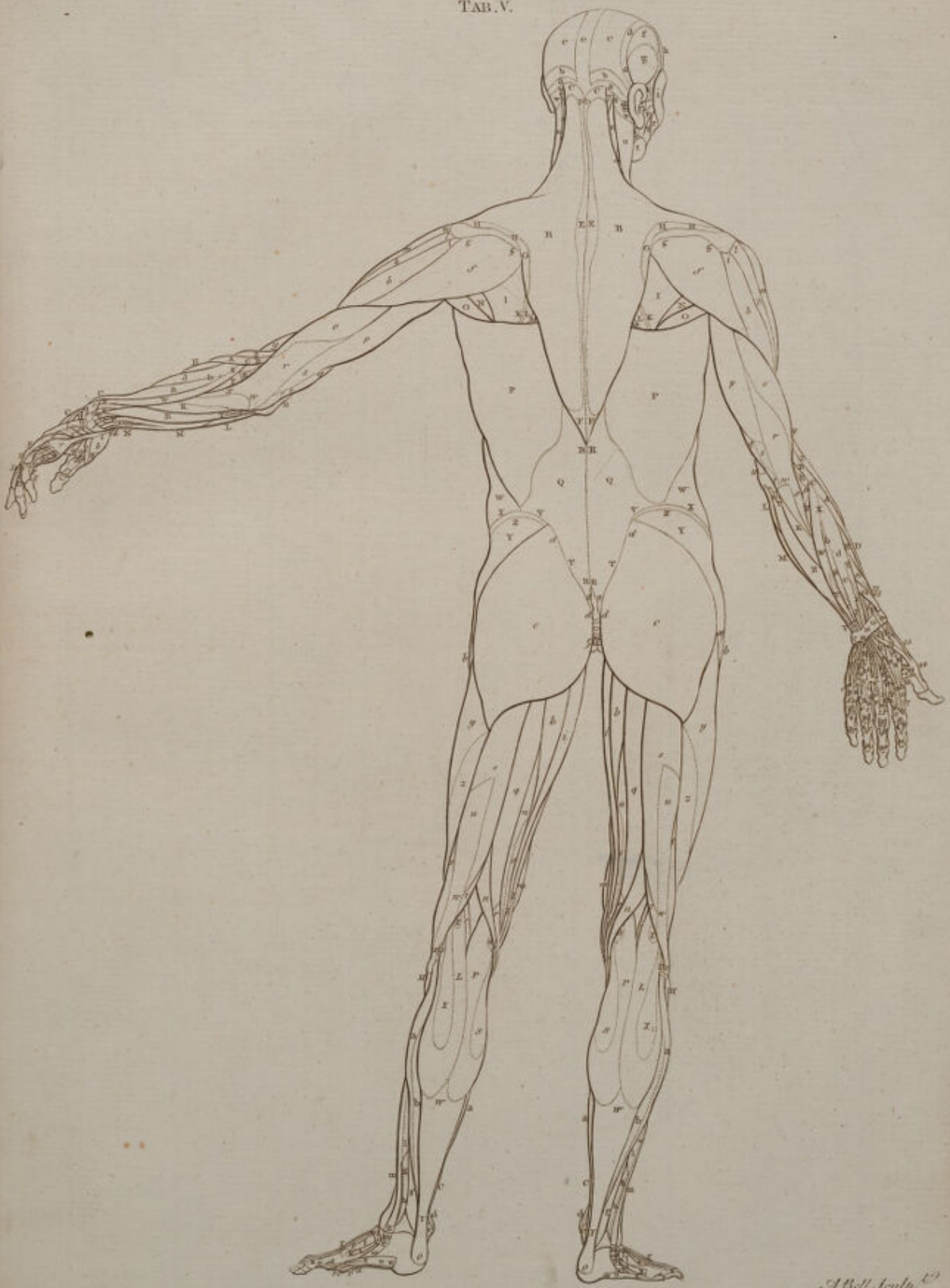
K. K The profound flexors, arising from each ulna.

L L The long palmares.

M. M N O P Q The sublime flexors. N the portion belonging to the middle finger. O that to the index. P that to the ring finger. Q that to the little finger.

R S T V. R S T V The internal ulnares. S T their originations, S arising from the greater condyle of the humerus and cohering with the common

TAB. V.



A. Bell Sculp.

TAB. V.

tendinous head of the muscles arising from that condyle: the other origin T is from the elbow. V the tendon inserted into the pisiform bone of the wrist.

W X Y Y. W X Y Z The external ulnares. X its beginning conjoined with the beginning of the common extensor of the fingers. Y Z the tendon belonging to the fourth metacarpal bone of the hand Z. Betwixt the tendon Z and the tendon c on the back of the right hand is a small tendon from this external ulnaris to the little finger.

a b c c. a b c c The extensors proper to the little fingers. b the origin conjoined with the origin of the common extensors of the fingers. c c the tendon which runs in a small degree split, over the back of the hand.

d. d e f f g h i k l m n o p p q r r s The common extensors of the fingers. e f f g h i k l m n o the portion belonging to the ring finger. f f the tendon which runs to the ring finger, having fissures as it passes along over the back of the hand. g a branch of this tendon which afterwards splits into two, one of which joins itself to the tendon e of the little finger, but is not always found; the other i divides again into two, of which k likewise joins the tendon e of the little finger, while the other (betwixt k and f below) goes to the trunk f of the little finger: l is a portion going off from the tendon f to the tendon e of the little finger: m the tendinous portion by which the trunk of the tendon f running to the ring finger joins the tendon of the little finger at the beginning of the fingers; which portion is composed of the two k and l, conjoined into one, below this, where the aponeurosis goes off from the tendon f. n the branch joining itself to the tendon p of the middle finger, not always found. o the tendinous portion by which the trunk of the tendon f running to the ring finger joins to the tendon p of the middle finger near its root or bend; and this portion is made up from the tendon n meeting with the aponeurosis which goes off from the trunk of the tendon f of the ring finger, near its root or joint. p p the tendon to the middle finger, in which is a fissure according to its course over the back of the hand. q r r the portion belonging to the index, r r the tendon. s the aponeurosis which, arising from the tendon p of the middle finger, goes to the tendon r of the index, and conjoins those tendons to each other at the roots of the fingers.

t The tendon of the indicator.

u The common tendon extending the index, formed of the tendon t of the indicator, and the tendon r of the common extensor to the index, joined together into one.

v w x y z z z z The tendons of the extensors of the fingers conjoined with the tendons and aponeuroses of the interossei and lumbricales as they pass along the backs of the fingers, &c. v that of the index formed of the tendon t of the indicator conjoined with the tendon r of the common extensor. w that of the middle finger, z that of the ring finger, both which are from the common extensor; y that of the little finger, which is formed of the tendon c, of the proper extensor of the little finger, conjoined with the portions h and k l m from the common extensor, joining with a portion from the extensor carpi ulnaris externus. z z z z the extremities of these tendons inserted into the bones of the second phalanx.

a The aponeurosis, from the capsule of the joint of this finger, with its metacarpal bone, and belonging to the tendon of the extensor y.

b c The abductor of the little finger. c the tendon.

d e The common tendon of the abductor and short flexor of the little finger, conjoined at d with the tendon y, and being increased by a portion received from thence, it runs to the third bone of that finger.

f The aponeurosis which joins the tendon y, arising in its upper part from the capsule of the joint of this finger with the metacarpus, and below springing from the tendon g of the interosseus of the little finger, with which tendon is conjoined the tendon of the fourth lumbricalis.

g The tendon of the interosseus of the little finger, to which is joined the tendon of the fourth lumbricalis.

h i The common tendon of the interosseus of the little finger and fourth lumbricalis, conjoined at h with the tendon y, and being increased by a portion received from thence runs to the third bone i.

k The common end in which the tendons e i unite and go to the third bone.

l The aponeurosis which goes to the tendon x, in its upper part coming from the capsule of the joint of this finger with the metacarpus: and below springing from the tendon n of the inner interosseus of the ring finger.

m m n o p The inner interosseus of the ring finger. n the tendon which afterwards joins at o with the tendon x, and being increased by a portion received from thence, runs to the third bone p.

q The aponeurosis which joins the tendon x, arising in its upper part from the capsule of the joint of this finger with the metacarpus: in its lower part springing from the tendon r of the outer interosseus of the ring finger, with which tendon is conjoined the tendon of the third lumbricalis.

r The tendon of the outer interosseus of the ring finger, to which the tendon of the third lumbricalis joins itself.

s t The tendon common to the outer interosseus of the ring finger and third lumbricalis, conjoined at s with the tendon x, and being increased by a portion received from thence, runs to the third bone t.

u The common end in which the tendons p t unite, and go to the third bone.

w The aponeurosis that goes to the tendon w, coming in its upper part from the capsule of the joint of this finger with its metacarpus: below springing from the tendon y of the inner interosseus of this middle finger.

x y z C The inner interosseus of the middle finger. y the tendon which afterwards joins at z with the tendon w, and being increased by a portion received from thence, runs to the third bone C.

D The aponeurosis that joins the tendon w, coming above from the capsule of the joint of this finger with its metacarpus: in its lower part produced by the tendon X of the outer interosseus of this middle finger, with which tendon is conjoined the tendon of the second lumbricalis.

H H H L X The outer interosseus of the middle finger. H H H L the heads arising from the metacarpal bone of the index H H H and middle finger L, X the tendon with which is conjoined the tendon of the second lumbricalis.

P S The tendon common to the outer interosseus of the middle finger with the second lumbricalis, conjoined at P with the tendon w, and being increased by a portion received from thence, runs to the third bone S.

W The common end in which the tendons C S unite and go to the third bone.

Y The aponeurosis that joins the tendon v, in its upper part coming from the capsule of this joint with the metacarpus: in its lower part produced from the tendon 2 of the inner interosseus muscle of this finger, the index.

1 2 3 4 The inner interosseus muscle of the index. 2 the tendon that afterwards joins itself to the tendon v, and being increased by a portion received from thence it runs to the third bone 4.

5 6 The aponeurosis that joins the tendon v, being in its upper part a production from the tendon of the abductor of the index; and in its lower part 6, from the first lumbricalis.

7 The tendon of the first lumbricalis, which afterwards conjoins itself 8 with the tendon v, and being increased by a portion received from thence, runs to the third bone 9.

10 The common end in which the tendons 4 and 9 unite themselves, belonging to the third bone.

11 The outer interosseus muscle of the index.

12 The abductor of the index.

13 The tendon of the greater extensor of the thumb.

14 15 The ligament that confines the tendon of the ulnaris externus, arising from the radius betwixt the said ulnaris and extensor of the little finger, and terminating at the tendon of the ulnaris internus; in the part 15 it is conjoined with the ligament 16.

16 17 18 19 The outer annular ligament, which arises from the pisiform bone 17, from the cuneiform bone 18, and from the eminence of the radius 19, which terminates the fore part of the groove that confines or gives passage to the tendons of the radiales externi.

20 The ligament that confines the tendons of the long abductor and less extensor of the thumb, in one part arising from the eminence of the radius, from which also arises the ligament 19.

21 22 23 23 The long abductor of the thumb. 22 the tendon of its upper part. 23 23 the tendon of its lower part.

24 25 The less extensor of the thumb. 25 the tendon.

26 The common end in which are conjoined the tendons (13 and 25) of the greater and less extensors of the thumb, and belonging to the third bone.

27 28 The aponeurosis which joins itself to the common end (26) of the tendons of the extensors of the thumb, part of which aponeurosis (27) invests the capsule of the joint of the thumb with its metacarpal bone, and adheres to the said capsule; while the part (28) arises from the inner tail of the short flexor of the thumb.

Betwixt 27 and 29 is the inner tail of the short flexor of the thumb.

29 30 The adductor of the thumb. 30 the tendinous end inserted into the first bone of the thumb.

In the lower part of the Left Elbow, and Left Hand.

a b The outer annular ligament, inserted into the pisiform bone b, and continued to the ligament c d.

c d the ligament that confines the tendon of the ulnaris externus, ending by the tendon of the ulnarus internus at d.

e The square pronator muscle.

f The ligament, which with the groove of the wrist forms a channel wherein are confined the tendons passing from the elbow to the hand, namely, of the sublime and profound flexors, and of the long flexor of the thumb.

g Part of the tendon given from the long to the short abductor of the thumb.

h i k The short abductor of the thumb. At i it receives a part from the aponeurosis of the long palmaris. k the tendinous end with the aponeurosis which it gives to the tendon of the extensors of the thumb.

l Part of the short flexor of the thumb, which may be esteemed a second short abductor of it: 'tis inserted with its tendinous end into the first bone of the thumb.

m Two ligaments which confine the tendon of the long flexor of the thumb; the one seated above, at the joint of the thumb with its metacarpal bone; the other, just below the former, is affixed to the edges of the first bone, beginning simple, but afterwards split into two horns.

n n The tendon of the long flexor of the thumb, inserted into the last bone of the thumb.

o The inner tail of the short flexor of the thumb, inserted into the first phalanx and inner sesamoide bone.

p The first lumbricalis.

q The adductor of the thumb.

r The aponeurosis or tendinous expansion of the long palmaris muscle.

s s The square or short palmaris muscle.

t u w The abductor of the little finger, u w its origin from the pisiform bone u, and from the inner ligament of the wrist w.

x The small flexor of the little finger.

y The tendon common to the small flexor and abductor of the little finger, conjoined with the tendon of the extensor of that finger.

z The end of the tendon of the extensor of the little finger belonging to the third bone.

C The tendon running to the third bone, formed of the tendon Y, and joined by a portion of the tendon of the extensor of the little finger.

D D The tendons corresponding to those of p r s 4 9 10, in the right hand.

H The ligament by which are confined the tendons of the sublimis and profundus, as they pass along the bone of the first phalanx or order.

L Three ligaments by which are retained the tendons of the sublimis and profundus at the joint of the finger with the metacarpus. We have fixed the letter only on the middle finger, but the same ligaments are also in the fore and ring finger.

X The tendons of the sublimis and profundus.

P The tendon of the profundus with one horn of the sublimis.

S The tendon of the profundus.

The same parts (H L X P S) are also pointed out in the other fingers.

THE

Sixth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

IN this Figure are expressed the second order of the muscles in the back part of the body, together with some of the ligaments and naked parts of the Skeleton, with part of the scrotum. This corresponds to the figure of the second table, of which this is the back view; but there is this difference, that in the present figure the Sternomastoidei and Cleidomastoidei muscles are taken away, the back parts of those muscles having been sufficiently represented in the fifth table.

The muscles exhibited in the last preceding table, and here taken away, are from the head, the epicranius, the elevator of the outer ear, the anterior and three retractive muscles of the outer ear, the ear itself, the orbicularis of the eye-lids, the greater zygomatic, and the latissimus colli. From the neck, back, and loins, are taken away the sternocleinomastoidei, the cucullares, latissimi dorsi, and external oblique muscles of the abdomen, and also from the left side of the back is removed the greater and less rhomboides. From the hips and nates are taken the large gluteï. From the thighs the sartorii. From the legs the gastrocnemii. From the feet the ligaments by which the tendons are confined near the inner ancles, the ligaments by which the tendons of the long and short peronei are retained at the outer ancles; the ligaments proper to the short peronei, the ligaments peculiar to the long peronei, the ligaments by which the tendons are confined at the bottom of the leg, and upon the backs of the feet, the abductors of the little toes; the aponeuroses joining the tendons belonging to the little toes to the tendons of the long extensors of the other toes. From the arms are taken the deltoidei. From the fore-arms and beginning of the hands are taken the long supinators, the common extensors of the fingers, the extensors proper to the little fingers, the external ulnares, the long palmares, the outer circular ligaments, the ligaments which confine the tendons of the outer ulnares. Also from the extreme part of the right fore arm is taken the ligament by which are confined the tendons of the long abductor and short extensor of the thumb. From the left hand likewise is taken the short palmaris, the short abductor of the thumb, the ligaments by which is confined the tendon of the long flexor of the thumb, the ligaments by which are confined the tendons of the sublimis and profundus at the joints of the fingers, with their metacarpal bones, and those by which the tendons are confined at the first bones of the fingers.

In the Head, Neck, and Back.

A B B B C D The temporal muscle. B B B C the first beginning of its origin from the convexity of the parietal bone B B B, and from the mammillary process C. B the tendon.

E F G H The masseter. E F the outer portion, F the extremity inserted into the lower jaw. G H the back part of the inner portion, which is not covered by the outer portion; H its origin from the zygomatic process of the temporal bone and from the os jugale.

I The internal pterygoideus muscle, inserted into the lower jaw.

K The mylohyoideus arising from the lower jaw.

L The first belly of the digastric muscle of the lower jaw.

M N. M N The biventers or digastrics of the neck. N the tendinous end inserted into the occipital bone. Soon after O beneath appear the two interspinales colli betwixt the spine of the fifth and sixth vertebra of the neck.

P Q R S. P Q R S The splenei muscles of the head. Q the beginning or rising from the ligament of the neck. R S the tendinous end inserted into the occipital bone R, and into the mammillary bone and process S.

T. T U V The splenei muscles of the neck. U V the beginnings of which one U arises from the spine of the tenth vertebra of the back, and the other V from the ninth.

W W The trachelomastoidei muscles.

X X Portions of the longissimi dorsi muscles running to the neck.

Y Y The transverse muscles of the neck.

Z a. Z a The elevators of the shoulder blades, a arising from the scapula.

w b, w b c d e f g h i k l The posterior and upper serrati. w the tendinous part, b the fleshy part. c d e f the origin from the ligament of the neck c, from the spine of the lower vertebra of the neck d, and the uppermost of the back e, and from the eleventh f. g h i k l the four extremities, of which g belongs to the second rib, h to the third, i to the fourth, and k l to the fifth, inserted into that rib at l.

m n o The less rhomboides. n the tendinous beginning arising from the ligament of the neck. o the end inserted into the scapula. the left rhomboides is removed.

p p q r s t u v w x x The greater rhomboides. p p the tendinous beginning. q the fleshy part. r s t u v the origin from the spines of the vertebræ, r that from the lowest of the neck, from the twelfth of the back s, from the eleventh t, from the tenth u, from the ninth v. w in this part it is incurvated according to the basis of the scapula without inserting itself. x x its insertion. The left is removed.

y The biventer of the neck.

z The semispinalis muscle of the back.

a b c d e f g h i. a b c d e f g h i The spinales of the back. *h* the portion that belongs to the spine of the eleventh vertebra of the back: *c* that to the tenth: *d* that to the ninth: *e* that to the eighth: *f* that to the seventh: *g* that to the sixth: *h* that to the fifth. *i* the head by which it arises from the spine of the third vertebra.

k l. k l The longissimus dorsi muscle. *l* the tendinous part.

m n o p q r s t u. m n o p q r s t u The sacrolumbales. *m* the fleshy part. *n* the tendinous tail that belongs to the ninth rib: *o* that to the eighth: *p* that to the seventh: *q* that to the sixth: *r* that to the fifth: *s* that to the fourth: *t* that to the third: *u* that to the second: *u* that to the first.

w x y z C D D H L: z C D D H L The outer intercostals. *w* the fourth with the elevator of the fifth rib, *x* the fifth, *y* the sixth, *z* the seventh, *C* the eighth, *D D* the ninth, *H* the tenth, *L* the eleventh.

X X The eleventh internal intercostals.

In the side of the Thorax, and lower part of the Trunk.

P S W Y O A B. *P S W Y O* A B The great serrati muscles. *S* the head that arises from the fifth rib: *W* that from the sixth: *Y* that from the seventh: *O* that from the eighth: A that from the ninth: B that from the tenth rib.

C D E E F G G H I K L. C D E E F G G H I K L The posterior and lower serrati. C the tendinous part. D F H K the fleshy part. D the first head inserted into the ninth rib E E. F the second head inserted into the tenth rib G G. H the third head inserted into the eleventh rib I. K the fourth head inserted into the twelfth rib L.

M N O O P Q R S T. M N O O P Q R S T The internal oblique muscles of the abdomen. M the fleshy part. N the tendinous part. O O the tendinous beginning from the spine of the ilium. P Q the extremity inserted into the twelfth rib, into the bony part P and cartilage Q. R S the end inserted into the eleventh rib, into its bony part R and its cartilage S. T the end that belongs to the tenth rib.

U V W X Y Z a b b b. U V W X Y Z a b b b The broad tendons by which the latissimi dorsi begin. V W its origin from the spines of the two lower vertebræ of the back, and all those of the loins and os sacrum. X Y its origin from the two oblique processes which are placed at the sides of the opening of the canal of the os sacrum in its lower part. Y Z the part in which it adhered with the gluteus magnus. a its origin from the spine of the ilium. b b b the broad tendon here cut off, where it no longer adheres with the tendon beneath, by which arise the lower serratus posticus and internal obliquus of the abdomen.

c c The multifide muscle of the spine.

d d The coccygei muscles.

e e The elevators of the arms.

f The external sphincter of the arms.

g g The secondary transverse muscles of the perinæum arising from the ossa pubis.

h h The transverse muscles of the perinæum arising from the tubercles of the ischia.

i k k k l. i k k k l The middle glutei in which are impressed the footsteps of the largest glutei (consult Tab. V.) k k k the origin from the os ilium. l the tendon inserted into the greater trochanter.

m The great psoas.

n o p. n o p The pyriform muscles. o the origin from the os ilium, p the tendon.

q r. q r The upper of the gemini. r the tendinous extremity. s t u. s t u the lower of the gemini. t the origin from the tubercle of the ischium u the tendinous end.

v v. v v The external obturators.

w w x y. w x x y The internal obturators. w the portion seated in the pelvis, where the part x arises from the anterior face and margin of the great foramen of the os innominatum. y the part which goes along the back of the os ilium betwixt the gemini.

TAB. VI.

A Bell Sculp.

TAB. VI.

In the Thighs, Legs, and Feet.

Z *a a*. Z *a a* The quadrati of the thighs. *a a* the end inserted into the thigh bone.

b c d d. *b c d d* The external vasti. *c* the tendinous part. *d d* its origin from the thigh bone.

e e f f g h h. *e e f f g h h* The large adductors of the thighs. *f f* the origin from the tubercle of the ischium. *g* part of the tendinous beginning. *h h* part of the extremity inserted into the thigh bone.

b i k l l m n n. *b i k l l m n n* The bicipital muscles of the legs. *b i k* the longer head. *i k* the tendon by which it begins and arises from the back of the tubercle of the ischium which joins the beginning of the semitendinosus, *l l* the shorter head. *m n n* the common tendon in which terminate the two heads; *m* arising first from the fleshy surface of the longer head, and then being increased by joining the shorter head *n*, at length terminates with a short extremity *n* in the upper head of the fibula.

p q r s; *p q r s*; The semitendinosi. *q* the tendinous part of its origin, arising from the back of the tubercle of the ischium *r*, it then joins the tendinous beginning of the longer head of the biceps of the leg, from which beginning it departs. *s* the origin of the fleshy part which is sometimes tendinous arising from the back of the tubercle of the ischium. *s* the tendon.

v t. *v t* The graciles. *t* the tendon.

w. *u* The internal vasti muscles.

w w x y z C. *w w x y z C* The semimembranosi. *x* the origin of the tendon from the fleshy part, *y* the tendon. *z* the more considerable part of the tendon inserted into the oblique rough eminence which is below the back part of the root of the upper head of the tibia, where it sustains the inner condyle of the thigh bone. *C* the thinner portion which the tendon sends off to the inner edge of the tibia.

D D The inner heads of the gemelli or gastrocnemii of the legs, *H H* the outer heads cut off.

L L X P. *L L X P* The popliteï. *X* the tendon by which it arises. *P* the tendinous surface.

S W. *S W*. The plantares. *W* the tendon.

Y Y O O O A B B. *Y Y O O O* A B B The solei muscles. *O O O* the tendinous surface by which the tendon of its back part begin. A the origin from the upper head of the fibula. B B a mark like a notch where is a tendinous part within the flesh, dividing the said muscular flesh like a tendinous partition.

C C The tendons of the gemelli cut off.

D E. D E The tendons of Achilles inserted into the heel bones E E.

F F The tendons of the long flexors of the toes.

G G The tendons of the tibiales postici.

H H The long flexors of the great toes.

I K L M. I K L M The short peronei. K the origin of the tendon from the fleshy part, L the tendon inserted into the metatarsal bone M of the little finger.

N N O P Q R S T. N N O P Q R S T The long peronei. O the origin from the root of the upper head of the fibula. P the origin of the tendon from the fleshy part. Q R S T the tendon. R S T the knots or bendings. R that where the tendon inflects itself at the outer ancle; S the second which is at the eminence of the heel bone; T the third at the cubical bone.

U U The tendons of the long extensors of the toes.

V V The tendons of the third peronei inserted into the metatarsal bones of the little toes.

W W The short extensors of the toes.

Below at X is the mass or head which joins the long flexor of the toes in the sole of the foot.

Y Y The short flexors of the toes. The four tendons of the left are visible.

In the Feet.

Z. Z *a b c* The short flexors of the little toes, arising from the metatarsal bones of those toes. *a* the part connected to the metatarsal bone of the little toe. *b c* the part belonging to the first bone of that toe, *c* the tendinous end.

d d The tendons of the short flexors of the toes, together with the tendons of the long flexors belonging to the little toes.

e e The tendon of the long flexor of the great toe, passing betwixt the sesamoide bone.

In the Shoulders and Arms.

f The great serratus muscle.

g g The coracbyoides.

h The subclavian muscle.

i k. *i k l* The supraspinati. *k* the origin from the scapula. *l* the tendinous end inserted into the larger unequal protuberance of the upper head of the humerus.

m n o p q r s t v. *m n o p q r s t v* The infraspinati. *n o* the origin from the basis of the scapulla, *o p* the origin from the spine. *q* the tendon where it begins first to appear. *r s* the fleshy portions joining to that tendon. *r* the upper portion from the spine; *s* the lower portion from the lower angle. *t* the tendinous end, inserted into the larger unequal protuberance *v* of the upper head of the humerus.

t u w x. *t u w x* The less teretes. *u* the tendon inserted into the os humeri. *w x* The fleshy portions with the tendon inserted partly above *w*, and in part below *x*. The insertion is into the larger unequal protuberance of the upper head and lower part of the neck of the humerus.

y y. *y y* The larger teretes.

z A B B C D E F G H I K L L M N N. *z* A B B C D E F G H I K L L M N N The tricipital extending muscles of the arms. *z* A B B the brevis, in the upper part of which is a linus impressed by the deltoides: (see Tab. V.) A the tendinous part, B B the origin from the humerus, C D the long extensor in the upper part of which is a linus impressed by the deltoides (see Tab. V.) D the tendinous part, E the external brachialis. F the common tendon of these three heads. G the tendinous part formed by the long extensor and joining the common tendon. H the tendinous part formed by the external brachialis which joins the common tendon. I the tendinous part which arising from the surface of the external brachialis, belongs to the great condyle of the humerus. K the common tendon inserted into the elbow. L L the thinner horn of this tendon here cut off, which is inserted into the fore part of the olecranum and spine of the ulna next adjacent. M N N part of the external brachialis from the root of the lesser condyle N N, and arising from the margin of the os humeri above it.

O O The bicipital muscles of the arms.

P P The internal brachial muscles.

Q R S T T U The longer external brachialis. R the origin from the lesser condyle and from the margin of the humerus above it. S the part where it was conjoined with the common extensor of the fingers and internal ulnaris. T T U the tendon inserted into the metacarpal bone of the index.

V. V W W X The shorter external radiales. W W the tendon inserted into the metacarpal bone X of the index and little finger.

Y Z *C C* The anconei. Z the tendon arising from the lesser condyle of the humerus. *C C* the extremity inserted into the fore part of the elbow and margin of the ulna below that part of the elbow.

D. *D H* The short supinators. *H* the tendinous beginning arising from the less condyle of the humerus.

L. *L X P S W W* The long abductors of the thumbs. *X* part of its origin. *P* the part from the radius. *S* the tendon of its upper part. *W W* the tendon of its lower part.

Y. *Y O* The less extensors of the thumbs. *O* the tendon.

a b. a b c The larger extensors of the thumbs. b the origin from the ulna. c the tendon.

d e The common end in which unite the tendons of the greater c and less extensor *O* of the thumb, inserted into the third bone of the thumb e.

f g. f g h The indicators. g the origin from the ulna. h the tendon.

i k k. i k k The profundi. k k the origin from the ulna.

l m n o p q. l m n o p q The internal ulnaris. m the beginning arising from the greater condyle of the humerus, and cohering with the common tendinous head of the muscles which arise from that condyle. n the beginning from the broad part of the elbow n o p; and departing from the tendinous fascia or covering of the cubit n o, and arising also from the ulna p, the tendon q is inserted into the pisiform bone of the wrist.

r The square pronator muscle.

In the Left Hand.

s. *s t u v w x y z a* The sublime flexors. t the portion belonging to the middle finger; u that to the index, v that to the ring finger. w that to the little finger. x y z *a* the tendons. x that of the index. y that of the middle finger. z of the ring finger. *a* of the little finger.

b c d e The lumbrical muscles of the fingers, *b* that of the index, *e* that of the middle finger, *d* that of the ring finger, *e* that of the little finger.

f g. The small flexor of the little finger. *g* the origin from the interior ligament of the carpus.

h i k The abductor of the little finger. *i k* the origin, from the pisiform bone of the wrist *i*, and from the inner ligament of the wrist *k*.

l The tendon common to the small flexor and abductor of the little finger, conjoined to the tendon of the extensor of that finger.

m The end of the extensor tendon of the little finger, belonging to the second bone.

n The tendon running to the third bone, formed of the tendon *l* and joined by a portion of the extensor tendon of the little finger.

o o The same tendons which in the right hand are marked *z x y*. t x y.

p. *p* The tendons of the profundi.

q The ligament which with the cavity in the wrist forms a canal, wherein are confined the tendons of the sublimis, profundus, and long flexor of the thumb, passing from the fore-arm to the hand.

r s. The opponent muscle of the thumb. *s* its origin from the inner ligament of the wrist. *r* its end inserted into the metacarpal bone of the thumb.

t u w. Part of the short flexor of the thumb, which may reckoned as a second short abductor of the thumb. *u* its origin from the inner ligament of the carpus. *w* its tendinous end inserted into the first bone of the thumb.

z y. The posterior tail of the short flexor of the thumb, inserted into the first internode *y*, and posterior sesamoide bone of the thumb.

z. The adductor muscle of the thumb.

C D. The tendon of the long flexor of the thumb, in a manner split or divided. *D* its insertion into the last bone of the thumb.

In the Right Hand.

a b c d. The tendons of the extensors of the fingers as they pass over the joints, conjoined with the tendons and aponeuroses of the interossei, lumbrical, &c. muscles. They are cut off at the roots of the fingers, except in the index, in which that tendon only is cut off which it receives from the common extensor. *e e e e* the ends of those tendons inserted into the second order of bones.

f g. The abductor of the little finger. *g* the tendon.

h. The tendon common to the abductor and small flexor of the little finger joined with the tendon *a*, and being increased by a portion received from thence, runs to the third bone *i* of the little finger.

k. The aponeurosis, from the capsule of the joint of this finger with its metacarpal bone, belonging to the tendon *a*.

l. The tendon of the interosseus of the little finger, to which is conjoined the tendon of the fourth lumbricalis.

m. The tendon common to the interosseus of the little finger and fourth lumbricalis, conjoined with the tendon *a*, and being increased by a portion received from thence, runs to the third bone *n*.

o. The common tendinous end *i n*, belonging to the third bone.

p. The aponeurosis which joins the tendon *a*, coming in its upper part from the capsule of the joint of this finger with its metacarpus: and below it is produced by the tendon *l* of the interosseus of the little finger, with which tendon is conjoined the tendon of the fourth lumbricalis.

q r s The inner interosseus of the ring finger. q one head of it arising from the metacarpal bone of the little finger. r the other head from the bone of the ring finger. s the tendon which afterwards joins itself at s with the tendon b, and being increased by a portion received from thence, runs to the third bone u.

t The aponeurosis which joins the tendon b, coming in its upper part from the capsule of the joint of this finger with its metacarpus; and below it is produced from the tendon of the inner interosseus b, of the ring finger f.

u The tendon of the outer interosseus muscle of the ring finger, to which is conjoined the tendon of the third lumbricalis.

w The tendon common to the outer interosseus of the ring finger and third lumbricalis, conjoined with the tendon b, and being increased by a portion received from thence, runs to the third bone x.

y The common end of the tendons v. x, belonging to the third bone.

z The aponeurosis which joins the tendon b, coming in its upper part from the capsule of the joint of this finger with its metacarpus: below produced from the tendon u of the outer interosseus of the ring finger, with which tendon is conjoined the tendon of the third lumbricalis.

a b c The inner interosseus of the middle finger. a one head arising from the metacarpal bone of the ring finger: b the other head from that of the middle finger. c the tendon which afterwards joins at f with the tendon e, and being increased by a portion received from thence, it runs to the third bone g.

h The aponeurosis that joins the tendon c, coming in its upper part from the capsule of the joint of this middle finger with the metacarpus: in its lower part produced from the tendon c of the inner interosseus of this middle finger.

i i k k l The outer interosseus of the middle finger. i i one head arising from the metacarpal bone of the middle finger; k k the other head from the bone of the index. l the tendon to which is joined the tendon of the second lumbricalis.

m The tendon common to the outer interosseus of the middle finger and second lumbricalis, conjoined with the tendon c, and being increased by a portion received from thence, it runs to the third bone n.

o The common end of the tendon, g n belonging to the third bone.

p The aponeurosis which joins the tendon c, coming in its upper part from the capsule of the joint of this finger with the metacarpus: in its lower part produced by the tendon l of the outer interosseus of this middle finger, with which tendon is conjoined the tendon of the second lumbricalis.

q r The inner interosseus of the index. r the tendon which afterwards joins at s with the tendon d, and being increased by a portion received from thence, it runs to the third bone t.

u The aponeurosis that joins the tendon d, coming in its upper part from the capsule of the joint of this finger with the metacarpus: below it is produced from the tendon r of the inner interosseus of this fore finger.

v The tendon of the first lumbricalis, which afterwards joins at w with the tendon d, and being increased by a portion received from thence, it runs to the third bone x.

y The common end in which meet the tendons t x belonging to the third bone.

z 1 The aponeurosis that joins the tendon d, produced in its upper part z from the abductor of the index 1: in its lower part from the first lumbricalis 1.

2 The outer interosseous muscle of the index.

3 The abductor of the index

4 5 The aponeurosis which joins the common end of the extensor d of the thumb. Part of it 4 surrounds the capsule of the joint of this finger with its metacarpus, and adheres to the said capsule: the part 5 comes from the inner tail of the short flexor of the thumb.

6 The inner tail of the short flexor of the thumb.

7 8 The adductor of the thumb: 8 its tendinous end inserted into the first bone of the thumb.

THE

Seventh Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

HERE follows the third order of the muscles on the back part of the body, with some of the ligaments and naked parts of the Skeleton; for here we have removed most of the outer parts exhibited in the figure last preceding. This figure corresponds to that of the third table, and gives a back view thereof, with this difference, that, in the first place, the outer sphincter of the anus is here taken away, as being sufficiently represented before in the sixth table; and, secondly, that in the right hand of this figure, contrary to that of the third table, are represented the tendon of the abductor of the little finger, and the tendon common to that abductor with the small flexor; and this was done to avoid lessening the tendinous communication stretched over the back of the little finger.

The muscles here taken off are, from the head, the temporalis, the masseter, the digastric of the lower jaw. From the neck, back, and loins, the splenii of the head and neck, the elevators of the scapulæ, the greater and less rhomboidals, the posterior and upper serrati, the great serrati, the lower posterior serrati, and the internal obliqui of the abdomen, together with the broad tendons by which the latissimi dorsi begin. From the parts about the nates and hips are taken the middle gluei, the pyriformes the upper and lower gemelli, the quadrati of the thighs, coccygei, the elevators of the anus, the transversales of the perinæum both primary and secondary, with the outer sphincter of the anus, and the testicles. From the thigh the semitendinosi, the longer heads of the bicipitals of the legs, with the external and internal vasti. From the legs are taken the plantares and the solei, with the tendons of Achilles. From the feet the tendons of the common extensors of the toes and third peronei, the short flexors of the intermediate and little toes. From the shoulder blades the coracohyoidei, subclavius, supraspinati, infraspinati, and lesser teretes. From the arms are taken the bicipital flexors, with the long and short extensors of the elbow. From the fore-arms and hands, the anconei, the long abductors of the thumbs with their greater and less extensors, the indicators, the outer ulnares and sublimus. From the left hand the abductor and short flexor of the little finger, part of the short flexor of the thumb (which may be reckoned as a second short abductor of it) and the opposer of the thumb. From the right hand the abductor of the little finger, the head of the inner interosseus of the ring finger, arising from the metacarpal bone of the little finger, the head of the inner interosseus of the middle finger arising from the metacarpal bone of the ring finger. The head of the outer interosseus of the middle finger arising from the metacarpal bone of the index, the abductor of the index, the aponeurosis which invests the capsule of the joint of the thumb with its metacarpal bone, fastened to the said capsule, and conjoining itself to the common end of the tendons of the extensors of the thumb.

In the Head, Neck, and Trunk.

a The buccinator muscle.

b The portion that joins the orbicularis of the mouth, arising from the lower jaw.

c The internal pterygoideus inserted into the lower jaw.

d e e Mylohyoideus. e e the origin from the lower jaw.

f g h i k l l m m n. f g h i k l l m m n The biventers of the neck. f the first belly. g the tendon betwixt the venters. h the portion arising from the uppermost vertebra of the spine, and detached partly to the middle tendon i, and in part to the second belly k. l l the second belly, inserted into the occipital bone by the tendinous end m m. n the tendinous part of the second belly.

o o, o o The spinal muscles of the neck.

p q r s t The left interspinals of the neck, close to which lie the right. p that betwixt the spines of the first and second vertebra of the neck: q between those of the second and third: r between those of the third and fourth: s between those of the fourth and fifth: t betwixt the spines of the fifth and sixth.

u v. u v The complexi muscles. v the tendinous part.

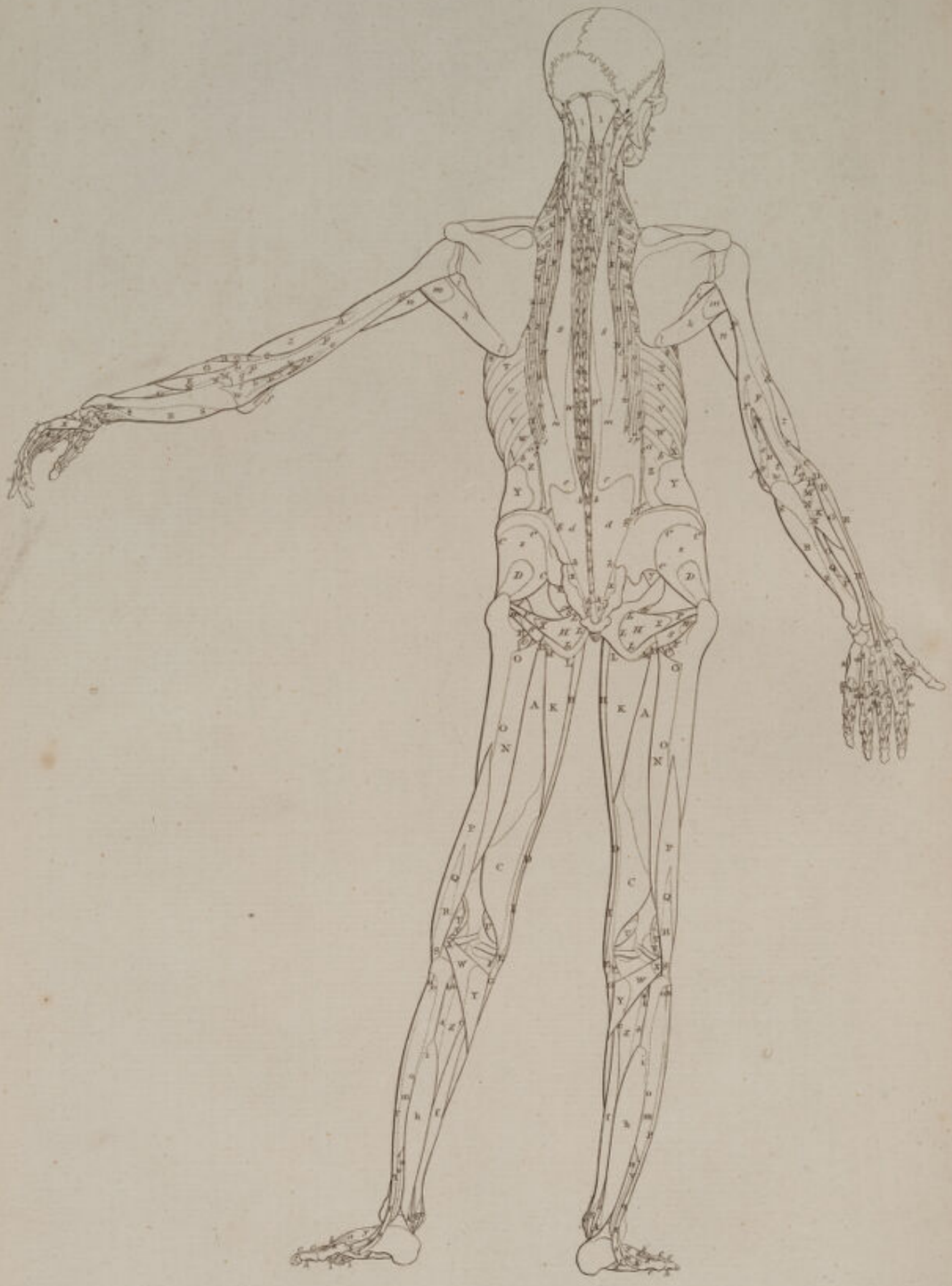
w w x The upper oblique muscle of the head. x the parts inserted into the occipital bone.

y. y The lower oblique muscles of the head.

z A B. z A B The trachelomastoidei. A the tendinous part. B the tendinous end, inserted into the mastoide process.

TAB. VII.

TAB. VII.



A.B.H. Sculp.

C C. C C The transversales of the neck.
D D The cervicales descendentes.
E E The middle scaleni.
F G H. F G H The posterior scaleni. F its origin from the second rib. G the tail belonging to the transverse process of the third vertebra of the neck, H to the second.
I K L M: I K L M The elevators of the ribs. I of the second. K of the third. L of the fourth. M of the fifth.
N O P Q R R S S T U V W: N O P Q R S S T U V W The outer intercostal muscles. N the second. O the third, &c.
X X The twelfth of the inner intercostal muscles.
Y Z *a b*. Y Z *a b* The transverse muscles of the abdomen. Y the fleshy part, Z the broad tendon by which it arises, and adheres to the bottom of the edge of the lowermost or twelfth rib, as well the bony part *a*, as cartilage *b*, even to its tip.
c c. c c The inner plates of the common aponeurosis of the lower posterior serrati, and inner oblique muscles of the abdomen; they are here cut off where they no longer adhere to the broad tendons by which the transverse muscles of the abdomen begin.
d e f g h i k k l m n o p q r f s t u w x y z C D H L X P S W Y O. d e f g h i k k l m n o p q r f s t u w x y z C D H L X P S W Y O The sacrolumbales with the longissimi muscles of the back. *d e f g h i k k l m* the common head by which they begin. *d* the tendinous part, *e* the fleshy part. *f g h* the origin of that head from the spine or edge of the os ilium, *f* the fleshy part, *g h* the tendinous part. *h i* the part where it adheres to the gluteus magnus. *i k* the tendinous part arising from the two upper tubercles near the opening of the end of the canal of the os sacrum. *k k* the tendinous part discontinued one from the other, composed of the tendons arising from the spines of the two lower lumbal vertebræ and all those of the os sacrum. *l* the tendon arising from the spine of the third lumbal vertebra. *m* the division of this common head into the sacrolumbalis and longissimus dorsi muscles.
n o p q r f s t u w x y z C D H L X P. n o p q r f s t u w x y z C D H L X P The sacrolumbales. *n o*, &c. the tails belonging to the ribs; *n n* that to the eleventh rib, *p q* to the tenth, *r f* to the ninth, *s t* to the eighth, *t u* to the seventh, *w x* to the sixth, *y z* to the fifth, *C D* to the fourth, *H L* to the third, *X* to the second, *P* to the first: *n p r s t w y C H* the fleshy parts of those tails. *o q f u x z D L X P* the tendinous parts.
S W Y O. S W Y O The longissimi dorsi. *W* the tendinous part of the common head running thro' the longissimus. *Y* the tail ascending thro' the neck, where it gives a tendinous portion *O* to the trachelomastoideus, and at last joins itself to the descending cervicalis.

In the Trunk.

a b c d e g h. a b c d e g h The semispinales of the back. b the head arising from the transverse process of the sixth vertebra of the back, counting from the loins. c the tendinous end which is inserted into the spine of the second vertebra of the neck from the back; d that to the first of the neck; e that to the uppermost of the back; g to the eleventh of the back; h to the tenth.
i k l m n p q r s t u v w. i k l m n p q r s t u v w The spinales of the back. k the head arising tendinous from the spine of the third vertebra of the back, counting from the loins; l the head from that of the second; m from that of the first; n from that of the fifth vertebra of the loins; p from that of the fourth. q the extremity inserted (by the tendon which it forms) into the spine of the fifth vertebra of the back; r the end to the sixth; s to the seventh; t to the eighth; u to the ninth; v to the tenth w to the eleventh.
Betwixt the heads of the spinales dorsi, near the spines, and betwixt the parts of the longissimi dorsi *i k* appear the multifidi spinæ.
Betwixt the spines of the three lower vertebræ of the back appear the interspinales of the back.
Betwixt the spine of the lowest vertebra of the back and uppermost of the loins, appear the interspinales lumborum, as also they appear betwixt the spines of the lumbal vertebræ, and between the lower lumbal spine and uppermost of the os sacrum. The spaces are so minute that letters could not be fixed on them; but Tab. VIII. will give a better knowledge of them.
x x The multifidi of the spine.
y y The great psoæ or lumbal muscles of the thighs.
z *C C C D*. z *C C C D* The least glutei. *C C C* the origin from the back of the os ilium. *D* the tendinous part by which the tendinous end begins from the outer part of the flesh.
H L L L X P. H L L X P The internal obturators. *H* the part seated in the pelvis, and there arising from the margin of the great foramen *L L L* of the os innominatum. *X P* the part which goes over the back of the ischium to the femur. *P* the tendon which it forms.
S S W. S S W The external obturators. *W* the tendinous end.
T T The internal iliaci, by their insertions.
O. O The tendons common to the great lumbal or psoæ muscles and internal iliaci, inserted into the less trochanters.
A B C D E F G. A B C D E F G The semimembranosi. A the tendon by which it begins and arises at B from the back of the tubercle of the ischium. C the fleshy belly. D the origin of the tendinous tail from the flesh. E the principal part of the said tail belonging to the upper head of the tibia: F the posterior aponeurosis which this muscle inserts below the root of the upper head of the tibia: G the anterior aponeurosis which it inserts into the inner margin of the tibia. In its head and belly is a sinus impressed by the semitendinosus. See Tab. VI.
H I. H I The gracilies. I the tendon
K L M N O O. K L M N O O The large adductors of the thighs, in which are impressed the marks of the large glutei: See Tab. V. L the part arising from the os pubis. M its origin from the tubercle of the ischium, externally tendinous. N O O the upper end inserted into the femur O O.
P Q R S. P Q R S The shorter heads of the biceps muscles of the legs. Q part of the tendon cut off which arises from the longer head. R part of the tendon which is increased by the accession of the flesh of the shorter head. S the tendinous end inserted into the upper head of the fibula.
T T The outer heads of the gemelli of the legs. U U the inner, cut off.
V V The plantares muscles cut off.
W X Y. W X Y The popliteï. X the tendon by which it begins. Y a tendinous part.
Z a b c d e. Z a b c d e The tibiales postici. a the part which arises from the tibia, b the part from the fibula, c d the tendinous surface. e the tendon.
f g. f g The long flexors of the toes. g the tendon.
h i k. h i k l l The long flexors of the great toes. l the origin from the tibia: k the tendon. l l its course under the bottom of the foot and toe.
m n o o p q r s t. m n o o p q r s t The long peronei. n one of its origins from the head of the fibula. o o the other from the spine of the fibula.
p q r s t The tendon, arising from the flesh at p: r s t the knots or turnings of the tendon, r the first by which it bends at the outer ancle; s the second, at the protuberance in the outer side of the calcaneum; t the third at the cubiform bone.
u v w x. u v w x The short peronei. v part of the tendon arising from the flesh: w the tendon, inserted at x into the metatarsal bone of the little toe.
y z *a b*. y z *a b* The short extensors of the toes. z the tail belonging to the third of the small toes, *a* that to the second, *b* that to the first.
c c. c c The tendons stretched over the backs of those toes.
d d The heads which join the long flexors of the toes in the soles of the feet.
e e The interossei muscles of the little toes.
f The tendons of the long flexors of the toes, joined with the lumbricales as they pass along.
g The tail of the short flexor of the great toe, which belongs to the sesamoide bone next the first of the small toes.
h h The tendons of the long flexors to the small toes.

In the Shoulders, upper Extremities, and left Hand.

i i The subscapular muscles.
k l m. k l m The larger teretes. *l* the origin from the angle of the scapula. *m* the tendinous part.
n. n The coracobrachiales.
o p p p q r f. o p p p q r f The external brachiales; in which are impressed the marks of the long and short extensor of the elbow; see Tab. VI. *p p p* its origin from the humerus, and from the root of the anterior condyle *q. r* the tendinous part. *f* a tendinous part arising from the surface of the outer brachialis, and belonging to the greater condyle of the humerus.
s The fleshy part of the extensor longus cut off. *v* part of the brevis cut off, which is outwardly tendinous, inwardly fleshy. *t* the place from whence is cut off part of the common tendon of the three heads of the triceps brachialis. *u w x y* the common tendon of the triceps brachialis, inserted into the elbow or head of the ulna at *w*. *x* the tendinous part from the longus to the common tendon; *y* the tendinous part formed by the brachialis externus, which joins the common tendon.
z A. z A The brachialis internus, wherein is a sinus impressed by the supinator longus: see Tab. VI. A the origin of the outer horn from the os humeri.
B C C D. B C C D E F The longer of the external radiales. C C its origin from the anterior edge and condyle of the os humeri, D the part where it is conjoined and has a common origin with the common extensor of the fingers and outer ulnaris. E the tendon inserted at F into the metacarpal bone of the index.
G. G H I The shorter external radiales, having a sinus impressed by the common extensors of the fingers: See Tab. VI. H the tendon inserted at I into the metacarpal bones of the index and middle finger.
K L M N N. K L M N N The short supinators. L M part of the tendinous origin from the anterior condyle of the humerus at L, and connected at M with the capsule of the joint of the elbow. N N part of the origin from a protuberance of the ulna, outwardly tendinous.
O O The long flexors of the thumbs.
P P The square pronators.
Q R S S. R S S T T U U U V V W W The profundi flexores. S S the origin from the ulna. T T the tendon belonging to the little finger, U U U the tendon to the ring finger, V V that to the middle finger, W W that to the index.
X X Y The tendon of the long flexor of the thumb, inserted at Y into the last bone of the thumb.
Z *C D H* The ligament, which with the carpal sinus forms a channel wherein are confined the tendons of the sublimis and profundus from the fore-arm to the hand, with the long flexor of the thumb. *C* the origin of this ligament from the pisiform bone, from the uncifom process of the cuneiform bone *D*, and from the larger multangular bone *H*.
L The ligament that goes from the pisiform bone to the fourth bone of the metacarpus.
X P S The adductor of the metacarpal bone of the little finger, arising at *P* from the carpal ligament, and inserted at *S* into the fourth metacarpal bone.
W Y The short flexor of the thumb. *W* one tail inserted tendinous into the sesamoide bone of the thumb which is farthest from the index. *Y* the other tendinous end inserted into the first internode and sesamoide bone of the thumb nearest the index.
O The adductor of the thumb.
1 2 3 4 The lumbrical muscles of the fingers; 1 that of the index, 2 that of the middle finger, 3 that of the ring finger, 4 that of the little finger.
5 The tendon of the extensors of the little finger, belonging to the first bone of that finger at 6
7 The tendon common to the small flexor and abductor of the little finger, joined to the tendon of the extensor of that finger.
8 The tendon running to the third bone of the little finger, formed of the tendon 7, joined by a portion of the extensor tendon of this finger.
9 10 The same tendons which in the right hand are marked *w b. t y z*.

In the right Hand.

a The adductor of the fourth metacarpal bone.
b c d e The extensor tendons of the fingers cut off at their roots, passing over their backs, and conjoined with the tendons and aponeuroses of the interossei, lumbrical, &c. muscles. f f f f the ends of those tendons inserted into the bones of the second order.
g The part whence the abductor of the little finger is cut off. h its tendon.
i The common tendon of the abductor and small flexor of the little finger joined with the tendon b, and being increased by a portion received from thence, runs to the third bone of the little finger, k
l The aponeurosis which arising from the capsule of the joint of this finger with its metacarpal bone, belongs to the tendon b.

m n The interosseus of the little finger, arising from the metacarpal bone at m. n its tendon joined with the tendon of the fourth lumbricalis.

o The tendon common to the interosseus of the little finger and fourth lumbricalis, conjoined with the tendon h, and being increased by a portion received from thence, it runs to the third bone of the little finger.

q The common end of the tendons k p, belonging to the third bone of the little finger.

r The aponeurosis which joins the tendon h, coming in its upper part from the capsule of the joint of this finger with the metacarpus: below produced by the tendon n of the interosseus of the little finger, with which tendon is conjoined the tendon of the fourth lumbricalis.

s The head of the inner interosseus of the ring finger arising from the metacarpal bone of that finger. t the end of the other head cut off, arising from the metacarpal bone of the little finger. u the tendon that at v joins the tendon e, and being increased by a portion received from thence, runs to the third bone of the ring finger w.

x The aponeurosis that joins the tendon e, coming in its upper part from the capsule of the joint of this finger with the metacarpus: below produced from the tendon u of the inner interosseus of the ring finger.

y z The outer interosseus of the ring finger, arising at y from the metacarpal bone of that finger. z its tendon, which joins the tendon of the third lumbricalis.

a The tendon common to the outer interosseus of the ring finger and third lumbricalis, joined with the tendon e, and being increased by a portion received from thence, runs to the third bone of the ring finger b.

c The common end of the tendons w b, belonging to the third bone of the ring finger.

d The aponeurosis that joins the tendon e, coming in its upper part from the capsule of the joint of this finger with the metacarpus: below produced from the tendon z of the outer interosseus of the ring finger, with which tendon joins the tendon of the third lumbricalis.

e The head of the inner interosseus of the middle finger arising from the metacarpal bone of that finger. f the end of its other head cut off, which arises from the metacarpal bone of the ring finger. g the tendon which soon after joins at h with the tendon d, and being increased by a portion received from thence, runs to the third bone of the middle finger i.

k The aponeurosis that joins the tendon d, coming in its upper part from the capsule of the joint of this finger with its metacarpus: below produced from the tendon g of the inner interosseus of this middle finger.

l The head of the outer interosseus of the middle finger arising from the metacarpal bone of that finger. m the end of its other head cut off, that arises from the metacarpal bone of the index. n the tendon that joins itself with the tendon of the second lumbricalis.

o The tendon common to the outer interosseus of the middle finger and second lumbricalis, which, after joining the tendon d, is increased by a portion received from thence, and runs to the third bone of the middle finger p.

q The common end of the tendons i p, belonging to the third bone of the middle finger.

r The aponeurosis that joins the tendon d, coming in its upper part from the capsule of the joint of this middle finger with its metacarpus: below produced from the tendon n of the outer interosseus of this middle finger, with which tendon is conjoined the tendon of the second lumbricalis.

f t The inner interosseus of the index, arising at f from the metacarpal bone of the index. t with the tendon e, and being increased by a portion received from thence, runs to the third bone of the index r.

u The aponeurosis that joins the tendon e, coming in its upper part from the capsule of the joint of this fore-finger with the metacarpus: in its lower part produced by the tendon f of the inner interosseus of this fore-finger.

w The tendon of the first lumbricalis which at x joins with the tendon e, and being increased by a portion received from thence, runs to the third bone of the index y.

z The common end in which unite the tendons r y, belonging to the third bone of the index.

1 The aponeurosis which being produced from the first lumbricalis, joins with a like aponeurosis from the abductor of the index, and therewith joins the tendon e.

2 3 The outer interosseus of the index, arising at 2 from the metacarpal bone of the index. 3 the tendinous end inserted into the first bone of the index.

4 5 The short flexor of the thumb. 5 the aponeurosis which it sends out and joins with the aponeurosis investing the capsule of the joint of the thumb with the metacarpus, and therewith joins the common end of the extensor tendons of the thumb.

6 7 The adductor of the thumb, 7 the tendinous end inserted into its first bone.

THE

Eighth Anatomical Table

OF THE

HUMAN MUSCLES

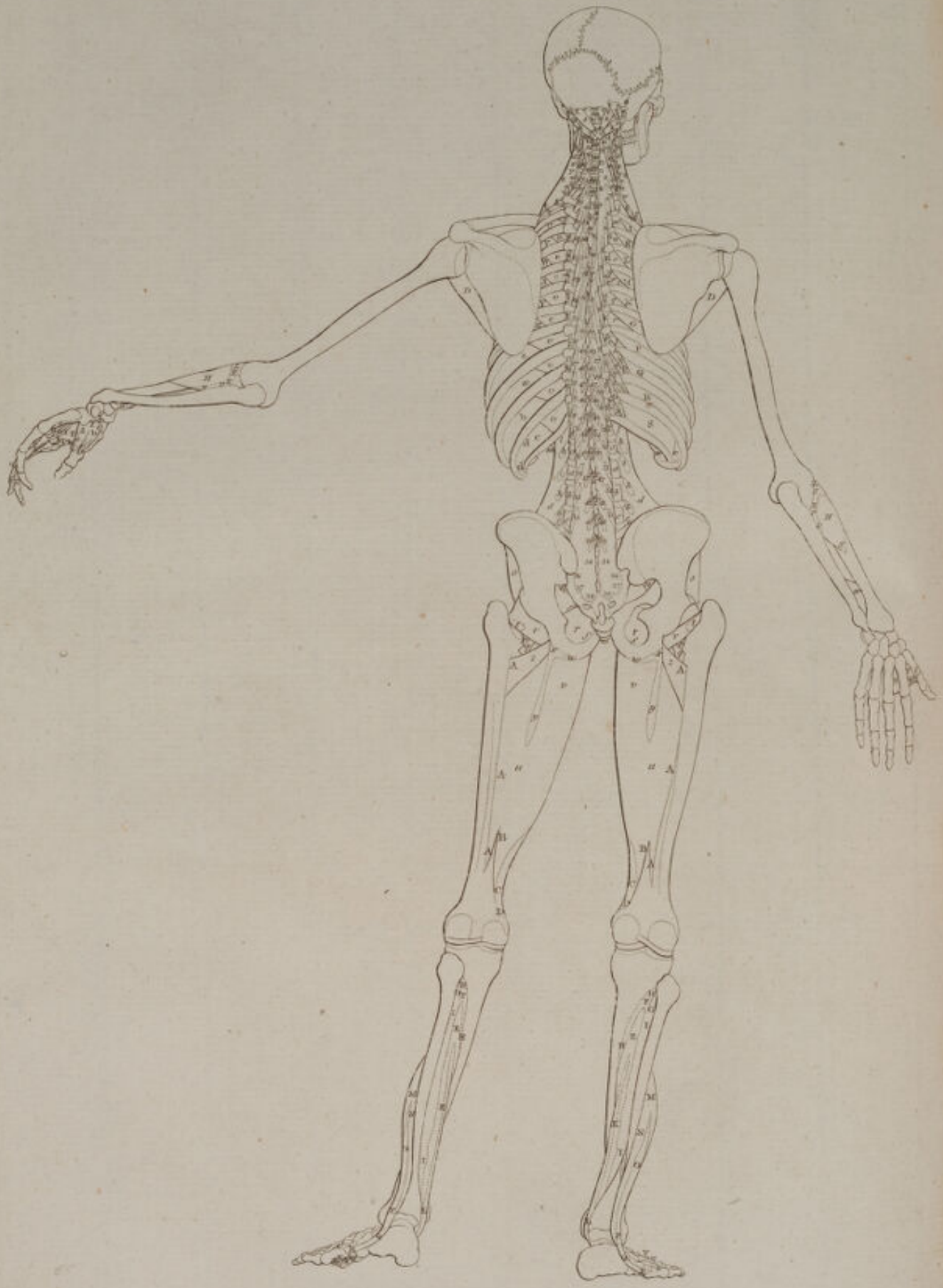
EXPLAINED.

THIS is the fourth or last order of the muscles on the back part of the body, with the Skeleton laid more naked; because most of the outer muscles, in the preceding figure, are here removed. This figure is a back view of that contained in the fourth table, but not wholly so; since neither the internal pterygoidei, external sphincter of the anus, transversales of the perinæum, nor interossei and tendons of the fingers in the right hand, are any of them represented here as in that figure: but we have represented the interossei, with the tendons in the left hand; since we expressed them in the third table, but omitted them in the fourth.

We have here taken away, from the head, that part of the buccinator which joins the orbicularis of the mouth, the internal pterygoideus, and mylohyoideus. From the neck, the cervical biventers, the descending cervicales, the posterior scaleni; and from the left side, the spinalis of the neck. From the back and loins, the sacrolumbales, with the longissimi dorsi and spinales dorsi: and from the left side of the spine, the semispinales dorsi; from the left side of the thorax, the shorter elevators of the ribs, except the first; the long elevators and outer intercostals. From the sides, betwixt the thorax and hips are taken the transversales of the abdomen, together with the inner plates of the aponeurosis, common to the posterior and lower serrati, with the internal obliqui of the abdomen. From the hips and nates the less glutei and internal obturators. From the thighs the graciles, semimembranosi, bicipitals of the legs, origins of the gemelli and plantares. From the legs and feet, the popliteï, the long peronei, the long flexors of the great toes, and the long flexors of the small toes. From the feet the short extensors of the toes, the fleshy heads that join the long flexores of the toes in the soles of the feet, the interossei of the little toes, the tendons of the long flexors of the toes, with the lumbricales. From the shoulder-blades and arms, the larger teretes, the coracobrachiales, the internal brachiei, and the tricipital extensors of the arms. From the fore-arms and hands, the longer and shorter external radiales, the profundi flexors, and the long flexors of the thumbs. Also from the left hand are removed the inner circular ligament, the ligament from the pisiform bone of the wrist to the fourth metacarpal bone. The adductor of the fourth metacarpal bone of the hand, the lumbricales, the tendon of the extensors of the little finger, with the tendon common to the small flexor and abductor of the little finger, joined to its extensor tendon; the tendon common to the first lumbricalis and extensors of the index, belonging to the third bone of the index. From the right hand are taken all the muscles, tendons, and aponeuroses, except the adductor and short flexor of the thumb.

TAB. VIII.

TAB. VIII.



A. Bell Sculp.

In the Head and Neck.

a b c c a b c c The lesser posterior recti muscles of the head. b the origin from the protuberance of the atlas which is instead of a spinal process, from which origin it is outwardly tendinous. c c the end inserted into the occipital bone.

d e f. d e f The larger posterior recti muscles of the head. e the origin from the spine of the epistrophæus. f the end inserted into the occipital bone.

g. g h i i The upper obliqui of the head. h the origin from the transverse process of the epistrophæus. i i the end inserted into the occipital bone near the appendix of the lambdoidal suture.

k l m k l m The lower obliqui of the head. l the origin from the spineo f the epistrophæus. m its extremity inserted into the transverse process of the atlas.

n n The fifth interspinals of the neck. o o the fourth. p p the third. q q the second. r r the first.

s t u v w x y z a b c. s t u v w x y z a b c The middle scaleni. t the origin from the first rib. u the head that joins it from the transverse process of the first vertebra of the neck, v that from the second. w x y z a b c the extremities inserted into the transverse processes of the vertebræ of the neck, viz. w of the first, x of the second, y of the third, z of the fourth. a of the fifth. b of the sixth. c of the seventh.

d The posterior intertransversales of the neck, the sixth in order. e the fifth, which is also expressed on the left side. f f the fourth. g the third, which is also in the right side. h h the second. i the first, which is also in the right side.

In the Back.

k k, &c. The shorter elevators of the ribs, k k those of the first ribs, l of the second, m of the third, n of the fourth, o of the fifth, p of the sixth, q of the seventh, r of the eighth, f of the ninth, t of the tenth, t of the eleventh, u of the twelfth. w the tendinous beginning of the twelfth. x the tendinous part of the insertion, which is also represented in the eleventh, tenth, and ninth. y z z the parts of the sixth short elevator, y its origin from the transverse process of the eighth vertebra of the back, z z its end inserted into the rib: from whence also the origin and insertion of the rest of these muscles may be understood. These muscles are taken off from the left side, except the first of them.

A B C D E The longer elevator of the tenth rib: B its origin from the transverse process of the eighth vertebra of the back; C part of its origin which is outwardly tendinous: D the extremity inserted into the tenth rib, of which E denotes the tendinous part. This explanation belongs also to those longer elevators which follow. F the longer elevator of the tenth rib; G that of the twelfth rib. Those of the left side are removed.

H I K, &c. The outer intercostals, H the first, I the second, K the third, L the fourth, M the fifth, N the sixth, O the seventh, P the eighth, Q the ninth, R the tenth, S the eleventh. Those of the left side are taken off.

T U V W, &c. Denote the internal intercostals, T the first, U the second, V the third, W the fourth, X the fifth, Y the sixth, Z the seventh, a the eighth, x x the ninth. b the tenth, c c the eleventh. d d the origin of the last from the rib next above; which holds true likewise in the first, second, third, seventh, eighth, ninth, and tenth.

e e, &c. Denote the pleura uncovered.

f f g g, &c. The intertransversales of the back, f f the first (reckoning upwards), g g the second, h h the third, i i the fourth, k k the fifth, l l the sixth, m m the seventh, n n the eighth, o o the ninth.

p q r s t u v w x y z 1 The semispinalis of the back. q r s t four of the heads arising tendinous from the transverse process q, of the third vertebra of the back, counting from the loins, r that of the fourth, s of the fifth, t of the sixth. u v w x y z 1 the seven tails turning into tendons, and belonging to the spine of the eighth vertebra of the back u, to the ninth v, to the tenth w, to the eleventh x, to the twelfth y, to the first of the neck z, to the second 1. The left is taken off.

In the Back and Neck.

2 3 4 5 6 7 8 9 10 11 12 13 The spinalis muscle of the neck. 3 4 5 6 7 8 the six heads by which it arises tendinous; 3 the origin from the transverse process of the seventh vertebra of the back, from the loins, 4 from that of the eighth, 5 of the ninth, 6 of the tenth, 7 of the eleventh, 8 of the twelfth. 9 10 11 12 13 the tails inserted into the spinal process of the second vertebra of the neck 9, counting from the back, 10 to that of the third vertebra, 11 to the fourth, 12 to the fifth, 13 to the sixth. The left spinalis muscle of the neck is here taken away.

14 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62: 14 14 15 16 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 61 62 The multifidi muscles of the spine. 15 the tendinous head which arises from the oblique descending process of the fourth vertebra of the neck: 16 a like head from the third vertebra, 17 that from the second: 18 that from the transverse process of the twelfth or uppermost vertebra of the back: 19 that from the eleventh: 20 that from the tenth: 21 from the ninth: 22 from the eighth: 23 from the seventh: 24 form the sixth: 25 from the fifth: 26 from the fourth: 27 from the third: 28 from the second: 29 the tendinous excursion of the head which arises from the transverse process of the first vertebra of the back: 30 the like arising from the oblique ascending process of the fifth or uppermost vertebra of the loins: 31 that from the oblique ascending process of the fourth lumbal vertebra: 32 that from the oblique ascending process of the third lumbal vertebra: 33 that from the second. 34 that from the first: 35 that from the first of the os sacrum: 36 37 the head which arises partly from the ligament (36) coming from the protuberance, which the os sacrum forms at the outer edge of its second and third opening, and continued down to the lower part of that bone; and partly from that protuberance itself 37: 38 the head which arises all the way from the third spine of the os sacrum, to the tubercle of that bone, which is formed by the concretion of the oblique descending process of its fourth vertebra, with the oblique ascending process of the fifth, and from that tubercle itself. 39 40 41, &c. the tendinous ends inserted into the spines of the vertebræ; 39 that to the first or lowermost of the loins, 40 to that of the second, 41 of the third, 42 of the fourth, 43 of the fifth, 44 of the first of the back, 45 of the second, 46 of the third, 47 of the fourth, 48 of the fifth, 49 of the sixth, 50 of the seventh, 51 of the eighth, 52 of the ninth, 53 of the tenth, 54 of the eleventh, 55 of the twelfth, 56 of the first of the neck, 57 of the second, 58 of the third, 59 of the fourth, 60 of the fifth, 61 of the sixth, and 62 into the oblique descending process of the said sixth vertebra of the neck.

C C D D The interspinales muscles of the back. C C the second, D D the first.

H H L L X X P P S S W W The interspinales of the loins. H H the sixth, L L the fifth: X X the fourth, P P the third, S S the second, W W the first.

In the Loins, Hips, and lower Extremities.

Y Y O O a a b b c c The intertransversales muscles of the loins. Y Y the fifth, O O the fourth, a a the third, b b the second, c c the first. The manner of their origin from the lower transverse process, and insertion into the upper, is here apparent.

d e g h i k l. d e g h i k l The quadrati of the loins. e the origin from the ligament f, that is extended from the transverse process of the first lumbal vertebra to the os ilium. g h i k tendinous portions belonging to the transverse processes of the lumbal vertebræ, g to the second, h to the third, i to the fourth, k to the fifth, l the extremity belonging the twelfth rib.

m Part of the diaphragm.

n n The great psoæ, or lumbal muscles of the thighs.

o p. o p The internal iliacal muscles.

q q The tendons common to the great psoæ and internal iliacs, inserted into the less trochanters.

r r f t. r r f t The external obturators. f part of the origin from the inner margin of the great foramen or hole in the os innominatum. t the tendinous end.

v u w x y z A A A B C D. v u w x y z A A A B C D The great adductors of the thighs, in the upper part of which, near the inner side, are impressed the marks of the largest glutei, see Tab. V: and of the semitendinosi, see Tab. VI. v all that part which is concave from the impression of the semimembranosus. w x the origin from the back of the tubercle of the ischium by the tendinous part w, x the tendon which runs through the muscular flesh y. z the part that comes from the fore side of the pelvis, where it arises along the whole height of the os pubis. A A A the broad end inserted into the thigh bone. B C D the lower end, which forming the tendon C, is inserted into the inner condyle of the thigh bone at D.

E F G H H I I K L. E F G H H I I K L The tibiales postici. F the origin springing from the tibia, G the origin from the fibula. H H its origination from the tibia, from whence it comes outwardly tendinous. I I the part that arises outwardly tendinous from the fibula. K L the tendon, arising from the fleshy part at K, and passing behind the inner ancle at L.

M N O P Q R. M N O P Q R The short peronei. N the origin from the fibula. O P Q R the tendon, arising from the fleshy part at O, becoming thicker and broader at P, where it bends round the outer ancle, and at Q passes through the second ligament near the upper part of the protuberance of the calcaneum; it is inserted into the fifth metatarsal bone at R.

S S The heads of the second interossei of the little toes, which arise from the metatarsal bone of those toes.

T The head of the second interosseus of the third toe, which arises from the metatarsal bones of that toe.

V The head of the second interosseus of the second toe, arising from the metatarsal bone of that toe.

W X The two tails of the short flexor of the great toe, inserted into the sesamoidal bones.

Y The second interosseus of the fourth toe.

Z The transversalis of the foot.

G The adductor of the great toe.

In the Shoulders, Arms, and Hands.

D D The subscapulares.

H L X X P P. H L X X P P S The short supinators. L the tendon arising from the less condyle. X X P P the part which is outwardly tendinous, arising from the capsule of the joint of the elbow at X X, and from the ulna at P P. S the end inserted into the radius.

W W The square pronators.

Y O a b c d e. Y f The short flexors of the thumbs, O the origin from the inner protuberance of the larger multangular bone, and from the less multangular bone at a. b the anterior or outer tail, inserted by the tendinous end c, into the sesamoidal bone of the thumb, which is farthest from the index. d the posterior or inner tail, inserted by the tendinous end e, into the sesamoidal bone of the thumb, which is nearest the index, and likewise into the first bone of the thumb itself. f the aponeurosis which goes from the posterior tail, and joins itself to the common end of the tendons of the extensors of the thumb.

g g h. g h The adductors of the thumbs. h The tendinous end inserted into the first bone of the thumb.

i The posterior or inner interosseus of the index.

Near k appear the outer interosseus of the middle finger.

l l The posterior or inner interosseus of the middle finger.

m The outer interosseus of the ring finger.

n n The inner interosseus of the ring finger.

o The interosseus of the little finger.

p The tendon of the inner interosseus of the index, which being increased by a portion received from the tendon of the extensor of the index, runs to the third bone of the index, joining in its common end with the tendon of the first lumbricalis, and is increased likewise by a portion from the extensors of the index.

q The tendon common to the outer interosseus of the ring finger and third lumbricalis, which being increased by a portion received from the tendon of the common extensor that belongs to this finger, runs to the third bone of this said finger.

r The tendon of the inner interosseus of the ring finger, which being increased by a portion from the common extensor to this finger, runs to the third bone of the said ring finger, and joins the tendon q in the common extremity.

THE

Ninth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

AS in the first Table, so in this, we exhibit the primary or outermost order of the muscles, after the common integuments and tendinous coverings have been removed; to these we have added some of the ligaments belonging to those muscles, and some parts of the third Skeleton, which makes the basis of the present figure; with some other parts which are not covered with muscles, as of the nose, ear, and genitals.

In the Head, Neck, and Trunk.

a b c. a b c d e f The epicranius. a b the occipitalis. a its tendinous beginning. b the fleshy part. c d the aponeurosis betwixt the occipital and frontal muscles; through which at d the temporal muscle appears protuberant. e the membranous part by which the occipital muscles and their aponeuroses are joined to each other; arising above the origin of the cucullares from the occipital bone. f the frontalis.

g h The elevator of the outer ear. g the tendinous beginning, by which it goes off from the epicranius. h the fleshy part.

i The anterior muscle of the outer ear.

k l m The three retractive muscles of the outer ear.

n The greater muscle of the helix.

o The less muscle of the helix.

p Tragicus.

q Antitragicus.

r s t t The orbicularis of the eye-lids. r the part which surrounds the edge of the orbit of the eye. s s part which comes from the corrugator of the eyebrows. t t the part which is spread over the eye-lids.

u The compressor of the nose.

v The nasalis of the upper lip.

w x. w x The orbicularis of the mouth. x the part which is in the red margin of the lip.

y z The greater zygomaticus. z its origin from the os jugale.

a b The depressor of the corner of the mouth, b its origin from the lower jaw.

c The buccinator muscle.

d e f g h The masseter. d e the anterior and outer part; e its origin from the os jugale, from whence outwardly it is for a good way tendinous. f g h the back part which is not covered by the former; g h its origin from the os jugale at g, and from the jugal process of the temporal bone at h.

i k The internal pterygoideus inserted into the mandible at k.

l The Stylohyoideus.

Betwixt k and l is the styloglossus. See Tab. X. Fig. 2. m.

Immediately below the styloglossus is the hyoglossus. See Tab. X. 1. k. and Fig. 2. o.

m n o p q The latissimus colli or quadratus genæ. n n, &c. the muscular portions which join it on the sides of the neck in some people. o the dispersed fibres by which it ends and disappears in the upper part of the cheek. p the fasciculus or portion which is stretched through the fore part of the depressor of the angle of the mouth, towards the said angle. q the lower jaw protuberant under the platysmamyoides or square muscle of the neck and cheek.

r s The sternomastoideus and cleidomastoideus joined together in one. s the tendinous end.

t The levator of the neck, inserted by its tendinous end into the occipital bone.

u The splenius of the head.

w The splenius of the neck.

x The middle scalenus.

y The elevator of the scapula.

z z C D. z z H I L L X The cucullares. C D the tendinous origin. C part of it arising from the occipital bone. H the broadest part of its tendinous origin about the bottom of the neck and top of the back. I L the tendinous part of its end which is inserted into the spine and upper process of the scapula, and into the next adjacent part of the clavicle. X the tendinous part of its end, by which it is inserted into the spine of the scapula not far from its base.

P S. P The infraspinati. S the origin of the basis of the scapula.

W Teres minor.

Y Teres major.

O. O A B C D E F The latissimi dorsi or broadest muscles of the back. O the fleshy part. A the broad tendon by which it begins. B its adhesion to the gluteus magnus. C its origin from the spine of the os ilium. D E F the heads which arise from the ribs: D that from the eleventh rib, E that from the tenth, F from the ninth.

G The upper serratus anticus.

H I The pectoralis. I the portion which joins it from the aponeuroses of the external oblique muscle of the abdomen.

K L M N O P Q R, &c. The lower or great serratus. K The head which arises from the third rib; L that from the fourth, M from the fifth, N from the sixth, O from the seventh, P from the eighth. R R, &c. the origin of the heads themselves from the ribs.

S T U V W X Y Z a a a a a b b b b b b c c d d d d e e f f g h h h h i i i k The external obliquus of the abdomen. S the fleshy part. T U V W X Y Z the serrated heads, of which T arises from the fifth rib, U from the sixth, V from the seventh, W from the eighth, X from the ninth, Y from the tenth, Z from the eleventh. a, &c. the tendinous part of each head at the origin. b b, &c. origin of the heads themselves from the ribs. c c the insertion of the fleshy part into the spine of the ilium. d d d d e e f f g h h h h i i i k the aponeurosis or tendinous part, inserted into the spine of the ilium at e, at f f the flesh of the internal obliquus appears protuberant under it, under the same tendon, and that of the internal obliquus at g, the flesh of the transversalis appears protuberant; and at h h h h the flesh of the rectus; at i i i appear the tendinous lines of the rectus through the said aponeuroses and at k, under the same appears the pyramidalis.

In the Left lower Extremity.

l The cremaster muscle of the testicle.

m The long adductor of the thigh.

n The pectineus.

o The great psoas or lumbal muscal of the left thigh.

p The tartorius.

q r s The extensor of the tendinous covering of the thigh. r its origin from the spine of the ilium. s its extremity from whence the tendinous part is cut off by which it joins the aponeurosis or vagina of the thigh.

t u u v The middle gluteus. u u its origin from the os ilium. v the tendon.

w x y The gluteus magnus, arising at x from the spine of the ilium, and cohering with the latissimus dorsi. y the tendon.

z The seminervosus or semitendinosus.

a b b c d e f The biceps muscle of the leg. a its longer head. b b its shorter head. c d e f the tendon, arising first at c from the flesh of the longer head, afterwards increased by the joining of the shorter head d, and inserted by its principal end e, into the upper head of the fibula, but sends off the small portion f, which belongs to the tibia.

g h i i The external vastus. h the tendinous surface. i the tendon, inserted into the patella at k.

l m n o p The rectus of the leg. m the tendinous part of its beginning. n the tendon, inserted at o into the patella. p the aponeurosis, which runs from the tendon of the rectus over the fore part of the patella, and afterwards joins itself to the fore part of the ligament, which belongs to the tibia from the patella.

q r The internal vastus. r the tendon.

s t u The ligament belonging to the tibia from the patella. t the part where it arises from the patella. u that whole part which is inserted behind the tibia.

w x y The outer head of the gemellus or gastrocnemius. x the tendinous surface. y the tendon.

z C D The soleus. C its origin from the upper head of the fibula. D the tendinous surface.

H L X The tendon of Achillis. L the inner part. X its insertion into the calcaneum.

P The tendon of the plantaris.

S W Y O O O The long peroneus. W its origin from the head of the fibula. Y O O O the tendon arising from the flesh at Y.

A The ligament proper to the long peroneus.

B B C C D D E. The short peroneus. C C the origin of the tendon from the flesh. D D the tendon, inserted at E into the fifth bone of the metatarsus.

F The ligament proper to the short peroneus.

G H I K L M N O P Q R The long extensor of the toes with the third peroneus. G the common flesh of the extensor and peroneus. H its origin from the tibia. I the third peroneus. K L M its tendon, arising from the

TAB. IX.

A. Bell Sculp.

TAB. IX.

A. Bell Sculp.t

flesh at K, and inserted at M into the metatarsal bone of the little toe. N the tendon of the long extensor of the toes, which splits itself into four tendons O P Q R running over the back or instep of the foot.

S S S T The tendon of the proper extensor of the great toe, inserted at T into the last bone of the great toe.

U V W W The tibialis anticus. V its origin from the tibia. W W its tendon.

X Y Z The ligament by which the tendons are covered and confined at the bottom of the leg, and upon the back of the foot. Y its upper horn. Z the lower horn.

a a b c d e The short extensor of the toes. b c d e its tendons. b that belonging to the great toe, c that to the first of the small toes, d that to the second, e to the third.

f g h i k l Denote a tendon common to the long and short extensor of the toes, f the part produced from the longus, g the part from the brevis: and betwixt them is a mark of division. h the end inserted into the bone of the second phalanx or order. i part of the common tendon running to the third bone. k the tendon running from one side to the third bone, which comes from the tendon of the short extensor. l the common end of the two portions belonging to the third bone into which it is inserted.

m The aponeurosis which comes from this side to the tendon of the short extensor of the toes. The like is also in the other toes: but in the little toe it joins the tendon of the long extensor: in the great toe it joins the tendon of its proper extensor.

n The first interosseus of the second toe

o The thicker head of the second interosseus of the second toe.

p The larger head of the second interosseus of the third toe.

q The larger head of the second interosseus of the fourth toe.

r s t u v The abductor of the little toe is the part s, covered with an aponeurosis. t its origin from the calcaneum. u part of the aponeurosis by which it is covered, inserted into the metatarsal bone of the little toe. v the tendon of the abductor inserted into the first bone of the little toe.

w x The short flexor of the little toe. w the part which is inserted into the metatarsal bone of the little toe. x the part which by its tendinous end is inserted into the first bone of the little toe.

y z The tendons of the long and short flexor of the toes. Which are also to be seen in the next toe.

In the Right lower Extremity.

A B C The rectus muscle of the leg. B its tendon inserted into the patella. C the aponeurosis running from the tendon before the patella, and joining itself to the fore part of the ligament that belongs to the tibia from the patella.

D E F G The ligament belonging to the tibia from the patella. E the part where it arises from below the patella, and inserted into the tibia all below the part F. G its inner part.

H I The internal vastus. I its tendinous end inserted into the side of the patella.

K L M The sartorius. L its tendon, inserted into the tibia at M.

N O The gracilis. O its tendon.

P Q R S The semimembranosus. Q R the tendon, arising from the flesh at Q. S its anterior aponeurosis inserted into the inner margin of the tibia.

T U The semitendinosus. U the tendon.

V W X The inner head of the gemellus or gastrocnemius. W the tendinous surface. X the tendon which joins the outer part of the tendon of the soleus. Y the tendon of Achillis, inserted into the calcaneum at Z.

C D H H The soleus. *D* the tendinous surface. *H H* its origin from the tibia.

L X The tendon of the plantaris, inserted into the calcaneum at *X*.

P S The long flexor of the great toe. *S* the tendon.

W The ligament which retains the tendon of the long flexor of the great toe.

Y O O a The long flexor of the toes. *O O* its origin from the tibia. *a* the tendon arising from its flexor.

b b c The tendon of the tibialis posticus. *c* its end inserted into the inner tubercle of the navicular bone.

d e e The ligament that covers the tendon of the long flexor of the toes, and of the tibialis posticus, fastened to the inner ancle at *e e*.

f The ligament which retains the tendon of the tibialis posticus.

g h h h The tibialis anticus. *h h h* the tendon.

i The upper horn of the ligament fixed to the tibia, by which are confined the tendons at the bottom of the leg, and on the back of the foot. *k* the lower horn of the same ligament.

l l m The tendon of the extensor proper to the great toe, inserted at *m* into the last bone of the great toe.

n A branch of the tendon of the proper extensor of the great toe, inserted into the first bone of that toe, found in some bodies.

o An aponeurosis joining the tendon of the proper extensor of the great toe.

p The common tendons of the extensors upon these toes.

q q The two horns of the ligament by which the tendon of the long flexor of the great toe is confined in this place.

r The tendon of the long flexor of the great toe running under that toe.

s t v The abductor of the great toe. *v* its origin from the calcaneum. *v* the tendon, inserted at *t* into the first bone of the great toe.

x x w The short flexor of the great toe, adjoining itself to the tendon of the abductor at *w*.

z y The short flexor of the toes. *y* its origin from the calcaneum

z The fleshy head that joins the long flexor of the toes in the sole of the foot, arising from the calcaneum.

In the left Arm and Hand.

A B B C D E F G H I K L M N O The deltoides. A B B the second and posterior of the first order of portions which make up this muscle, arising at B B from the spine and upper process of the scapula. C D the posterior portion of the second order, arising at D from the upper process. E F the fourth portion of the first order, arising at F from the hollow and arch of the upper process. G H the middle portion of the second order arising at H from the upper process. I K the third portion of the first order arising at K from the upper process. L M the anterior portion of the second order, arising at M from the upper process. N O the first anterior portion of the first order; O its origin from the upper process.

P Q R The biceps. Q the tendon. R the aponeurosis cut off.

S The internal brachialis.

T U V W X The triceps extensor of the cubit. T that part of it called the longus. U the brevis. V the tendon, inserted at W into the elbow. X the thinner point of the tendon inserted into the fore part of the elbow and next adjacent spine of the ulna.

Y The internal ulnaris.

Z a The supinator longus. a the tendon.

b The pronator teres.

c d The radialis internus. d the tendon.

e e The sublimis flexor of the fingers.

f f The long flexor of the thumb.

g The tendon of the second longer radialis externus.

h i i i k The longer radialis externus. i i i k the tendon, inserted at k into the metacarpal bone of the index.

l m m m The shorter radialis externus. m m m the tendon.

n o The ulnaris externus. o the tendon.

p q r s t The common extensor of the fingers. q the tendon belonging to the index. r the tendon to the middle finger: which two tendons near the fingers are conjoined by the portion s, coming from the tendon of the middle finger to the tendon of the index. t the tendon belonging to the ring finger.

u The indicator tendon.

v w The extensor proper to the little finger. w the tendon.

x y y z z The long abductor of the thumb. y y the tendon of its upper portion, which is split at the end, of which one part belongs to the short abductor of the thumb, the other to the metacarpal bone of the thumb. z z the tendon of its lower portion

a b The less extensor of the thumb. *b* the tendon.

c c The tendon of the larger extensor of the thumb.

d e The tendon common to the larger and less extensor of the thumb, belonging to the last bone of the thumb *e*.

f f The outer circular ligament of the wrist.

g The ligament by which are confined the tendons of the long abductor and less extensor of the thumb.

The inner ligament of the wrist

i i The short abductor of the thumb. *i* the aponeurosis which it joins to the common tendon of the extensors of the thumb.

l The opponent muscle of the thumb, inserted into the outer edge of the metacarpal bone of the thumb.

m The aponeurosis which joins the tendon of the larger extensor of the thumb, arising partly from the capsule of the joint of the thumb with its metacarpal bone, and in part from the short flexor of the thumb.

n o The adductor of the thumb, inserted by its tendinous end *o* into the first bone of the thumb.

p The outer interosseus muscle of the index, arising from its metacarpal bone.

q The abductor of the index.

r The first lumbricalis.

f The aponeurosis which proceeds partly from the abductor of the index, and in part from its lumbricalis, and joins the tendon of the extensors of the index.

s v The tendon common to the extensors of the index. *v* its end inserted into the second bone of the index.

t The tendon of the first lumbricalis, which being increased by a portion received from the common tendon of the extensors, runs to the third bone of the index *n*.

w The tendon of the second interosseus of the index, together with a portion which it receives from the common tendon of the extensors running to the third bone of the index.

x The common end of the tendons *s* and *w* belonging to the third bone of the index into which it is inserted.

y The tendon common to the second lumbricalis and outer interosseus of the middle finger: which tendon being increased by a portion received from the extensor tendon of the middle finger, runs to the third bone of that finger, joining in its common end with a like tendon from the other finger of this side, and is inserted into the third bone of the said finger.

z The tendon common to the fourth lumbrica is with the outer interosseus of the little finger: which tendon being increased by a portion received from the extensor tendon of this finger, runs to its third bone.

Along the fingers within the hand run the tendons of the sublimis and profundus flexers, which tendons are retained or tied down by their ligaments, as may be better seen in Tab. I.

In the Right Arm.

a b c d e The triceps extensor of the elbow or fore-arm. *a* the part called extensor longus. *b* the part called brachialis externus. *c* the tendon of the triceps, inserted into the olecranum or elbow. *e* the thin tendon arising from the surface of the external brachialis, and belonging to the upper part of the posterior or larger condyle of the humerus.

f The brachialis internus.

g h i The biceps flexor of the fore-arm. *h* its aponeurosis cut off. Near *i* appears the tendon.

k The supinator longus.

l The pronator teres.

m The radialis internus.

n o The long palmaris. Immediately below *o* appears the beginning of its tendon.

p The sublimis perforatus flexor of the fingers.

In the Right Hand.

q r f The ulnaris internus. r one of its origins from the posterior condyle of the humerus. f its other origin from the elbow.
s The ulnaris externus.
a The short abductor of the thumb. b the aponeurosis which going off from its tendon, joins itself to the common tendon of the extensors of the thumb.
c Part of the short flexor of the thumb, which may be reckoned as a second short abductor of it, inserted by its tendinous end into the first bone of the thumb.
d Part of the short flexor of the thumb, inserted into the sesamoidal bone nearest the index, and into the next part of the first bone of the thumb.
e The abductor of the thumb.
f f The tendon of the long flexor of the thumb.
g Two ligaments which confine the tendon of the long flexor of the thumb marked m in the left hand of Tab. V.
h The palmaris brevis quadratus.
i The short flexor of the little finger.
k The abductor of the little finger.
l The abductor of the fourth metacarpal bone of the hand, inserted into that bone.

Finally, we have omitted to fix letters on the tendons and aponeuroses stretched over the back of the hand and fingers, because they may be more easily known from the fifth table.

THE

Tenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

FIGURE I.

COMES next after that of the head and neck in the ninth table; and represents the muscles seated before the vertebrae of the neck, below the head, with the os hyoides, larynx, and part of the pharynx; to shew which the latissimus colli and mastoideus are here taken off. No other muscles are here figured either in the head or vertebræ; not even those which adhere to the fore part of the vertebræ behind the pharynx, as the rectus internus, major capitis, and longus colli, left by these the other muscles should be obscured.

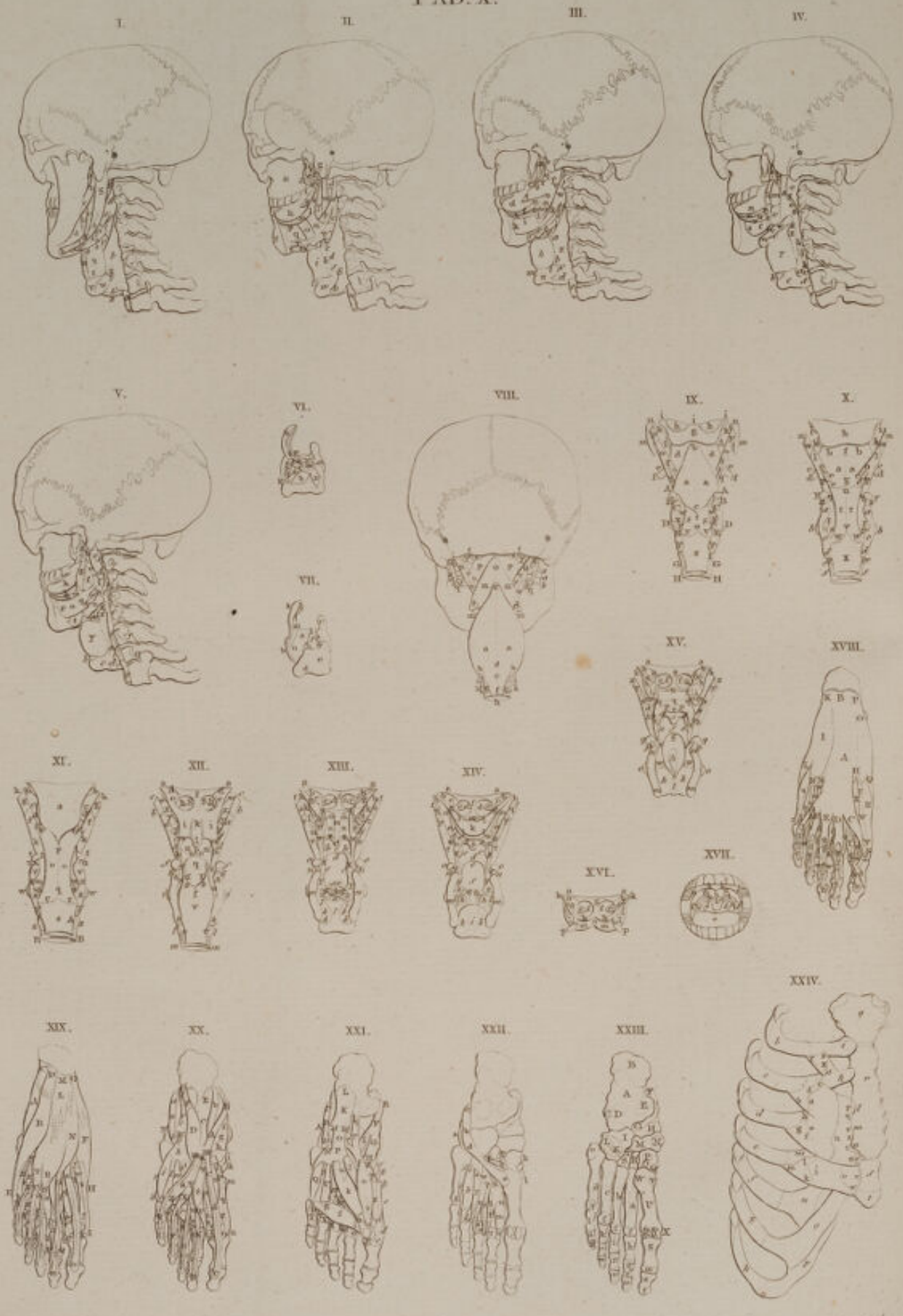
a The pterygoideus externus.
b c Pterygoideus internus, c its insertion into the lower jaw.
d The mylohyoideus, the end of which, inserted into the basis of the os hyoides, appears immediately below the tendon of the digastric i of the lower jaw.
e f The stylohyoideus inserted by its tendon f into the basis of the os hyoides.
g h i i The digastric of the lower jaw. g the first venter, h its second venter, i i the middle tendon.
k l The hyoglossus. l part of its origin from the horn of the os hyoides: and immediately above k appears part of the styloglossus, as in Fig. 2. m.
m The ceratoglossus arising from the horn of the os hyoides.
n o The os hyoides. n the horn, o its basis.
p The common end of the stylopharyngeus and palatopharyngeus. Part of the end of which also lies betwixt the ceratoglossus and heads of the middle constrictor of the pharynx: for which consult the figures following.
Near p is a ligament belonging to the upper process of the thyroide cartilage from the horn of the hyoidal bone. See Fig. 4. z.
q r s t The hyothyroideus. r s its origin, from the horn r of the hyoidal bone, and from its basis s. t its thyroidal insertion.
u The thyroide cartilage.
v w x y The cricothyroideus. v its fore part inserted into the thyroide cartilage. w x y its back part, of which a portion at x joins the lower constrictor of the pharynx. y its thyroidal insertion.
z The cricoide cartilage.
a The gula cut off.
b c The lower constrictor of the pharynx. c its origin from the cricoide cartilage.
d e f The middle constrictor of the pharynx. e the head which arises from the styloid process of the os hyoides. f the head which arises from the end of the horn of the os hyoides.
g The upper constrictor of the pharynx.

FIGURE II.

In which the outer muscles of the first figure and left side of the lower jaw are taken off, represents the next order of muscles, with the os hyoides, larynx, gula, and tongue. But with the left side of the lower jaw are removed the pterygoideus, externus and internus, the mylohyoideus, stylohyoideus, biventer maxillæ, hyothyroideus and cricothyroideus.

a The upper jaw bone.
b The outer wing of the pterygoidal process.
c d Part of the palatebone, which being inserted betwixt the pterygoidal process and upper jaw, connects them together. c part of it belonging to the cavity of the pterygoidal process.
e e The inner wing of the pterygoidal process, in whose bottom is the hamulus or hooked process.
f The circumflex muscle of the moveable palate.
g The elevator of the moving palate.
h The tongue.
Near i is the constrictor of the isthmus of the fauces. See Fig. 4. l.
k l m The styloglossus. l its continuation to the ceratoglossus. m its course from thence as it runs in the direction of the tongue, and is inserted into it.
n The ceratoglossus arising from the horn of the os hyoides.
o The hyoglossus, whose origin appears from the horn of the os hyoides.
p The lingualis.
q The genioglossus arising from the lower jaw.
r s Geniohyoideus. s its tendinous origin from the lower jaw. The rest of it is inserted into the basis and horn of the os hyoides: also part of its end runs behind the hyoglossus.
t The lower jaw cut in two.
u v The os hyoides. u the basis. v the horn.
Near the lower part of the end of the horn of the os hyoides is part of the ligament which goes from thence to the upper process of the thyroide cartilage. See Fig. 4. z.
w The stylopharyngeus.
x The common end of the stylopharyngeus and palatopharyngeus, the extremity of which appears betwixt the ceratoglossus and two heads of the middle constrictor of the pharynx. See Fig. 4. g.
y y z The upper constrictor of the pharynx. z a portion of it which arises partly from the lower jaw, and is in part continued to the buccinator; from both which it is cut off.
a b c The middle constrictor of the pharynx. b the head which arises from the little grain-like bone of the os hyoides. c the head which arises from the end of the horn of the os hyoides.
d e f g h The lower constrictor of the pharynx. e f g the head by which it arises from the thyroide cartilage, from e to f, springing from the side of the said cartilage, the part f from the lower edge thereof, and the part g from the lower process. h the head by which it arises from the annular cartilage.
i k The thyroide cartilage. k the protuberance from whence arises the middle constrictor of the pharynx.
l A ligament tying the annular to the thyroide cartilage.
m The annular cartilage.
n The gula cut off.

TAB. X.



A. Bell Sculp.

FIGURE III.

Represents the next order of muscles after those which lie outermost in the preceding figure are taken off; namely, the stylogloſſus, ceratogloſſus, baſiogloſſus, geniohyoideus, and ſtylopharyngeus.

The upper jaw bone, with the proceſſes pterygoideus, its wings, hook, and excavations, as alſo the palate bone with the lower jaw divided, have neither of them any letters affixed in the preſent, or two next ſucceeding figures; becauſe theſe may be known from the ſecond figure, and therefore there is no reaſon for loading theſe laſt figures with the former.

a The circumflex muſcle of the moveable palate.
b The elevator of the ſoft or moveable palate.
Near c is part of the conſtrictor of the iſthmus of the fauces. See Fig. 4. l.
d The tongue.
e f The ſtylogloſſus, cut off at e, but in the part f, running according to the length of the tongue, and cohering with it.
g The ceratogloſſus and baſiogloſſus cut off.
h The lingualis.
i k l m n o The genioglossus. k its origin from the lower jaw. At l the thin faſciculi of fibres are incurvated by the ſide of the pharynx; ſome of which fibres at m join the ceratogloſſus and ſtylogloſſus; others at n join the upper conſtrictor of the pharynx, while others at o vaniſh in the membrane of the pharynx.
p q r s t u The upper conſtrictor of the pharynx. q the upper part which goes out of the circumflex muſcle of the moveable palate. r the part which ariſes from the internal plate of the pterygoide proceſs, and from the hook. s the part which is cut off from the buccinator. t the part which ariſes from the lower jaw. u the part going from the tongue: below which the part n joins it from the fibres of the genioglossus, which it incurvates through the ſide of the pharynx.
v Denotes a ſpace betwixt the upper and middle conſtrictor, thro' which the ſtylopharyngeus is detached, paſſing under the middle conſtrictor.
w x y The middle conſtrictor of the pharynx. x one of the heads ariſing from the ſmall grain-like bone of the os hyoides: y the other head ariſing from the end of the horn of the os hyoides.
z a b c d The lower conſtrictor of the pharynx. a b c the head which ariſes from the thyroide cartilage: a and b denote its origin from the ſide of the thyroide cartilage, b from the lower edge of the ſaid cartilage, and c from the lower proceſs. d the head ariſing from the annular cartilage.
e The common end of the ſtylopharyngeus and palatopharyngeus: part of which appears betwixt the heads of the middle conſtrictor of the pharynx x y: See Fig. 4 g.
f g h The os hyoides. f the baſis. g the grain like little bone, h the horn.
A little above g is a ſmall part of the chondrogloſſus muſcle. See Fig. 4. t.
A little below i is a ligament which belongs to the upper proceſs of the thyroide cartilage from the end of the horn of the os hyoides. See Fig. 4. z.
k The thyroide cartilage, whoſe lower proceſs is near f. See a.
m The ligament by which the thyroide and cricoide cartilage are tied one to the other.
n The cricoide cartilage.
o The gula cut off.

FIGURE IV.

The outermoſt muſcles of the third figure being removed, we here exhibit the next order, together with the tongue, os hyoides, larynx, pharynx, or beginning of the gula, alſo one of the tonſils, and the membrane of the fauces laid bare altogether. But we have here added the beginning of the ſtylopharyngeus, that this muſcle might appear entire. In this figure are removed part of the genioglossus that is incurvated by the ſide of the pharynx; alſo the upper, middle, and lower conſtrictor of the pharynx.

a The circumflex muſcle of the moveable palate.
b The elevator of the palate.
c c c The membrane of the pharynx naked.
d e The ſtylopharyngeus. e that part of it which joins itſelf to the upper part of the palatopharyngeus. See i. Fig. 2.
f f The palatopharyngeus.
g g h i k the common end of the ſtylopharyngeus and palatopharyngeus. h part of it which is inſerted into the external ſide of the edge of the thyroide cartilage, at the root of the upper proceſs. i k another part, which at i is inſerted into the remaining edge, and at k diſappearing below in the membrane of the pharynx.
l The conſtrictor of the iſthmus of the fauces.
m The tonſil.
n The tongue.
o p The ſtylogloſſus where it joins the tongue, cut off at p. See Fig. 2. k m.
q The baſiogloſſus and ceratogloſſus cut off.
r The lingualis.
s s The genioglossus. s its origin from the lower jaw. The contexture of fibres, incurvated by the ſide of the pharynx, is here removed, l. Fig. 3.
t The chondrogloſſus ariſing from the grain-like bone of the os hyoides.
u v w The os hyoides. u the baſis, above v appears the ſmall grain-like bone, w the horn.
x The ligament which belongs to the upper proceſs of the thyroide cartilage from the end of the horn of the os hyoides.
y z a The thyroide cartilage. z its upper proceſs, a its lower proceſs.
b The ligament by which the ſcutiform and annular cartilage are faſtened together in this place.
c The annular cartilage.
Near d is the poſterior cricoarytænoideus muſcle. See a Fig. 6.
e The gula cut off.

FIGURE V.

In this figure are taken away, not only ſome of the outer muſcles of the fourth figure, but alſo the pharynx is ſlit longitudinally, laid open, and the left part of it cut off, that not only the cavity thereof, but alſo the moveable palate, with the root of the tongue and epiglottis, might appear. The muſcles taken off are the ſtylopharyngeus and palatopharyngeus, with its common extremity, and the chondrogloſſus.

a The circumflex muſcle of the moveable or ſoft palate.
b The elevator of the palate.
c The moveable palate. d the uvula. e the edge of the ſoft palate cut off.
f The tonſil.
g The conſtrictor of the iſthmus of the fauces.
h i The tongue. h the part which is contained in the mouth. i the part where it is incurvated within the fauces towards the baſis of the tongue and os hyoides.
k l The ſtylogloſſus muſcle cut off at l.
m The baſiogloſſus and ceratogloſſus cut off.
n The lingualis.
o p q The genioglossus. p its origin from the lower jaw. q the part which belongs to the tongue.
r r s The epiglottis. r r the convex part, s the concave part.
t u v The os hyoides. t the baſis. u the horn. v the ſmall grain-like bone.
w The inner membrane of the larynx.
x The ligament belonging to the upper proceſs of the thyroide cartilage from the end of the horn of the os hyoides.
y z a The thyroide cartilage. z The upper proceſs. a the lower proceſs.
b The ligament by which the ſcutiform and annular cartilage are tied one to the other.
c The annular cartilage.
Near d is the poſterior cricoarytænoideus. See Fig. 6. a.
e e The cavity of the pharynx laid open.
f f The membrane of the pharynx cut open.
g The gula cut off.

FIGURE VI.

This figure follows after that of the larynx contained in the figure laſt preceding. The left ſide of the thyroide cartilage being cut off, the remainder repreſents the larynx, with the muſcles which lie next under the ſide of the thyroide cartilage, as alſo thoſe which are ſeated in the back part of the larynx.

We have not fixed letters on the ſcutiform and annular cartilage, with the epiglottis, poſterior angle of the baſis of the left arytenoide, and the ſmall heads of the arytenoide cartilages; becauſe theſe may be better known or underſtood from the ſeventh figure.

a The poſterior cricoarytænoideus, ariſing from the annular cartilage, and inſerted into the arytenoide.
b The lateral cricoarytænoideus, ariſing from the upper margin of the cricoide cartilage.
c d The faſciculus, ariſing from the inner and upper part of the thyroide cartilage, not far from its notch or fiſſure, and inſerted into the baſis of the arytenoide cartilage. d the beginning cut off from the thyroide cartilage.
e The thyro-arytenoideus muſcle, ariſing in one part from the thyroide cartilage, and in the other from the ligament by which the annular and thyroide cartilage are tied together.
f g h A thin contexture of fleſhy fibres, which ariſing from the thyroide cartilage near the outer part of the origin of the thyro-arytenoideus, aſcends by the outer part f of the ſaid muſcle behind g, by the ſide of the glottis and epiglottis h.
i The depreſſor of the epiglottis.
k The ligament by which the annular and thyroide cartilage are tied one to the other.
l The left oblique arytenoideus muſcle.
m m n The right oblique arytenoideus, n that part of it which goes by the margin of the glottis to the epiglottis; and the other part, near and betwixt n m, is continued on to the thyro-arytenoideus.
o The tranſverſe arytenoideus.
p The membrane which forms the lateral part of the glottis, extended from the little head of the arytenoide cartilage to the upper part of the epiglottis.

FIGURE VII.

Repreſents the ſame contexture of the cartilages of the larynx as the preceding figure, but wholly naked or freed from the muſcles and membranes.

a b c The inner ſide of the right half of the thyroide cartilage. b the left half, which is here cut off and removed. c the upper proceſs.
d e The cricoide cartilage. e the tubercle to which is tied the lower proceſs of the thyroide cartilage.

f g h The arytenoide cartilages. g h the basis; g the basis of the posterior angle, projecting like a tubercle; h the anterior angle of the basis, hollow in this part.
i The small heads added to the arytenoide cartilages.
k l m n The epiglottis. k the back. l the concave part. m a round body projecting like a ligament in the concave part of the epiglottis, and arising from the inner part of the thyroide cartilage, below its fissure.

FIGURE VIII.

Represents the first order of the muscles which are seated round the larynx, as they appear viewed on the back part. To shew these muscles more distinctly, we have added not only the pharynx, and part of the gula, which is continued to it, but also the os hyoides, larynx, and part of the windpipe; likewise the naked bones of the head, to which the pharynx is connected.

We have not here added a full explanation of the bones or parts of the scull, because they may be better understood from the tables which I have prepared, wherein the figures of the bones are expressed in their natural magnitude.

a b. a b c d e The lower constrictors of the pharynx. b the origin from the cricoide cartilage. c the point in which they terminate above, from c to d the fibres running together form an angle. e the part where the right fibres are continued to the left in a curved direction.
f The inner transverse fibres of the gula in this place laid bare. g g the outer fibres descending obliquely backwards on each side.
h The gula cut off.
Just above i i is the annular cartilage. Se Fig. 14. *i i*.
k k The wind-pipe cut off.
l l The ends of the horns of the os hyoides.
m m The ligaments which belong to the upper processes of the thyroide cartilage from the ends of the horns of the os hyoides. See Fig. 9. B. B.
n. n o The middle constrictors of the pharynx. o the part where the fibres meet together in angles.
p q r. p q r The upper constrictors of the pharynx. q the origin from the lower jaw near the innermost of the grinding teeth. r the part where it is cut off from the buccinator.
s s The naked membrane of the pharynx.
Just below t t is the circumflex muscle of the moveable palate.
u v w. u v w The stylopharyngei muscles. v the upper and less part. w the lower and larger part.
x x the styloide processes of the temporal bones. See Fig. 9. m. m.
y y The pterygoide processes of the multiform bone.
z z The upper jaw bone, where it forms the gums above the innermost of the grinding teeth.
a a The innermost of the upper grinders, which are the fifth in order.
b b The fifth of the lower grinding teeth.

FIGURE IX.

Exhibits the next view after the lower constrictor of the pharynx is taken off. But we have not added the bones of the head, that the upper parts of the pharynx might not be obscured, and because the manner in which the pharynx adheres to the bones of the head may be understood from the figure last preceding. But the styloide processes are added, to shew the origin of the stylopharyngei.

a. a b c The middle constrictors of the pharynx. b the upper point in which they meet. c the lower point. From b to c the fibres converge angularly.
d e f. d e f The upper constrictors of the pharynx. At e cut off from the buccinator. f the part which arises from the lower jaw.
g h h i i i The naked membrane of the pharynx, in which is a sinuosity at h h near the protuberant ends of the larger internal recti muscles of the head. i i i the parts where it is cut off from the basis of the cranium round the upper part of the Eustachian tubes and internal foramina of the nostrils.
k k The elevators of the moveable palate. See Fig. 13. and 14. g. g.
l l The circumflex muscle of the moveable palate. See Fig. 14. n. n. and 15. h. h.
m n. m n The styloide processes of the temporal bones cut off at their roots n n.
o p q r. o p q r The stylopharyngei. p the tendinous beginning arising from the styloide process. q the lower and larger part. r the upper and less part.
s. s t u v v Parts of the common ends of the stylopharyngei, and palatopharyngei, arising principally from the palatopharyngei, and in this place, from t to u, the fibres meet together, or run one betwixt the other, in the part from u to v, vanishing on the back side of the membrane of the pharynx; at v inserted into the thyroide cartilage.
w x y. w x y Parts of the common ends of the stylopharyngei and palatopharyngei, which arise chiefly from the stylopharyngei. x a portion of them inserted into the outer side of the edge of the thyroide cartilage to the root of the upper process. y the portion inserted into the remaining part of the margin of said cartilage down to the root of the lower process.
z The naked membrane of the lower part of the pharynx which is continued to the gula.
A A The ends of the horns of the os hyoides.
B B The ligaments which belong to the upper processes of the thyroide cartilage from the ends of the horns of the os hyoides.
C C D D E E F F The thyroide cartilage. C C the upper processes. D D the tubercles which are in the outer sides at the roots of the upper processes. E E the posterior edges. F F the lower processes.
G G The annular cartilage. H H the wind-pipe cut off.
I The posterior cricoarytaenoideus. In the other side may be perceived the left.

FIGURE X.

Represents the next view of the muscles after the middle constrictor of the pharynx is taken off. Also, we did not think the styloide processes necessary to be added in this figure, because they are in the ninth preceding.

a b c d e e. a b c d e e f g The upper constrictors of the pharynx. a the lower part which crosses the upper part b. c d the portion that is partly cut off from the buccinator at c, and in part arises from the lower jaw at d. e e portions which pass betwixt the upper and lower part of the stylopharyngeus, and come hither through the upper part. f the upper tip or point in which the right and left of these constrictors meet together. From f to g the fibres of both of them meet in angles.
h The naked membrane of the pharynx, as in Fig. 9. g h h i i i.
i i The elevators of the soft or moveable palate. See Fig 13. and 14. g g.
k k The circumflex muscle of the palate. See Fig. 14. n n. and Fig. 15. h h.
l m n o p. l m n o p The stylopharyngei. m the tendinous beginning. n the part cut off from the styloide process. o the upper and less part that forms two fasciculi, which both of them pass separately under the fibres of the upper constrictor. p the lower and larger part.
q r s. q r s Parts of the common ends of the stylopharyngei and palatopharyngei, which are produced from the stylopharyngei. r the portion inserted into the outer side of the edge of the thyroide cartilage, at the root of the upper process. s the portion inserted into the subsequent part of the edge, down to the root of the lower process.
t. t u v w Parts of the common ends of the stylopharyngei and palatopharyngei, whose fibres run together from u to v; from v w the fibres vanish in the back part of the membrane of the pharynx, and at w they are inserted into the thyroide cartilage.
x The naked membrane of the lower part of the pharynx, which is continued to part of the gula.
y y The ends of the horns of the os hyoides.
z z The ligaments which belong to the upper processes of the thyroide cartilage from the ends of the horns of the os hyoides.
a a b b c c d d The thyroide cartilage. *a a* the upper processes. *b b* the protuberances in the outer sides at the roots of the upper processes. *c c* the posterior edges. *d d* the lower processes.
e e The annular cartilage.
f f The wind-pipe cut off.
g The posterior cricoarytaenoideus. The left is also represented.

FIGURE XI.

Represents the next face of the muscles after the upper constrictor of the pharynx is taken off.

a The naked membrane of the pharynx. See Fig. 9. h h i i i.
b b The elevators of the moveable palate. See fig. 13. and 14. g. g.
c c The circumflex muscle of the soft palate. See Fig. 14. n n. and 15. h h.
d d The small hooks of the pterygoide processes. See Fig. 16. p. p.
e e The palatopharyngei.
f g h i k. f g h i k The stylopharyngei. g the tendinous beginning. h the part where it is cut off from the styloide process. i the upper and less part. k the lower and larger part.
l m n, l m n Parts of the common ends of the stylopharyngei and palatopharyngei, which arise from the stylopharyngei. m a portion of them inserted into the outer side of the edge of the thyroide cartilage at the root of the upper process. n the portion which is inserted into the subsequent part of the margin down to the root of the lower process.
o. o p q r Parts of the common ends of the stylopharyngei and palatopharyngei, the fibres of which, from p to q, run together; from q to r they vanish in the back part of the membrane of the pharynx, and at r they are inserted into the thyroide cartilage.
s The naked membrane of the lower part of the pharynx, to which is continued part of the gula.
t t The ends of the horns of the os hyoides.
u u The ligaments which belong to the upper processes of the thyroide cartilage from the ends of the horns of the os hyoides.
v v w w x x y y The thyroide cartilage. v v the upper processes. w w the tubercles which are in the outer sides, at the roots of the upper processes. x x the posterior edges. y y the lower processes.
z z The annular cartilage.
A The cricoarytaenoideus posticus, which is also represented in the left side.
B B The wind-pipe cut off.

FIGURE XII.

Exhibits the internal surface of the pharynx entire, as it appears after the whole back part of the pharynx, and adjacent gula, are cut off longitudinally on each side, and removed. This figure we have added to render the four following more intelligible.

a a b b c c The edges, from whence is cut off the back part of the pharynx and gula.

d e. d e The Eustachian tubes jetting out. e e the orifices by which they open laterally into the posterior foramina of the nostrils.
f The septum of the nostrils.
g g The cavity of the nostrils, in which are seated the lower ossa spongiosa h h, covered with the mucous membrane.
i i k l The soft palate and uvula. k the part where the body of the uvula is protuberant. l the pendulous part of the uvula.
m m The posterior arches which descend laterally from the soft palate thro' the sides of the pharynx.
n n The tonsils, prominent beyond the posterior arches.
o o p The tongue. p the middle fossula or cavity upon which the uvula is incumbent.
q The epiglottis.
r r The membranous sides of the glottis.
s s The protuberance of the small heads which lie upon the arytenoide cartilages.
Betwixt q r r s s is included the glottis.
t The rima or slit of the glottis.
v That which is called the lateral ligament of the epiglottis, where part of it belongs to the side of the epiglottis, under the investing membrane and common end of the stylopharyngeus and palatopharyngeus. The same is also in the left side.
u u concavities at the sides of the tube of the larynx, seated betwixt that and the thyroide cartilage.
v The back part of the tube of the larynx projecting within the pharynx.
w w The elevators of the soft palate. See Fig. 13. and 14. g g.
x x The circumflex muscle of the soft palate. See Fig. 14. n n. and 15. h h.
y y The small hooks of the pterygoide processes. See Fig. 16. p p.
z z The palatopharyngei cut off.
a b c d e. a b c d e The stylopharyngei. *b* the tendinous beginning cut off at *c* from the styloide process. *d* the lower and larger part. *e* the upper and less part.
f f The ends of the horns of the os hyoides.
g g The ligaments which belong to the upper processes of the thyroide cartilage from the ends of the horns of the os hyoides.
h h i i k k The thyroide cartilage. *h h* the upper processes. *i i* the tubercles which are seated in the outer sides at the roots of the upper processes. *k k* the lower processes.
l l The annular cartilage.
m m The wind-pipe cut off.
Here are also represented parts of the cricoarytenoidei postici, which may be understood from Fig. XI. last preceding.

FIGURE XIII.

Represents those muscles which lie immediately under the membrane that covers the parts expressed in the fourth and tenth figure; which membrane is here removed. The beginning of the gula and wind-pipe are also taken away, as they are not here necessary.

a a The place where the back part of the pharynx is cut off.
b e. b e The Eustachian tubes, as yet covered with their membrane which lines the inside of the fauces.
c c The orifices by which they open at the sides of the posterior foramina of the nostrils.
d d the cavities of the nostrils.
e e The lower ossa spongiosa covered with the mucous membrane.
f The septum or partition of the nostrils.
g h i. g h i The elevators of the soft or moveable palate. h the tendinous part of the beginning, i the lower part of it, forming a distinct portion.
k k The circumflex muscle of the soft or moveable palate. See Fig. 15. h h.
l l The small hooks of the pterygoide processes. See Fig. 16. p p.
m The azygus or single muscle of the uvula, from its beginning interwove with the tendinous ends of the elevators of the soft palate, and with the tendinous membrane, which coming from the nose, passes through the upper part of the soft palate, m Fig. 14.
n o p. n o p The palatopharyngei. n the part which goes through the soft palate above the elevator of the said palate, and passing out at o from the tendinous membrane, which coming from the nose, passes through the upper part of the soft palate, m Fig. 14. p. the part which afterwards passes under the elevator of the palate.
q q The salpingopharyngei joining to the palatopharyngei.
r s t u v. r s t u v The stylopharyngei. s the tendinous beginning, t the part where it is cut off from the styloide process. u the upper and less part of the stylopharyngeus, v the lower and larger part.
w w Parts of the common ends of the palatopharyngei, salpingopharyngei, and stylopharyngei, which descend through the sides of the pharynx, are protuberant within the same, and form the posterior arches which descend along the sides of the fauces from the soft palate.
x y. x y Parts of the common ends of the stylopharyngei and palatopharyngei produced from the stylopharyngei; of which the part x runs inward through the lateral ligament of the epiglottis, near the lateral margin or edge of the epiglottis; the part y is inserted into the upper edge of the thyroide cartilage betwixt its upper process and the epiglottis.
z z The posterior edges of the soft or moveable palate.
a The uvula.
b b The tonsils, which are protuberant beyond the palatopharyngei muscles.
c The tongue.
d The epiglottis.
e e The membranous sides of the glottis.
f f The small heads which are added to the arytenoide cartilages.
g g The obliquo arytenoidei muscles which have two terminations, one upper, running through the membranous sides of the glottis to the epiglottis; the other lower, which continues itself to the thyro-arytenoideus.
h h h h The arytenoideus transversus.
i i i. i i i The cricoarytenoidei postici, arising at *k k* from the cricoide cartilage.
l The cricoide cartilage.
m m The thyroide cartilage.
n n The ligaments which belong to the upper processes of the thyroide cartilage from the ends of the horns of the os hyoides.
o o The ends of the horns of the os hyoides.

FIGURE XIV.

Represents the next face of the muscles, viz. of the arytenoidei obliqui, and transversus, with the posterior cricoarytenoidei, and the membrane which forms the sides of the glottis betwixt the arytenoide cartilages and the epiglottis, after the salpingopharyngei, azygus of the uvula, and parts of the palatopharyngei which run over the ends of the elevators of the soft palate are taken away.

a a Denotes the place from whence the back part of the pharynx is cut off.
b c. b c The Eustachian tubes covered with the membrane which forms and lines the inside of the fauces. c c the orifices which open laterally in the posterior foramina of the nostrils.
d d The cavities of the nostrils.
e e The lower ossa spongiosa covered with the mucous membrane.
f The partition of the nostrils.
g h i k l. g h i k l The elevators of the soft palate. h the tendinous part of its beginning. i the portion which is fastened by a small tendinous end to the tendinous membrane, which coming from the nostrils, is spread thro' the upper side of the soft palate. k the part where the right and left elevators are continued one to the other. l the lower part forming a distinct portion.
m The tendinous membrane, which coming from the nostrils, is spread thro' the upper side of the soft palate.
n n The circumflex muscle of the soft palate. See Fig. 15. h h. and 16. i i.
o o The small hooks of the pterygoide processes. See Fig. 16. p p.
p q r s t. p q r s t The stylopharyngei. q the tendinous beginning, r the part where it is cut off from the styloide process. s the upper and less part, t the lower and larger part.
From u to v are cut off parts of the common ends of the stylopharyngei and palatopharyngei, which run through the back part of the membrane of the pharynx.
w w Parts of the palatopharyngei which pass through the soft palate, under the ends of the elevators of the said palate. Those parts are here removed which pass above the forefaid ends, n n. Fig 13.
x x Parts of the common ends of palatopharyngei, salpingopharyngei, and stylopharyngei, which descend through the sides of the pharynx, are protuberant within the same, and form the posterior arches which descend along the sides of the fauces from the soft palate.
y z. y z Parts of the common ends of the stylopharyngei and palatopharyngei produced from the stylopharyngei; of which the part y runs within through the lateral ligament of the epiglottis, to the lateral edge of the epiglottis; z the part that is inserted into the upper edge of the thyroide cartilage, betwixt its upper process and the epiglottis.
a a The posterior edges of the soft palate.
b The uvula.
c c The tonsils.
d The tongue.
e f The epiglottis. *f* The round body like a ligament.
g g The small heads added to the arytenoide cartilages.
h h The arytenoide cartilages.
i i i The annular cartilage. *i i* the surface from whence arise the posterior cricoarytenoidei.
l l m m The thyroide cartilage. *l* the inner part.
n n The ligaments which belong to the upper processes of the thyroide cartilages from the ends of the horns of the os hyoides.
o o The ends of the os hyoides.

FIGURE XV.

Represents the next face of the muscles, after the elevators of the soft palate, with the annular and arytenoide cartilages, and the additaments that are fastened to them, are taken away.

a a The place from whence the back part of the pharynx is cut off.
b c d. b c d The Eustachian tubes, as yet covered at b with the membrane that lines the inside of the fauces, at c they are naked, that part of them having been covered by the elevators of the soft palate. d d the orifices by which they open laterally into the posterior foramina of the nostrils.
e e The lower ossa spongiosa covered with the mucous membrane.
f f The cavities of the nostrils.
g The partition of the nostrils.
h i k. h i k The circumflex muscle of the soft palate. i the tendon in which it ends. k the tendinous part of its beginning.
l The outer side of the pterygoide process, which is also in the left side.
m m The small hooks in those processes. See Fig. 16. p p.
n The aponeuroses of the circumflex muscles. See Fig. 16. m m n.
o o Parts of the upper constrictors of the pharynx cut off, which arise from the aponeuroses of the circumflex muscles of the soft palate.
p q q. p q q r Parts of the palatopharyngei which pass through the soft palate under the ends of the elevators of the said palate; at q q they pass out from the aponeuroses of the circumflexi; at r they are continued one to the other.
From s to s are cut off parts of the common ends of the stylopharyngei and palatopharyngei, which run through the back part of the membrane of the pharynx.

t t Parts of the common ends of the palatopharyngei, salpingopharyngei, and stylopharyngei, which descend through the sides of the pharynx, are protuberant within the same, and form the posterior arches which descend from the soft palate through the sides of the fauces.

v v, v v Parts of the common ends of the stylopharyngei and palatopharyngei produced from the stylopharyngei; of which the part v runs inward through the lateral ligament of the epiglottis, at the lateral edge of the epiglottis; the part w is inserted into the upper edge of the thyroide cartilage, betwixt its upper process and the epiglottis.

x y z a b. x y x a b The stylopharyngei. y the tendinous beginning, cut off at z from the styloide process. a the upper and left part. b the lower and larger part.

c The uvula.

d d The posterior margins of the soft palate.

e e The tonsils.

f The tongue.

g h i The epiglottis. h the round body like a ligament. i its origin from the inner part of the thyroide cartilage.

k k l m m n n o The thyroide cartilage. k k the inner sides. l the unequal protuberance. m m the lower processes. n n the upper processes. o o the protuberances in the external sides at the roots of the upper processes.

p p The ligaments which belong to the upper processes of the thyroide cartilage from the ends of the horns of the os hyoides.

q q The ends of the horns of the os hyoides.

FIGURE XVI.

Follows immediately after the upper part of the last preceding figure, the portions of the upper constrictors of the pharynx, and the next adjacent parts of the palatopharyngei being here removed.

a a The place from whence the back part of the pharynx is cut off.

b c d. b c d The Eustachian tubes, as yet covered at b d by the membrane which lines the inside of the fauces, at c c they are naked in those parts upon which lay the elevators of the soft palate. d d the orifices by which they open into the sides of the posterior foramina of the nostrils.

e e The lower ossa spongiosa covered with the mucous membrane.

f f The cavities of the nostrils.

g The partition of the nostrils covered with the mucous membrane.

h h The part from whence is cut the membrane which lines the inside of the cavity of the nostrils.

i k l m. i k l m n The circumflex muscle of the soft palate. k the tendinous part of its beginning. l the tendon. m the aponeurosis inserted into the posterior edge of the palate bones. n the conjunction of the aponeuroses one with the other.

o p. o p The external sides of the pterygoide processes. p p their small hooks.

FIGURE XVII.

Exhibits the open mouth and fauces, to shew the muscles which appear to belong to the soft or moveable palate on the fore-side, after the investing membrane is taken off.

a a The gums.

b b The tonsils.

c c The posterior edges of the soft palate, betwixt which is the uvula.

d d The fauces.

e The tongue.

f g. f g h i The constrictors of the isthmus of the fauces, which in the part f pass from the tongue to the palate before the tonsils. g the part that goes through the soft palate. h the place where they conjoin together, and afterwards smaller portions of them run into the uvula at i.

k k Parts of the palatopharyngei which run through the soft palate above the foresaid constrictors, under the elevators of the soft palate.

FIGURE XVIII.

Exhibits the bottom of the foot in which are expressed all the aponeuroses, muscles, and ligaments, which lie immediately next to the common integuments.

A B C D E F G H The middle aponeurosis of the sole of the foot, on one side joined with the aponeurosis that covers the abductor of the little toe, on the other side with that which covers the abductor of the great toe. B its origin from the protuberance of the calcaneum. C D E F G the five parts of it which belong to the toes, and which, at last, being split at the ends, embrace the tendons, namely, of the long flexor of the great toe, and of the long and short flexors of the other toes; from these portions also thin expansions run out further through the body of fat, which is placed under the anterior ends of the metatarsal bones, at the roots of the toes; but these we have not added, to avoid obscuring the figure. H the portion which joins with the aponeurosis that covers the great toe, and goes to the origin of the short flexor of the great toe.

I K L M N The aponeurosis that covers the abductor of the little toe. K its origin from the protuberance of the calcaneum. L a portion which it inserts into the first head of the metatarsal bone of the little toe. M a portion that joins the middle aponeurosis of the sole of the foot, but is not always found to do so. N the portion which it gives to the beginnings of the small flexor of the little toe and interosseous muscle of the same toe.

O P The aponeurosis that covers the abductor of the great toe. P its origin from the calcaneum.

Q R S The abductor of the great toe. R the tendon conjoined with the ligament S which belongs to the first bone of the great toe from the outer sesamoide bone, and, together with the said ligament, is inserted into that first bone.

T The ligament which arising from the outer sesamoide bone of the great toe belongs to the first bone of that toe wherein to it is inserted, and conjoined with the tendon of the abductor of the great toe.

U V W Part of the short flexor of the great toe belonging to the outer sesamoide bone, and inserting itself into the said sesamoide bone at V; at W joining itself to the tendon of the long abductor of the great toe. X part of the same flexor belonging to the inner sesamoide bone.

Y Z The common tendinous end of the short flexor and abductor of the great toe with the transversalis, inserted into the inner sesamoide bone of that toe, and afterwards being conjoined with the ligament that goes to the first bone of the toe from the said sesamoide bone, is therewith inserted into that bone at Z.

a The ligament which arising from the inner sesamoide bone of the great toe, conjoins itself with the tendinous end of the abductor of the said toe, and therewith belongs to the first bone of that toe into which it is inserted.

a a b The tendon of the long flexor of the great toe, inserted at b into the last bone of that toe.

c The ligament that confines the tendon of the long flexor of the great toe, at the joint of that toe, with its metatarsal bone.

d d Two ligaments which cross each other, and confine the tendon of the long flexor of the great toe, where it runs along the bone of the first phalanx of that toe.

e f g h The lumbricales; e the first, f the second, g the third, h the fourth.

i i i The transversalis pedis.

k The second interosseus of the first of the small toes.

There is also a portion of the first interosseus of the other side to be seen betwixt the first lumbricalis and metatarsal bone of that toe with the bone or the first phalanx. This is too minute to admit of fixing a letter on it for the explanation; but Fig. 22. m. will help towards a better knowledge of it.

l The second interosseus of the second of the small toes.

There is also a part of the first interosseus of this toe, betwixt the bone of the first phalanx and the second lumbricalis. See Fig. 22. s.

m m The second interosseus of the third of the small toes.

There is also part of the first interosseus of this toe betwixt the third lumbricalis, the metatarsal bone, and the bone of the first phalanx of this toe. See Fig. 22. y.

n The short flexor of the toes.

o The interosseus of the little toe; part of which is also present betwixt the fourth lumbricalis and bone of the first phalanx of this toe. See Fig. 22. e.

p The short flexor of the little toe.

q r The abductor of the little toe. r the tendon inserted into the bone of the first phalanx of the little toe.

s, as in this toe, so in the rest of the small toes, are represented the ligaments which confine the tendons of the long and short flexors as they pass near the anterior heads of the metatarsal bones.

t, as in this, so in the other small toes, are exhibited the ligaments which confine the tendons of the long and short flexors, about the middle of the bones of the first phalanx.

u, as in this first, so in the other small toes, are seen the ligaments which confine the tendons of the long and short flexors, about the bones of the second internodes, or phalanx.

v w w The tendon of the short flexor of the toes; w w the horns of it which belong to the bone of the second order. By the side of this last tendon, next the great toe, is the tendon of the long flexor. The same are also in the rest of the small toes.

x One of the tendons of the long flexor of the toes inserted into the third bone. A portion of the same tendon is also seen by the side of the short flexor tendon, v, which lies next the great toe; as also betwixt the horns w w of that tendon. See Fig. 19. The same is likewise to be understood of the other small toes.

FIGURE XIX.

Represents the first order of the muscles in the sole of the foot, after the aponeuroses and most of the ligaments in the preceding figure are taken away.

A B C D E The abductor of the little toe composed of two parts A and B. C D the origin from the protuberance of the calcaneum, whence it is outwardly tendinous in the part where it adheres to, and is covered by, the aponeurosis plantaris. E the tendon inserted into the first bone of the little toe.

F G H I The abductor of the great toe. G its origin from the protuberance of the calcaneum, whence it is outwardly tendinous, and coheres in that part for a considerable length with the aponeurosis that covers it. H the tendon which at last is conjoined with the ligament that belongs to the first bone of the great toe from the outer sesamoide bone of that toe, and is inserted with the same ligament into that first bone.

K The ligament which arising from the outer sesamoide bone of the great toe, is inserted into the first bone of that toe, and is conjoined with the tendon of the abductor of the great toe.

L M N O P Q R S T U V The short flexor of the toes. M its origin from the protuberance of the calcaneum, whence it is outwardly tendinous in the part where it coheres for a considerable length from its origin with the middle aponeurosis plantaris, so that it seems in a manner to arise from thence. N the portion belonging to the first of the small toes: O its tendon which at last ends in the two horns P Q. R the portion belonging to the second of the small toes: S its tendon divided in the same manner towards its end into two horns. T the portion belonging to the third toe: U its tendon, in like manner split, at its end, into two horns. V the tendon belonging to the fourth toe, at last, like the rest, divided into two horns.

W A tendinous portion which arises from the lower protuberance of the cubiform bone, and ends in the origin of the short flexor (a) of the little toe,

its interosseous muscle Z, and in the second interosseus of the third of the small toes X.

X Y The second interosseous muscle of the third of the small toes. Y the tendinous end inserted into the first bone of that toe.

There is also a portion of the first interosseus of this toe, on the other side betwixt its first bone, the metatarsal bone, and the third lumbricalis. See Fig. 22. y.

Z The interosseous muscle of the little toe whose end appears betwixt the fourth lumbricalis and the first bone of the said little toe. See Fig. 22. *r*.

a b The short flexor of the little toe. b its tendinous end inserted into the first bone of the little toe.

c d e f The lumbricales: c the fourth. d the third. e the second. f the first. See Fig. 20. Z X. W S.

g h The transversalis muscle of the foot, h its tendinous origin. See Fig. 21. f.

i The second interosseus of the second of the small toes.

Part of the first interosseus is also in the other side, betwixt the second lumbricalis, the metatarsal bone and first bone of this toe. See Fig. 22. s.

k The second interosseus of the first of the small toes.

Part of the first is also on the other side of this toe, betwixt the first lumbricalis, the metatarsal bone, and bone of the first phalanx of this toe. See Fig. 22. m.

l m One of the tendons of the long flexor of the toes, inserted into the third bone m. Part of this tendon of the long flexor is also seen above, on that side of the tendon of the short flexor which is next the great toe. The like tendon is also in the other small toes. See Fig. 20. N O P Q.

n o The tendon of the long flexor of the great toe, inserted into the last bone of that toe, o.

p The abductor of the great toe.

q q Part of the short flexor of the great toe, belonging to the inner sesamoide bone of that toe.

r s t The common tendinous end of the short flexor and abductor of the great toe, with the transversalis pedis, inserted at s into the inner sesamoide bone, at t conjoined with the ligament which belongs to the first bone of the toe from the inner sesamoide bone, and inserted with that ligament into the said bone.

u The ligament which belonging to the first bone of the great toe from the inner sesamoide bone, joins itself with that part of the common end of the short flexor and adductor of the great toe, with the transversalis pedis, which belongs to the adductor.

v Part of the portion which the middle aponeurosis plantaris gives to the origin of the short flexor of the great toe. See Fig. 18. H.

w x y Part of the short flexor of the great toe, belonging to the outer sesamoide bone of that toe. x the part where it joins the tendon of the abductor of the great toe, y its insertion into the sesamoide bone.

FIGURE XX.

Exhibits the second order of the muscles in the sole of the foot, after the abductor of the little toe, most part of the abductor of the great toe, and the short flexor of the toes are taken away.

A B The tendon of the long flexor of the toes: B the knot or induration where this tendon rubs against the calcaneum. C D E F G the muscular head which joins the long flexor of the toes in the sole of the foot, consisting of two portions distinct from the beginning C and D. The one part C arises from the calcaneum at E. The other part D, begins by a thin tendon F, arising from the calcaneum at G. H the portion that joins or continues the tendon of the long flexor of the toes to the tendon of the long flexor of the great toe. I K L M the four tendons into which it divides, with the head that joins it; which tendons belong to the four small toes, and are in a manner split longitudinally at N O P Q, being inserted into the third or last bones, as at R.

S T V The first lumbricalis, T its origin from the first and second tendon of the long flexor of the toes. V its tendon: from whence the tendons of the rest may be understood.

W The second lumbricalis.

X Y The third lumbricalis, Y its origin from the second and third tendon of the long flexor of the toes.

Z a The fourth lumbricalis, a its origin from the third and fourth tendon of the long flexor of the toes.

b c d e The tendon of the long flexor of the great toe, increased at c by a portion received from the tendon of the long flexor of the toes, is then in a manner split longitudinally at d, and is at last inserted at e into the last bone of the great toe.

f g h The tendon of the tibialis posticus. f its knot or turning which lies upon the head of the astragalus. g its insertion below into the navicular bone. h its insertion into the large cuneiform bone.

i k The two ends of the tendon of the tibialis anticus, one of which i is inserted into the large cuneiform bone, the other k belongs to the metatarsal bone of the great toe.

l Part of the portion which the middle aponeurosis plantaris gives to the beginnings of the short flexor of the great toe. See Fig. 18. H.

m n The tendon of the abductor of the great toe cut off. n the end by which it joins the ligament from the outer sesamoide bone to the first internode of the great toe, in which bone it is inserted.

o The ligament, which belongs to the first bone of the toe from its outer sesamoide bone conjoined with the end of the tendon of the abductor of the great toe.

p q r Part of the short flexor of the great toe, which belongs to the outer sesamoide bone of the great toe. q the part where it joins the tendon of the abductor of the great toe. r its insertion in the outer sesamoide bone.

s s Part of the short flexor of the great toe, which belongs to the inner sesamoide bone of the great toe.

t t The adductor of the great toe.

u v w The common tendinous end of the short flexor and adductor of the great toe, with the transversalis pedis: v its insertion into the inner sesamoide bone of the great toe, w its conjunction with the ligament which belongs to the first bone of the great toe from its inner sesamoide bone, and is inserted with that ligament into the said first bone of the great toe.

x The ligament which belongs to the first bone of the great toe from its inner sesamoide bone, and is conjoined with the tendinous end of the adductor of the great toe.

y The tendon of the peroneus brevis.

z a b The tendon of the long peroneus. *a* the knot or turning where it passes by a protuberance of the calcaneum. *b* another knot where it bends to the cuboide bone.

c d e The ligament which arising from the calcaneum *d*, inserts itself into the eminence of the os cuboides, at which the tendon of the long peroneus bends itself. *e* its insertion into the said eminence.

f The tendinous part which arises from the bottom of the cuboide protuberance, and ends in the origin of the short flexor and interosseus of the little toe, and second interosseus of the third of the small toes. *g* an excursion of the ligament marked *c*, which joining itself to the tendinous part *f*, forms therewith the common tendinous part *h*, which joins the origins of the short flexor and interosseus of the little toe, and both the interossei of the third of the small toes, with that of the abductor of the great toe.

i k The short flexor of the little toe, *k* its insertion into the first bone of the little toe by its tendinous end.

l The interosseus of the little toe. Its tendinous end, which is inserted into the first bone of this toe, appears betwixt the fourth lumbricalis and the first bone of this toe: See Fig. 22. *r*

m n The second interosseus of the third of the small toes. *n* its tendinous end inserted into the first bone of that toe.

o The first interosseus of the third of the small toes, the tendinous end of which is inserted into the bone of the first order of the same toe, and may be seen betwixt the third lumbricalis of the metatarsal bone, and the first internode of this toe. See Fig. 22. y.

p The tendinous end of the second interosseus of the second of the small toes, inserted into the first internode of the same toe.

On the other side of this toe lies the tendinous end of its first interosseus, betwixt the first lumbricalis, metatarsal bone, and first internode of this toe. See Fig. 22. s.

q The tendinous end of the second interosseus of the first of the small toes, inserted into the first bone of the said toe.

On the other side of this toe likewise is the tendinous end of the first interosseus betwixt the first lumbricalis, the metatarsal bone, and the first internode of this toe. See Fig. 22. m.

FIGURE XXI.

Represents the third order of the muscles of the foot, having first taken away the muscular head which joins the long flexor of the toes in the sole of the foot, the tendons of the long flexor of the toes, the lumbricales and tendon of the long flexor of the great toe.

A the tendon of the short peroneus.

B C D The tendon of the long peroneus. C its knot or turning where it is applied to the calcaneum. D the other knot where it bends to the cuboide bone. betwixt r and l are the portions inserted into the large cuneiform bone. See Fig. 22. g h.

E F G H I The tendon of the tibialis posticus, cut off at E. F the knot or turning by which it is applied to the head of the astragalus. G its insertion below into the navicular bone. H its insertion into the large cuneiform bone. I the portion which it inserts to the third cuneiform bone, and then runs out to the second and third metatarsal bone, giving a portion to the short flexor of the great toe.

K L M M The ligament which arising from the calcaneum belongs to the cuboide bone, wherein it is inserted at M M.

N The tendinous part which arises from the bottom of the protuberance of the cuboide bone, and ends in the beginning of the short flexor of the little toe, the interosseus of that toes and the second interosseus of the third of the small toes. O the excursion of the ligament marked K, which joining the tendinous part N, forms therewith the common tendinous part P, which joins the origins of the short flexor and interosseus of the little toe, both the interossei of the third of the small toes, and of the adductor the of great toe.

Q R The short flexor of the little toe, inserted by its tendinous end R into the first bone of the said little toe.

S The interosseus of the little toe, whose tendinous end, near T, is inserted into the bone of the first order.

U V The second interosseus of the third of the small toes. V its tendinous end inserted into the bone of the first order.

W X The first interosseus of the third of the small toes. X its tendinous end inserted into the bone of the first order.

Y Z The second interosseus of the second of the small toes. Z its tendinous end inserted into the bone of the first order.

a b The first interosseus of the second of the small toes. b its tendinous end inserted into the bone of the first order.

c d The second interosseus of the first of the small toes. d its tendon inserted into the bone of the first order.

e The tendon of the first interosseus of the first of the small toes, inserted into the bone of the first order.

f g h i The transversalis muscle of the foot. g the part which arises from the capsule investing the joint of the third of the small toes with its metatarsal

bone. h its tendinous origin. i its extremity by which it joins the common tendinous end of the adductor and short flexor of the great toe.

k l m n The adductor of the great toe. l part of it in some measure divided from the rest. m the tendinous part of its origin. n its tendinous end.

o p q r s Part of the short flexor of the great toe which belongs to the inner sesamoide bone of that toe. p the tendon arising from the calcaneum q, part of which tendon goes into the beginning of this flexor. r the tendinous beginning of this part of the short flexor arising from the middle of the cuneiform bone. s the origin of the tendinous end.

t u v The common tendinous end of the short flexor and adductor of the great toe with the transversalis pedis: u its insertion into the inner sesamoide bone of the great toe. v its conjunction with the ligament which belongs to the first bone of the great toe from the inner sesamoide bone being inserted into the said first bone.

w The ligament which arises from the inner sesamoide bone of the great toe, and is inserted into the first bone of that toe conjoined with the tendon of the adductor.

x Part of that portion of the middle aponeurosis plantaris which goes into the origin of both parts of the short flexor of the great toe.

y z a Part of the short flexor of the great toe that belongs to the outer sesamoide bone of that toe, at z it joins the tendon of the abductor of the great toe: a its insertion into the outer sesamoide bone of the great toe.

b c d The abductor of the great toe cut off, conjoined by its end d with the ligament which goes from the outer sesamoide bone of the great toe to its first internode in which they are inserted together.

e The ligament which belongs to the bone of the first phalanx of the great toe from the outer sesamoide bone, and is conjoined with the tendon of the abductor of the great toe.

f g The two portions of the end of the tendon of the tibialis anticus: of which one, f, is inserted into the large cuneiform bone: the other, g, belongs to the metatarsal bone of the great toe.

FIGURE XXII.

Exhibits the fourth and last order of the muscles in the sole of the foot, in order to which are taken away the tendon of the tibialis posticus, the ligament which arising from the calcaneum belongs to the cuboide bone, the short flexor of the little toe, the transversalis of the foot, the abductor of the great toe, the short flexor of the great toe, the ligaments which go from the sesamoide bones to the first phalanx of the great toe, and the end of the abductor of the great toe.

a The tendon of the short peroneus.

b c d e f g h i The tendon of the long peroneus. c the knot or turning which is applied to the calcaneum. d the more considerable knot where this tendon bends at the eminence of the cubiform bone. e the end inserted into the metatarsal bone of the great toe. f a portion going off from the tendon, and dividing into two parts g h, inserted into the great cuneiform bone. i the portion going off the tendon, and inserted into the second metatarsal bone.

k l The two ends of the tendon of the tibialis anticus, the one of which, k, is inserted into the large cuboide bone, the other, l, into the metatarsal bone of the great toe.

m n o The first interosseus of the first of the small toes. n its origin from the second metatarsal bone. o the tendon inserted into the bone of the first order.

p q r The second interosseus of the first of the small toes q the tendinous beginning arising from the second and third of the metatarsal bones. r the tendon inserted into the bone of the first phalanx.

s t u The first interosseus of the second of the small toes. t its origin from the second metatarsal bone. u the tendon inserted into the bone of the first phalanx.

v w x The second interosseus of the second of the small toes. x its origin from the third metatarsal bone. x the tendon inserted into the bone of the first phalanx.

y z a The first interosseus of the third of the small toes. z its origin from the fourth metatarsal bone. a the tendon inserted into the bone of the first phalanx.

b c d The second interosseus of the third of the small toes. c its origin from the fourth metatarsal bone. d the tendon inserted into the bone of the first phalanx.

e f g The interosseus of the little toe. f its origin from the fifth metatarsal bone. g the tendon inserted into the bone of the first phalanx.

FIGURE XXIII.

Represents the articulation of the bones of the foot viewed from its bottom. This figure is added, that from thence may be understood the parts of the bones expressed in the other preceding figures of the foot; and it was the more necessary to add this view, as it could not be given in the figures of the skeletons.

A B C D E The os calcis. B the protuberance which forms the heel. C an eminence incrusted with a smooth cartilage which sustains the tendon of the long peroneus. D an eminence, from the bottom of which arises the ligament K. Fig. 21. E a sinus or groove, through which passes the tendon of the long flexor of the great toe.

F G H The talus or astragalus. G H the lower head incrusted with a smooth cartilage, part of which head, G, belongs to the juncture with the calcaneum, but the part H is articulated by a ligament which passes under this head from the calcaneum to the navicular bone.

I K L The cuboide bone. K an eminence, by the side of which passes the tendon of the long peroneus. L a rising tubercle incrusted with a smooth cartilage, on which lies the most considerable knot or turning of the said tendon.

M N The navicular bone. N a rising tubercle, into which is inserted the tendon of the tibialis posticus.

O P Q The great cuneiform bone. P an eminence, into which is inserted the tendon of the tibialis posticus. Q an eminence, into which is inserted part of the tendon of the tibialis anticus, k, Fig. 22.

R The less cuneiform bone.

S T The middle cuneiform bone. T the protuberance from whence arises the tendinous beginning of the short flexor of the great toe, r, Fig. 21.

U V W X The first bone of the metatarsus, belonging to the thumb. V the place into which is inserted part of the tendon of the tibialis anticus, l, Fig. 22. W the surface into which is inserted the tendon of the long peroneus, X the anterior head incrusted with a smooth cartilage.

Y Z The sesamoidal bones placed at the joint of the great toe with its metatarsal bone. Y the outer, Z the inner of them

a f. b f. c f. d e f The metatarsal bones of the small toes. a that of the first, b of the second, c of the third, d e of the fourth, of which e is a rising protuberance, f f f f the anterior heads incrusted with a smooth cartilage.

g h i. k l m The bones of the first order, g that of the great toe, h i k l m, those of the small toes, m the round head incrusted with a smooth cartilage; and the like is in the other bones of the toes.

n o p q r The bones of the second order of the small toes. r the round head incrusted with a smooth cartilage; as are also the other bones.

s t The last bone of the great toe; t the protuberance at the end; the like of which is also in the last or third bones of the small toes.

u v w x The third or last bones of the small toes.

FIGURE XXIV.

Gives an internal view of the muscles seated under the sternum, with the next adhering parts of the ribs or thorax.

a b c d e f g h i k l m n o p q r s t u v w The triangularis muscle of the sternum. a the head arising from the third rib, with a tendinous beginning b; c the origin from the cartilaginous part of the rib, d from the bony part. e the head arising from the fourth rib, with a tendinous beginning f; g the origin from the bony part of the rib, h from the cartilaginous part. i the head arising from the fifth rib, by a tendinous origin k; l the origin from the cartilaginous part of the rib, m from the bony part. n the common tendinous part of the two upper heads, which in some bodies is conjoined with the tendinous part of the lower head o, but in others is separate; it is inserted into the extreme cartilage p of the fourth rib, and into the os pectoris q betwixt the cartilaginous ends of the fourth and fifth rib, into the end of the cartilage of the fifth rib r, into the os pectoris s betwixt the extreme cartilages of the fifth and sixth ribs, into the end of the cartilage of the sixth rib t, and of the seventh u, into the bone of the ensiform cartilage v, and into the ensiform cartilage itself w.

x y z a Is a small muscle here corresponding to the triangularis sterni, and found in some bodies. y its origin from the bony part of the second rib, and from the cartilaginous part z. a its tendinous end inserted into the cartilage of the third rib.

b c d e f g h The ribs: b the second, c the third, d the fourth, e the fifth, f the sixth, g the seventh, h the eighth. i k l m m n n o o p the cartilaginous ends of those ribs.

q r s t The os pectoris. q the first and uppermost bone; r the second which is in the middle; s the third and lowest, which belongs to the ensiform cartilage. t the ensiform or pointed cartilage itself. We designedly pass by the other particulars of this os pectoris, as well because they do not relate to the present purpose, as because they will be explained in our tables of the bones.

TAB. X.

A. Bell, Sculp.

TABLES

OF THE

HUMAN

MUSCLES,

BY

BERNARD SIEGIFRIED ALBINUS.

PART SECOND.

CONTAINING

The Muſcles of the particular Parts ſeparated from the Body.

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M, DCC, LXXVIII.

TAB. XI.
I.
Orbicularis palpebrarum cum Corrugatore superciliorum.
II.
Obliquus
III.
Attollens Auriculae.
Retrahentes
Interior
IV.
Helicis major, minor.
Tragicus, Antitragicus.
V.
Transversus auriculae.
VI.
Occipitalis cum Frontali.
Attollens, & Retrahentes auriculae.
VII.
Frontalis cum Corrugatoribus narium.
Attollens & Anterior auriculae.
VIII.
Depressor alae nasi.
IX.
Depressor labii inferioris.
X.
Levator labii superioris alaeque nasi.
Levator labii superioris proprius ab Orbitae parte.
Zygomaticus minor & major.
Depressor anguli oris, Canalis labii superioris.
Orbicularis oris.
XI.
Levator & Depressor anguli oris.
Canalis labii superioris.
Orbicularis oris, Zygomaticus major.
XII.
Levator & depressor anguli oris.
Orbicularis oris.
XIII.
Zygomaticus major.
Depressor anguli oris.
Orbicularis oris.
Buccinator.
XIV.
Buccinator.
Orbicularis oris.
XV.
Levatores mandi.
XVI.
Extensores colli, cum depressore labii inferioris.
XVII.
Synizesis
Musculorum, qui in axe oculi collocati sunt
ab ipso oculo penetrantes.
XVIII.
a parte superiore oculi.
XIX.
Trochlea.
XX.
ab ipso oculo.
XXI.
Levator palpebrae superioris.
XXII.
Obliquus superior oculi.
XXIII.
Rectus attollens oculi.
XXIV.
Rectus depressor oculi.
XXV.
Rectus adductor oculi.
XXVI.
Rectus abductor oculi.
XXVII.
Omnes globi oculi, cum Levatore palpebrae superioris.
XXVIII.
Levator tympani, Externus mallei
Tensor tympani, Stapedius.
XXIX.
Tensor tympani, Stapedius.
XXX.
Levator tympani.
XXXI.
Externus mallei.
XXXII.
Tensor tympani.
XXXIII.
Tensor tympani.
XXXIV.
Stapedius.
XXXV.
Coracohyoideus.
XXVIII.
XXIX.
XXXVI.
Genuohyoideus.
XXXIX.
Sternohyoideus.
XL.
Stylopharyngeus.
Ceratopharyngeus, Pharyngeus.
XLI.
Chondropharyngeus.
Glossopharyngeus.
Linguales.
XLII.
Stylopharyngeus.
Ceratopharyngeus.
Pharyngeus.
XLIII.
Levatores, Genioglossus.
Stylohyoideus, Ceratohyoideus.
cum Pharyngeo.
XLIV.
Sternothyroideus.
XLVII.
Cricothyroideus.
XLVIII.
Cricothyroideus.
XXXVII.
Stylohyoideus.
XXXVIII.
Mylohyoideus.
XLV.
Hyothyroideus.
XLVI.
Cricothyroideus.
XLII.
Genioglossus.
A. Bell sculp.

THE

Eleventh Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

IN the following Tables all the muſcles are exhibited ſeparate from the body, together with the bones to which they are affixed, or on which they lie contiguous, and ſuch other parts belonging to them as ſeemed neceſſary. They are all figured twice as large as in the preceding Tables, but in the ſame poſition, and in all other reſpects the ſame, ſo far as they are repreſented in the whole figures; but we muſt except a few of the muſcles, which required to be either drawn in a different poſition, or in the natural magnitude, of which we ſhall advertiſe the reader in its proper place.

The figures of the bones, and other parts, being almoſt every where the out-lines only, are either ſufficiently intelligible of themſelves, or are ſo from the tables of the skeleton and bones; for which reaſon we have added an explanation to only a few of them.

The Muſcles of the Eye-lids, Circumference of the Eye and Eye-brow.

To theſe add the *Frontalis*, Fig. 7.

FIGURE I.

Repreſents the orbicular muſcle of the eye-lids, with the corrugator of the eye-brow.

Becauſe the corrugator of the eye-brow is ſo conjoined with the orbicularis of the eye lids, that it may be reckoned a part of it, we have therefore repreſented them together.

a The corrugator of the eye-brow going to the upper and inner part of the orbicularis. From which corrugator is formed the outer margin of the orbicularis that paſſes along the leſs angle of the eye, and on the cheek.

b Its origin from the os frontis, betwixt the eye-brows and from the head of the eye-brow, by one broad origination.

The ſyſtematic connection of this is ſeen in the head of Tab. II. a b. In the firſt muſcular table its origin does not appear, as being concealed under the frontalis.

c d e f g h i k l m The orbicularis muſcle of the eye-lids.

c The thicker part of the upper origin, by which it ſprings as well from the os frontis, immediately above the fore part of the os unguis, as from the adjacent part of the upper jaw-bone. But the origination itſelf could not be here repreſented, as one may eaſily conceive, by conſulting Tab. I. of the ſkeleton.

d The thicker part of the lower origin, by which it ariſes in the greater canthus from the lower part of the ligament n; but more eſpecially beneath from the edge of the bony orbit of the eye, which is formed by the naſal proceſs of the upper jaw-bone. But here alſo the origination from the bone could not be repreſented. See Tab. I. of the ſkeleton.

e f g The thicker part occupying the circumference of the eye, that is, the eye-brow e, a large part of the cheek f, and from the leſſer angle even to the temple g, round which angles the fibres are continued.

h The thinner part of the upper origin, by which it ſprings from the upper part of the ligament n.

i The thinner part of the lower origin, by which it ſprings from the lower part of the ligament n.

k l The thinner parts which are ſpread over the eye-lids, and which ariſe from the ligament n, by the originations h, i; from whence the fibres meet in acute angles beyond the leſſer canthus at m, where they croſs each other and are interwove.

The ſyſtematic connection of this orbicularis is ſeen in the head of Tab I. m m n o o p q r; where, in the eye-brow, and near the greater canthus, it is covered by the frontalis d e f g.

n The ligament which is extended tranſverſely from the upper jaw bone even with the meeting of the eye lids in the greater canthus.

The ſyſtematic connection of this ligament is ſeen in the head of Tab. I. s. and of Tab. II. g. in the head.

o The os frontis. See Tab. I. of the ſkeleton.

p The naſal proceſs of the upper jaw-bone. See Tab. I. of the ſkeleton.

FIGURE II.

The Ciliaris Muſcle.

a The part which occupies the margin of the upper eye-lid, ariſing at b from the ligament f

c The part ſpread on the edge of the lower eye-lid, and ariſing alſo at d from the ligament f.

e The continuation of theſe two parts round the leſſer canthus.

The ſyſtematic connection of the ciliaris is ſeen in the head of Tab. I. hh.

f The ligament which is extended tranſverſely, according to the meeting of the eye-lids, from the upper jaw-bone to the ſaid meeting of the eye-lids in the greater canthus.

Muſcles of the External Ear.

To theſe add the *Attollens* and *Retrahens*, Fig. 6.; the *Attollens* and *Anterior*, Fig. 7.

FIGURE III.

Repreſents the inner ſide of the attollens, anterior, and retractive muſcle of the external ear.

a b c e The attollens.

a The thin tendinous beginning.

b The fleſhy part.

c c The inſertion of the tendinous end into the upper and fore part of the protuberance which is in the back of the cartilage of the outer ear, where it forms outwardly the cavity that lies betwixt the legs of the antihelix.

The anterior fibres incline more backward than the poſterior ones do forwards.

Add to this Fig. 6. g h, and Fig. 7. o p p q.

d The eminence or protuberance on the back of the cartilage of the outer ear, where it forms externally the cavity that lies betwixt the legs of the antihelix.

e f g The anterior muſcle.

e The tendinous beginning.

f The fleſhy part paſſing into a tendinous end that is inſerted at g into the back of that eminence of the helix which divides the concha, running thro' the ſame.

Add to this Fig. 7. r r s.

h i k l m The retrahent muſcles.

h The tendinous beginning of the upper retrahent.

i The tendinous beginning of the middle retrahent, which is here the largeſt, and comes the furtheſt.

k The common fleſhy belly of the upper and middle retrahent, as I found it in the body from whence this figure was taken, and in ſome others. This fleſhy belly goes into a tendinous end, which is inſerted into the lower part of the back of the upper of thoſe cavities of the outer ear, into which the concha is divided by the eminence of the helix.

m The lower retrahent as it was found in this body, inſerted into the back

of the lower of those cavities of the outer ear, into which the concha is divided by the eminence of the helix running through it.

Add to these Fig. 6. i k l.

FIGURE IV.

Represents the greater and less helical muscles, with the tragicus and anti-tragicus.

a b The greater helical muscle arising by a tendinous origin from the upper part of the outer side of the acute process *x* of the helix.

b The extremity here inserted, as in some bodies, outwardly into the helix; and in others running along the surface of the elevator of the outer ear.

The systematic connection of this muscle is seen in Tab. I. *H.* in the head, and in Tab. IX. n. in the head.

c The less helical muscle ascending near the helix d e, on the fore part of the outer ear, where the concha has an incisure or notch, the one end being fixed below the said notch, the other above it.

The systematic connection is seen in the head of Tab. I. *X.* and in Tab. IX. o. in the head.

f The tragicus arising from the middle of the outer side of the cartilage of the concha g, near the tragus, and terminating in the upper part of the tragus and adjacent part of the concha.

The systematic connection of the tragicus is seen in the head of Tab. I. *L.* and Tab. IX. p. in the head.

h k k The antitragicus, arising at h from the outer part of the cartilage of the antitragus i, where it is most protuberant; inserted by a tendinous end k k into the edge of the concha l, in the angle of the notch that is in the cartilage of the outer ear behind the antitragus, at the bottom of the helix.

The systematic connection is seen in the head of Tab. I. *P.* and in Tab. IX. q in the head.

FIGURE V.

Transversus auriculae.

a b c c d The part belonging to the antihelix, the fibres of which part are longer than the rest. a b its tendinous origin from the posterior part of the back of the upper cavity of the concha. Inserted by a tendinous extremity into a hollow on the back of the antihelix c c, and a small part of it into the protuberant back of the scapha d.

a e e f The part belonging to the scapha, composed of shorter fibres, more loosely conjoined, and for a considerable length divided as into several less distinct, and almost tendinous muscles. It arises from the upper part of the back of the superior cavity of the concha a f; is inserted into the lower part of the protuberance in the back of the scapha e e.

This, from its situation, could not be represented in the preceding tables.

Muscles of the skin of the head, forehead, eye-brows, and back of the nose.

FIGURE VI.

Exhibits the occipitalis with the frontalis; the elevator and retrahents of the outer ear.

a b b c d e e The occipitalis.

a The tendinous origin springing from the bone of the occiput b b, and from that of the temple.

c The fleshy part.

d e e The aponeurosis in which the flesh ends. e e the part of that aponeurosis which is raised into a convexity by the subjacent temporal muscle.

The systematic connection is seen in the head of Tab. V. a b c d, and in Tab. IX. a b c d in the head.

f The frontalis.

The systematic connection of which is seen in the head of Tab. V. h.

See Fig. 7. a a b, &c.

g h The attollens auriculam, or elevator of the outer ear.

g The tendinous beginning of a rounding figure, gradually sent off by thin scattered fibres from the aponeurosis epicranii e e.

h The fleshy part, passing under the outer ear.

Add to this Fig. 7. o p p q, and Fig. 3. a b c c.

The systematic connection is seen in the head of Tab. V. at f g, and Tab. IX. g h in the head.

i k l The retrahent muscles passing under the outer ear.

i The superior retrahent, and k the middle one, both arising tendinous from the occipital bone.

l The lower retrahent, arising also from the occipital bone.

Add to these Fig. 3. h i k l m.

The systematic connection is in Tab. V. m n o in the head, and in Tab. IX. k l m in the head.

FIGURE VII.

The frontales and compressors of the nose, with the elevator and anterior muscle of the outer ear.

a a b b c d e f g h i k The frontales.

a a The aponeurosis of the frontales where they are conjoined with the occipitals.

b b The fleshy parts, beginning by oval tips, and conjoined together into one on the upper and middle part of the forehead c.

d The part running over the glabella and back of the nose, on which at last it forms a thin aponeurosis, that unites with a like thin expansion from the compressors of the nose, with which it is interwove at e, and continued into at f.

g The portion that joins the outer part of the beginning of the elevator of the upper lip and wing of the nose, from whence it is cut off.

h The point that inserts itself into the os frontis in the greater angle of the eye, a little above the ligament by which the greater canthus is tied to the upper jaw-bone, n Fig. 1.

i The place where the fibres bend inward towards the greater angle.

k The part that ends at the orbicularis of the eye-lids. There, in some bodies, we observe fibres which join the corrugator near the temples, and therewith surround the lesser canthus.

The systematic connection is seen in the head of Tab. I. a a b b c d d e e f f g g h h i k l.

l m n n The compressors of the wings of the nose.

l The origination, springing from the outer part of the root of the wing of the nose.

m The part where it is extenuated in form of a membrane, which joins with a like membranous extremity of the frontales f, is interwove therewith at e, and rises with thin fibres over the back of the nose, till those fibres of the right and left side intermix at n n.

The systematic connection is seen in the head of Tab. I. t u, where it is partly covered by the elevator of the upper lip and wing of the nose, x y.

o p p q The elevator of the outer ear.

o The tendinous beginning by thin and scattered fibres, p p going off from the epicranius.

q The fleshy part passing under the outer ear. Add to this Fig. 6. g h, and Fig. 3. a b c c.

The systematic connection is seen in the head of Tab. I. *C D.*

r r s The anterior muscle of the outer ear.

r r The tendinous beginning, springing, by thin scattered fibres from the epicranius, almost in the middle above the os jugale.

s The fleshy part going under the outer ear.

Add to this Fig. 3. e f g.

The systematic connection is seen in the head of Tab. I. Z. Also in Tab. V. k in the head, and in Tab. IX. i in the head.

t The occipital part of the aponeurosis.

The systematic connection of which is seen in Tab. I. a.

Muscles of the Nose.

Here add the frontalis and compressor, Fig. 7. and elevator of the upper lip and wing of the nose, Fig. 10.

FIGURE VIII.

The depressor of the wing of the nose.

a a b The beginning by which it arises from the upper jaw-bone, outwardly where the gums cover the sockets of the dentes incisores a a, and canin b.

c c Its insertion round the root of the wing of the nose.

d Its insertion under or within the nostril, from the septum nasi, when that coheres with the lip to the wing of the nose.

The systematic connection is seen in the head of Tab. III. l m; where it is in part covered by the orbicularis of the mouth n. Also in Tab. II. f. in the head; where it is in a great measure covered by the nasalis of the upper lip G, and the orbicularis of the mouth H.

Muscles of the mouth and lips, some of which belong to the gena or upper part of the cheek; some to the bucca or lower and lateral part of the cheek, and others, to the spaces at the sides of the chin.

To these add the latissimus colli or quadratus gena, Fig. 16.

FIGURE IX.

The depressors of the lower lips.

a a. a The origin from the lower part of the outer jaw, a little above its lower edge at the side of the chin.

b b The extremities which belong almost to the whole length of the lower lip, and terminating where it begins to be red.

c The part where they cross each other.

Add to this Fig. 16. m f.

The systematic connection is seen in the head of Tab. II. K K L M, and then in Tab. I. M M N in the head, in which last the greater part of this muscle is covered by the depressors of the corners of the mouth Q Q, and the thin fibres L L, which seem to come partly from the greater zygomaticus, and in part from the depressors of the angles of the mouth.

d e Part of the orbicular muscle of the mouth that is in the red margin of the lips. This is added, to shew in what manner the depressors of the lower lip terminate in the said orbicularis of the lower lip.

FIGURE X.

Represents the common elevator of the upper lip and wing of the nose. The proper elevator of the upper lip. A portion joining the upper lip from the orbicular muscle of the eye-lids. The greater and less zygomaticus. The depressor of the corner of the mouth. The nasalis of the upper lip. The orbicularis of the mouth.

These muscles are all figured together, because they cohere so strictly one to the other.

a b c The *elevator belonging to the upper lip and wing of the nose.*

a The origin, from the nasal process of the upper jaw-bone near the greater canthus of the eye, beginning tendinous.

b The extremity which runs through the upper lip near the side of the nose, and being gradually extenuated over the fore part of the nasalis of the upper lip, at last vanishes in the said lip. As it passes near the wing of the

nose, it usually inserts fibres into the upper part of the said wing near the cheek; which fibres could not be here represented.

c The thin portion which is send through the fat to the wing of the nose, towards which it gradually vanishes.

d The portion which joins the outer part of this muscle from the frontalis, g Fig. 7. from whence it is cut off.

The *systematic connection* is seen in the head of Tab. I. w x y. where its beginning is partly covered by the orbicularis of the eye-lids, q.

e e f *The elevator of the upper lips.*

e e Its origin, which is single, from above the hole that is beneath the bony orbit of the eye, in the direction of the lower edge of the said orbit.

f Its extremity which runs through the upper lip, over that part of the orbicularis of the mouth that is formed by the nasalis of the upper lip, and after being gradually extenuated, at length disappears.

Its *systematic connection* is seen in the head of Tab. I x A, where its origin is covered by the orbicularis of the eye-lids q m.

g h *The muscular portion that joins the upper lip from the orbicularis of the eye-lids.*

g The part that is cut off from the said orbicularis.

h Its end, which on one side soon joins to the elevator of the upper lip; and afterwards, on the other side, to the lefs zygomaticus, being extenuated with those muscles through the upper lip in which it ends.

The *systematic connection* is seen in the head of Tab. I. B.

i k The *lefs zygomaticus.*

i Its origin from the fore part of the outer side of the os jugale, a little below the middle of that side,

k Its end extenuated, by which it runs through the upper lip, above the orbicularis of the mouth, like the preceding muscles.

The *systematic connection* is seen in the head of Tab. I. C. where its beginning is covered by the orbicularis of the eye-lids, m.

l m n The *greater zygomaticus.*

l Its origin from the outer side of the os jugale, a little above its lower edge, in the place where its posterior process begins.

m The place where it joins and enters into the depressor of the corner of the mouth.

n Thin fibres which run first through the outside of the depressor of the corner of the mouth, and then upon the depressor of the lower lip, from the corner of the mouth to the opposite side, through the adjacent part of the lower lip.

To this add Fig. 13. a b c d e.

The *systematic connection* is seen in the head of Tab I. E F G: where its origin is partly covered by the orbicularis of the eye-lids, m.

o o m The *depressor of the corner of the mouth.*

o o The origin, from the outer part of the lower edge of the mandible, at the side of the chin.

m Its extremity by which it is continued outwardly to the greater zygomaticus.

Add to this Fig. 11. a b c, Fig. 12. e f g, and Fig. 13. f g h i.

The *systematic connection* is seen in the head of Tab I. Q R R S.

p Small fibres that seem to come off from the depressor of the angle of the mouth, and mixing with the like fibres n, from the greater zygomaticus, they run through the outer side of the depressor of the lower lip.

The *systematic connection* is seen in the head of Tab. I. L.

q r *The nasalis of the upper lip,* which may be reckoned an accessory head or portion of the orbicularis of the mouth.

q The beginning arising from the tip of the cartilage in the globe of the nose, from whence, with its fellow, it forms the greater part of the said globe, and from thence being continued along by the edge of the septum of the nose, it is extended out of its coverings down to the partition of the lip.

r The part where it joins the orbicularis of the mouth.

Add to this, Fig. 11. f.

The *systematic connection* is seen in the head of Tab. II. G. And in Tab. I. H in the head; in which last, as in the present figure, it is partly covered by the end of the elevator of the upper lip, and wing of the nose y, the elevator of the upper lip, A, the portion coming from the orbicularis of the eye-lids B, and the lefs zygomaticus C.

s t *The orbicular muscle of the mouth.*

t The part which is in the red margin of the lips.

Add to this Fig. 11. g h i i, Fig. 12. h i, Fig. 13. m o, and Fig. 14. f g h i k l.

The *systematic connection* is in Tab. I. I K K in the head: where, as here, it is covered in the lower lip by the greater zygomatics L L, and depressors of the lower lip L Q. L Q.

u The depressor of the lower lip, here covered in a great measure by the depressor of the corner of the mouth o o m: also by thin fibres p, detached in a manner from thence; and the excursion of a thin portion of the greater zygomaticus n, as in the systematic connection of this muscle in the head of Tab. I. M N, covered Q L.

See Fig 9 a a b c.

The right muscles are easily understood from these left.

FIGURE XI.

Exhibits the greater zygomaticus. The depressor and elevator of the corner of the mouth. The nasalis of the upper lip. The orbicularis of the mouth.

k l m *The greater zygomaticus.*

l The outer part here cut off, which is continued into the depressor of the corner of the mouth, and runs through the lower lip. See Fig. 10. m o.

m A thin portion which runs behind the continuation of the depressor and elevator of the corner of the mouth, c Fig. 13.

a b *The depressor of the corner of the mouth.*

b The outer part here cut off, which continues itself to the greater zygomaticus. See Fig. 10. o o m.

c The part which goes into the nasalis of the upper lip, and from thence into the outer part of the orbicularis of the mouth, where it surrounds the upper lip at the corner of the mouth. This part of the depressor lies under the fibres of the greater zygomaticus n, Fig. 10. which is here removed.

Add to this Fig. 12, e f g; and Fig. 13. f g h i.

d d e *The elevator of the corner of the mouth,* being here, from its origin, a kind of biceps.

d d Its origin from the small excavation in the fore part of the upper jaw, betwixt the first grinding teeth, and the hole that is below the bony orbit of the eye.

e The part by which it is continued to the depressor of the corner of the mouth.

Add to this fig. 12. a b c d.

The *systematic connection* is seen in the head of Tab. II. B C, and then in the head of Tab. I D D; where it is covered by the outer part of the greater zygomaticus G, which continues itself to the depressor of the corner of the mouth, and runs through the lower lip; is also covered by the lefs zygomaticus C, with the portion from the orbicularis of the eye-lids joining the upper lip, B, and the elevator of the upper lip x A.

f *The nasalis of the upper lip,* naked; which joins itself to the orbicularis of the mouth in the upper lip, and is continued to the depressor of the corner of the mouth, c.

See Fig. 10. q r.

The *systematic connection* is seen in Tab. II. G in the head.

g h i i *The orbicularis of the mouth.*

g The part that is in the upper lip; and its continuation to the depressors of the corner of the mouth at c.

h The part which is in the lower lip.

i i The parts which are seated in the red margin of the lips.

Add here Fig. 12. h i, Fig 13. m. o, and Fig. 14. f h i k l.

The *systematic connection* is in the head of Tab. III. o o p p q r s. Also in Tab. II. H I I. in the head, where in the lower lip it is covered by the depressors of the said lip K K M. And in Tab. I. in the head, I K K; where in the lower lip it is covered by the depressors of that lip L Q. L Q. and by the greater zygomatics L. L.

FIGURE XII.

Exhibits the elevator and depressor of the corner of the mouth: and the orbicularis of the mouth.

a b c d The *elevator of the corner of the mouth.*

a b The part where it is a kind of biceps at its origin.

c Its continuation to the inner part of the depressor of the corner of the mouth.

d The portion that joins the outer part of the orbicularis of the mouth, where that bends itself round the lower lip.

See Fig. 11 d d e.

e *The depressor of the corner of the mouth.*

f The place from whence the outer part of the depressor is cut off, which partly continues itself to the greater zygomaticus, m Fig 10. and b Fig. 11.; it also partly joins the orbicularis of the mouth, c Fig. 11.

g The inner part which is continued to the elevator of the corner of the mouth.

See Fig. 10. o o m.

h i *The orbicularis of the mouth.*

h The part which is in the lower lip; and which has a continuation to the elevator of the corner of the mouth d.

i The part which is in the lower lip.

See Fig 11. g h i i

k The nasalis of the upper lip. See Fig. 11. f.

l The place where the orbicularis of the mouth is cut off, and that part of it removed which covers the elevator of the corner of the mouth in Fig. 11.

k l m The greater zygomaticus, as in Fig 11. k l m.

FIGURE XIII.

Represents the greater zygomaticus; the depressor of the corner of the mouth; the orbicularis of the mouth; and the buccinator.

a b c d e The greater zygomaticus.

b The place where the outer part is cut off, that continues itself to the depressor of the corner of the mouth, and runs through the lower lip; as in Fig. 11. l.

c A thin portion which runs behind the continuation of the depressor and elevator of the corner of mouth; being the same with m in Fig. 11. From hence, at

d it joins chiefly the outer part of the buccinator, and with that goes to the orbicularis of the mouth, forming afterwards a part of the upper lip; while

e Another portion, is incurvated downwards, and continued to the inner part of the depressor of the corner of the mouth.

f g h i The depressor of the corner of the mouth.

g The place from whence the outer part is cut off, as in Fig. 12. f. which outer part is continued to the greater zygomaticus, m Fig. 10, and b Fig. 11. and it partly joins the orbicularis of the mouth, c Fig. 11.

h The inner part cut off, which is continued to the elevator of the corner of the mouth, g Fig. 12.

i The portion which joins the inner part of the orbicularis of the mouth in the upper lip.

k k The buccinator. See Fig 14 a, &c.

l The nasalis of the upper lip, k Fig. 12

m Part of the orbicularis of the mouth which is in the upper lip, i Fig. 12.

n The place where it is cut off, as at l, in Fig. 12.

o Part of the orbicularis of the mouth that is in the lower lip. h Fig. 12.

p The place where it is cut off, and where it is outwardly joined by a part of the elevator of the corner of the mouth, d Fig 12.

FIGURE XIV.

Exhibits the buccinator, and the orbicularis of the mouth.

a b c d e The buccinator.

b A portion which goes into that part of the orbicularis of the mouth that is in the upper lip.

c The portion which goes into that part of the orbicularis of the mouth that is in the lower lip.

d A muscular portion of the buccinator that goes to the upper lip, and there joins the inner part of the orbicularis of the mouth.

e The place where the buccinator continues itself to the muscular portion or appendix k l, that joins to the orbicularis of the mouth.

See Fig. 13. k k, and add, Fig. 23. Tab. XII.

The *systematic connection* of the buccinator is seen in the head of Tab. III. v w x y z. And then in Tab. II. z in the head; where part of it is covered by the elevator of the corner of the mouth B, and the depressor E; and part lies hid behind the masseter. Then in Tab. I. T in the head; where it is also covered by the elevator of the corner of the mouth D, the depressor Q S, and lies concealed behind the masseter V; and is finally covered by the greater zygomaticus I G, and the latissimus colli or quadratus genæ *d e e*.

f g h i The orbicularis of the mouth.

f The part which is in the upper lip.

g The place from which is cut off the depressor of the corner of the mouth which goes into the outer part of the orbicularis, where that surrounds the upper lip, near the corner of the mouth c, Fig. 11.

h Part of the orbicularis in the lower lip.

i The part that goes under the portion d, and joins the buccinator. But outwardly it receives part of the elevator of the corner of the mouth, d Fig. 12. which is here taken off.

k l The portion or appendix that joins the orbicularis of the mouth, springing from the lower jaw.

k Its origin from the outer part of the lower jaw, beneath the protuberant socket of the canine tooth.

l The place where it also joins the buccinator.

Add here, Fig. 11. g h i i, and f, Fig. 12. h i d, and k, and Fig. 13. m o i and l.

The systematic connection of the orbicularis is seen in Tab. III. t u in the head; where its first beginning is covered by the elevator of the chin *b*. And in Tab. II. where it lies betwixt the depressor of the lower lip K L, in the head, and part of the depressors of the corner of the mouth E, where it is also covered by them both, and what part appears naked, is in Tab. I. covered by the depressor of the corner of the mouth Q R R S in the head.

Muscles of the Chin.

FIGURE XV.

Represents the elevators of the Chin.

a The beginning arising from the fore part of the lower jaw, immediately beneath its upper edge from the socket of the lateral incisive tooth, and extending from thence on one side to the socket of the middle incisive, and on the other side to the socket of the canine tooth.

b The place where they are incurvated towards each other, partly continuing, and partly intermixing their fibres in the chin.

c The fibres which they intermix with the fat of the chin.

Their systematic connection is in Tab. III. *b b c d* in the head where they are covered at their origin by the orbicularis of the mouth r. And in Tab. II. N O in the head; where the greater part lies under the depressor of the lower lip K K. Finally, in Tab. I. O P in the head; where also the greater part lies under the depressor of the lower lip M M.

Muscles of the mouth, lower lip, adjacent cheek, ear, and skin of the neck which is extended from below the cheek down to the breast and shoulder.

FIGURE XVI.

Represents the latissimus colli, with the depressor of the lower lip.

a a a, &c. The latissimus colli, or platysma myoides.

a a a Its origin composed of thin, and in a great measure scattered fasciculi; by which it arises upon the breast below the clavicle, and upon the shoulder.

b b b Fasciculi or portions, which in some people join this muscle from the side of the neck.

c c Scattered bundles of fibres, by which it ends and disappears in the cheek.

d A portion that is stretched over the outer part of the depressor of the corner of the mouth, towards the said corner.

e e A thin part that goes under the depressor of the corner of the mouth, with which it runs and adheres.

f A portion which it gives to the depressor of the lower lip.

g g The place where it is inserted into the lower jaw beneath the origin of the depressor of the corner of the mouth.

h h The protuberance or rising of the lower jaw, which it here passes over.

i k The protuberance of the sternomastoideus i, and cleidomastoideus k which it covers.

l l The protuberance of the clavicle.

The *systematic connection* is seen in Tab. I. *O*, &c. in the neck.

m The depressor of the lower lip. See Fig. 9. a a b c.

n The depressor of the corner of the mouth here cut off.

Muscles of the upper Eye-lid and Globe of the Eye.

FIGURE XVII.

Represents the systematic connection of the muscles which are placed in the bony cavity of the left eye, viewed from the upper part, with the tarsus or cartilaginous edge of the upper eye-lid, the globe of the eye, the optic nerve, and cartilage of the ring or pulley belonging to the upper oblique muscle.

a The elevator of the upper eye-lid. See Fig. 21. From its origin it lies partly under the obliquus superior. See Fig. 21.

b The tarsus of the upper eye-lid.

c The rectus attollens, a great part of which lies under the elevator of the eye-lid. See Fig 28.

g The rectus deprimens. See Fig. 18. d d, and Fig. 19. i k.

f The rectus abducens. See Fig 18. a b, and Fig. 19. a b c d. Its extremity or insertion lies partly under the elevator of the upper eye-lid: See Fig. 18. at its origin it lies under the rectus attollens; and also under the optic nerve: See Fig. 18.

d The obliquus superior with the cartilage of the ring, round which it bends its tendon. See Fig. 22 The tendon at its end lies under the elevator of the upper eye-lid and rectus attollens. See Fig. 22.

e The rectus adducens lying under the obliquus superior. See Fig. 18. e and Fig. 19. e f g h.

h Obliquus inferior. See Fig. 19. l l m.

i The globe of the eye. See Fig. 18. g.

k The optic nerve, cut off. See Fig. 18. i.

The beginning of the obliquus superior, of the elevator of the upper eye lid, and rectus attollens surround the optic nerve above; as that of the rectus abducens, deprimens, and adducens, surround it below. See Fig. 20.

FIGURE XVIII.

The primary or upper muscles of the figure last preceding being taken away, (namely, the elevator and tarsus of the upper eye-lid, the rectus attollens, and the obliquus superior, with the cartilage of its ring or pulley) the present figure exhibits the next order or appearance of them.

a b The rectus abducens. b the tendon inserted into the sclerotica. The thicker part of its origination lies under the optic nerve. See Fig. 19 c.

c The rectus abducens. The thicker head of which lies under the optic nerve. See Fig. 19. f.

d d The rectus deprimens. See Fig 19. i k.

e f The obliquus inferior. See Fig. 19 l l m.

e The broad extremity of the said obliquus attached to the sclerotica on the outer side of the globe of the eye, betwixt the optic nerve and the middle sphericity of the eye that comes betwixt the said nerve and the cornea.

g h The globe of the eye. h the cornea.

i The optic nerve.

FIGURE XIX.

Exhibits the same muscles as the eighteenth figure preceding, after the globe of the eye and optic nerve are taken away.

a The rectus abducens, c its principal head which is tendinous from the beginning. See Fig. 26. a. b the lesser head which is tendinous. See Fig. 26. c. d the tendon in which it terminates. See Fig. 18. a b.

e The rectus adducens f the principal head, the greater of which is tendinous. See Fig. 25. a. g the lesser head which is tendinous. See Fig. 25. b. h the tendon in which it terminates. See Fig. 18 e.

i The rectus deprimens, which at its origin lies under the rectus abducens a, and the adducens e, k the tendon in which it terminates. See Fig. 18. d d.

l l The obliquus inferior. m its tendinous origin. See Fig. 18. e f.

FIGURE XX.

Exhibits the systematic connection of the muscles belonging to the eighteenth figure, with their lower side turned up to the view.

a The rectus adducens, c the larger head, the greater part of which is tendinous. See Fig. 25. a, b the tendon in which it terminates. See Fig. 18. c, and Fig. 19. e.

d e f The rectus abducens. e the lesser head which is tendinous. See Fig 26. c. f the tendon in which it terminates. See Fig. 18. a, and Fig. 19. a.

g g The rectus deprimens. See Fig. 24. Fig 18. d d, and Fig. 19. i k.

h The obliquus inferior. i the tendinous origin. Its extremity goes under the rectus abducens d. See Fig. 18. e f, and Fig. 19. l l m.

k l The globe of the eye. l the cornea.

m The optic nerve.

FIGURE XXI.

Exhibits the elevator of the upper eye-lid.

a a The tendinous origination, which adheres to the origin of the rectus attollens, and together with that arises from the upper and next adjacent inner part of the foramen or hole in the multiform or sphenoidal bone, through which the optic nerve enters the bony orbit or cavity of the eye; and below it also coheres with the hard coat or vagina that contains the optic nerve, by small tendinous portions, resembling an aponeurosis or tendinous expansion.

b The fleshy part.

c The aponeurosis by which it terminates in the cartilaginous edge of the upper eye-lid, called the tarsus

d The tarsus of the upper eye lid.

e e The globe of the eye.

f f The optic nerve.

The systematic connection is seen in Fig. 17. a; where its origin lies partly under the beginning of the obliquus superior d.

Add to this also Fig. 27. a.

FIGURE XXII.

Exhibits the obliquus superior, vel trochlearis.

a The tendinous origin by which it springs from the anterior, upper, and lateral part of the edge of the hole through which the optic nerve enters; it also coheres below with the vagina of the optic nerve by a sort of tendinous excursion.

b The fleshy belly.

c The tendon which at d bends round the cartilage of the ring or pulley through which it passes: afterwards it runs back to the upper part of the globe, near which it grows broader and thinner as it advances, inserting itself at last obliquely into the sclerotica e, in the upper side of the outer and posterior quarter of the globe, if we divide the same longitudinally and transversely, through the middle of its upper side.

f The cartilage of a sort of ring or pulley which is fixed to the os frontis under the eye-brow, near the inner corner of the eye; through which passes the tendon of the obliquus superior.

The systematic connection appears in Fig. 17. d; where the tendon runs first under the elevator of the upper eye-lid, and then under the rectus attollens. See Fig 27. d.

g h The globe of the eye. h the cornea.

i The optic nerve.

FIGURE XXIII.

The rectus atollens.

a a The tendinous beginning which at first coheres with the elevator of the upper eye-lid, and together with that arises from the inner side of the upper part of the optical foramen: also from the edge of the multiform or sphenoidal bone that is betwixt the optical hole and the hole that immediately follows it: beneath it also adheres to the covering of the optic nerve by small tendinous portions like an aponeurosis.

b The fleshy belly.

c The tendinous surface that makes the beginning of the tendon d, whose extremity is inserted into the sclerotica.

The systematic connection is seen in Fig. 17. c; where it is partly covered by the elevator of the upper eye-lid a. Add to this Fig. 17. b c c.

e f The globe of the eye. f the cornea.

The optic nerve.

FIGURE XXIV.

The rectus deprimens, with its lower side upwards.

a The tendinous origin, cohering in some measure with the covering of the optic nerve, and arising from the lower part of the bony portion that divides the optical foramen from that which follows immediately after it, and lies opposite the same bony cavity of the eye. I have also observed a small portion arising from the ligament that goes from the edge of the lower part of the optical foramen, where it looks towards the hole that immediately follows after it, to the opposite edge of the said foramen, where it is round, near the beginning of the slit in which its lower edge ends.

b The fleshy belly.

c The tendinous surface by which the tendon d begins here, and has its end inserted into the sclerotica.

The systematic connection is seen in Fig. 20. g g: and Fig. 19. i k, where at its origin and upper part it is covered by the rectus adducens e, and the abducens a. Add here Fig. 18. d d, Fig. 17. g, and Fig. 27. l.

e f The globe of the eye. f the cornea.

g The optic nerve.

FIGURE XXV.

A lateral view of the rectus adducens.

a The thick head which is tendinous and arises from the lower part of the optical hole, and the next adjacent side of it that is towards the nose. It also coheres in some measure with the covering of the optic nerve.

b The slender head, which is also tendinous, and coheres at its origin with the elevator of the upper eye-lid and rectus attollens, also with them to the obliquus superior; likewise with them it arises from the optical foramen, and coheres with the covering of the optic nerve.

c The fleshy belly.

d The tendinous surface by which the tendon e begins here, having its end inserted into the sclerotica.

The systematic connection is seen in Fig. 17. e; where its greater part lies under the obliquus superior d, and at its origin under the elevator of the upper eye-lid. Next see Fig. 18. c, Fig. 19. e, and Fig. 20. a. Add also Fig. 27. e f g.

f g The globe of the eye. g the cornea.

FIGURE XXVI.

A lateral view of the rectus abducens.

a The thicker head, tendinous at its beginning, which arises, first with the rectus deprimens, from the lower part of the optical foramen near the outer side; and from thence it is continued in its lower part from the ligament i, and where that ligament ends, the rest of its lower part (b, here cut off) arises from the nearest part of the edge of the foramen that follows next after the optical hole. And this head coheres in some measure with the vagina of the optic nerve.

c The smaller tendinous head which at first coheres with the rectus attollens, arising with that from the optical foramen, and coheres with the vagina of that nerve.

d The fleshy belly.

e The tendinous surface by which the tendon f here begins, its end being inserted into the sclerotica.

The systematic connection appears in Fig. 17. i. Fig. 18. a. Fig. 19. a. Fig. 20. d, to which add Fig. 27. h i k.

g h The globe of the eye. h the cornea.

i The ligament which arises from the side of the lower part of the foramen by which the optic nerve enters where the optical hole is opposite to the other that follows next below it, and from thence it belongs to its opposite margin of that foramen where it is round, near the lower edge of the beginning of the slit in which it ends.

FIGURE XXVII.

Exhibits a perpendicular section of all the muscles of the eye, with the elevator of the upper eye-lid, contained in the bony cavity of the eye, and viewed in the fore part. The fore parts of the recti, upper obliquus, and elevator of the eye-lid, being here cut off.

This figure differs from that in the IVth table, as I have also found it vary in other subjects.

a The elevator of the upper eye-lid. The origination of which could not be represented because of the rectus attollens. See Fig. 21. a a.

The systematic connection is seen in Tab. IV. a b b in the head; but with its fore part cut off, in Tab. II. c d in the head: which fore part lies behind the orbicularis of the eye-lids Tab. I. o in the head.

b The rectus attollens arising at c c from the upper part of the optical hole, and from the edge of the multiform bone that lies in the middle betwixt the optical foramen, and the other foramen that immediately follows after it below. Add also Fig 23. a a.

The systematic connection is seen in Tab. IV. e f in the head; where the fore part is cut off: and in Tab. III. e in the head; which in Tab. II. lies behind the elevator of the upper eye-lid, c d in the head.

d The obliquus superior, whose origination (lying behind the beginnings of the rectus adducens, the attollens, and elevator of the eye-lid) could not be here represented. Add Fig. 22. a.

The systematic connection is seen in Tab. IV. c d in the head, where the fore part is cut off: and in Tab. III. c d in the head; which there goes behind the rectus attollens e, and the part that here appears naked, lies behind the elevator of the upper eye-lid, Tab. II. c d in the head.

e f g The rectus adducens, f the smaller head arising from the upper part of the external side of the optical foramen, where at its origin it coheres with the rectus attollens elevator of the upper eye-lid, and the obliquus superior. Add Fig. 19. g. and Fig. 25. b.

g The thicker head, arising from the lower part of the optical foramen and from the nearest side of it next the nose. Add here Fig. 19. f and Fig. 25. a.

Betwixt the thicker head and the optic nerve passes a small artery from the internal carotid.

The systematic connection is seen in the head of Tab. IV. g h, where the fore part is cut off: and in Tab. III. f. in the head.

h i k The rectus abducens, i the small head arising from the edge of the multiform bone that lies betwixt the optical foramen and that which follows just below it: and by this head it coheres with the beginning of the rectus attollens. Add Fig. 19. b, and Fig 26. c.

k The thicker head from the lower part of the optical foramen, near the external side. Add here Fig. 19. c. and Fig. 26. a b.

Betwixt these heads the trunk of the sixth pair of nerves of the brain enters and passes along the bony orbit or cavity of the eye, as does also the trunk of the third pair, and the branch it gives to the rectus attollens.

The systematic connection appears in Tab. IV. i l in the head; where its fore part is cut off, and in Tab III. g in the head.

l The rectus deprimens; whose origination could not be here shewn, as it lies under the beginnings of the adducens and abducens g k. See Fig. 24. a.

The systematic connection appears in Tab IV. m n in the head; where the fore part is cut off: and in Tab III. h in the head.

m n o p The obliquus inferior. m its outer part, n its inner part. o its tendinous beginning, arising at the bottom of the orbit of the eye, near its edge from the upper jaw bone, betwixt the future, proper to that bone in this place, and the os unguis. Add here Fig. 19. l l m.

p The end cut off from the globe.

The systematic connection is seen in Tab. IV. o p q in the head: and in Tab. III. i k in the head; where its end goes under the rectus abducens g.

q The foramen by which the optic nerve enters.

r The foramen that follows immediately after the optical hole.

Muscles of the malleus, stapes, and membrane of the tympanum.

These could not be represented in any of the views of the preceding tables, In this table, on account of their smallness, they are exhibited in their natural magnitude.

FIGURE XXVIII.

Represents the muscles of the internal ear, together with the small bones of hearing, and the temporal bone, in their natural positions; also part of the multiform or sphenoidal bone.

a The laxator tympani, arising from the upper part of the edge of the tympanum, near the end of the auditory passage, from the place to which the membrane of the tympanum adheres. It is inserted into the handle of the malleus, near the root of its shorter process. See Fig. 30.

b c d The externus mallei.

b The origination from the outer part of the acute process, which the last angle of the multiform bone sends out betwixt the os squamosum and petrosum.

c The fleshy belly a little protuberant.

d The tendon which enters the slit s that is left at the end of the suture of the os squamosum and petrosum; and afterwards it goes on through the same

[illegible]ous holds the longeſt and ſlendereſt leg of the malleus, to that part of the [illegible]ony extremity which contains the auditory paſſage, and affixes itſelf to the whole length of that proceſs. See Fig. 31.

Juſt above e appears the tendon of the tenſor tympani coming out of the ſmall opening of the bony channel in which it is contained. See Fig. 29. d: and Fig. 32.

Juſt below i is the tendon of the ſtapedius (paſſing out of the little opening in the neck of the cavity in which the ſtapedius itſelf is contained) running to the ſtapes. See Fig. 29. f. and Fig. 34.

k The tympanum.

n The bony channel that contains the tenſor tympani. See Fig. 29. n.

o The neck of the little cavity that contains the ſtapedius.

p Part of the auditory paſſage left entire, which lies in the os ſquamoſum and mammillare.

q The place from whence part of the auditory canal is cut off, and which is formed by the os petroſum: r the place where the ſame is cut off from the os ſquamoſum.

s A cleft or ſlit left at the end of the meeting or union of the os ſquamoſum and petroſum, which meeting or commiſſure is here covered by the external muſcle of the malleus; and by this cleft enters the externus mallei.

Above the ſaid cleft s, in which the tendon d is conſpicuous, in order to make it ſo conſpicuous, that ſinus is cut and laid open longitudinally which is contained in that part of the bony extremity that holds the auditory paſſage; that ſinus through which the malleus extends its longeſt and ſlendereſt proceſs, and along which the tendon paſſes that belongs to the externus mallei, and is inſerted into the ſaid proceſs.

t The os ſquamoſum.

u u The os petroſum.

v Part of the multiform bone. W the ſharp proceſs which the laſt angle of the multiform bone ſends out betwixt the os ſquamoſum and petroſum.

x The foramen, out of which paſſes the third branch of the fifth pair of nerves of the brain.

The malleus, incus, ſtapes, feneſtra, and aqueduct, are pointed out in the figure next following.

FIGURE XXIX.

Repreſents the muſcles called tenſor tympani and ſtapedius, with the ſmall bones of hearing, and the temporal bone in their proper ſituations; alſo part of the ſoft portion of the Euſtachian tube. The laxator tympani and externus mallei being here taken off.

a b c d The tenſor tympani.

a The very thin tendinous beginning, ariſing at b from the upper part of the Euſtachian tube, where that tube looks towards the baſis of the ſkull, and is of a cartilaginous nature, hard by the hole of the multiform bone that admits arteries to the dura mater, under the ſcale of the multiform bone which is connected to the os petroſum at the inner ſide of the ſaid hole.

c The fleſhy part where that paſſes through the beginning of the bony canal which is but half a canal; from whence it goes on through the ſaid canal, and its tendon being got out of the opening of the ſaid canal near d, bends itſelf round the ſaid opening, and then goes to its inſertion into the handle of the malleus, below its ſlendereſt proceſs, where the ſaid handle lies towards the bottom of the tympanum oppoſite the membrane. See Fig. 32. and 33.

e f The ſtapedius.

e The belly lying in the little cavity of the os petroſum, which is fixed in the tympanum below the lower part of the Fallopian aqueduct, and ariſing from thence all the way from its origination. f the tendon which ariſing in the cavity, paſſes afterwards out of its round mouth or opening, and ſo ſoon as it is got out bends itſelf and then goes ſtraight to the back part of the head of the ſtapes into which it inſerts itſelf. Add here Fig. 28. i: and ſee Fig. 34.

g The incus.

h The malleus. See Fig. 32. d e f g.

i The ſtapes, with its baſis reſting on the oval feneſtra or aperture. See Fig. 34. d e.

k The aqueduct of Fallopius; part of which alſo appears betwixt the malleus and incus.

l The fore ſide of the little cavern or cavity which contains the ſtapedius, projecting within the tympanum longitudinally from the bottom of the cavern to its opening that is cut off.

m Part of the os petroſum cut off, where the auditory paſſage here ends. It is cut off down to the poſterior part of the little cavern that contains the ſtapedius; and this part of the bone is thick.

Therefore, betwixt l and m the ſmall cavern is laid open by cutting out the intermediate bone, that the ſtapedius might thus be entirely viewed.

n The feneſtra rotunda, or round opening.

o Part of the os petroſum cut off down to the bony part of the Euſtachian tube.

p The os ſquamoſum cut off. See Fig. 28.

All that is bony betwixt the two parts o and p is here removed, that the canal r r s, and the muſcle c, might be entirely viewed.

q The place from whence the ſcale of the os petroſum is cut off, which meeting with the os ſquamoſum, divides the tympanum in this place from the cavity of the ſkull.

r r s The canalis oſſeus, here at its origin but half a canal r r, afterwards compleat or entire s, (but in ſome bodies it is all the way but half a canal), which is fitted to receive the teaſor of the tympanum partly above the bony part of the Euſtachian tube, and partly in the upper and fore part of the tympanum over againſt the membrane of the tympanum.

t u The bony part of the Euſtachian tube. u its opening into the tympanum.

v v w Part of the Euſtachian tube which is very much of the nature of a cartilage. x x x x the places from whence the membranous part is cut off. y a portion of the membranous part that is cut off in a ſtraight courſe to the end of the tube. v v the external parts of the portion which is of a cartilaginous nature: w the inner ſide thereof, forming a large concavity of the tube.

z Part of the os petroſum belonging to the cavity of the ſkull.

a The concavity of the tympanum.

b b The place from whence part of the auditory paſſage is cut off, formed by the os petroſum, as at q q in Fig. 28.

c That part of the auditory paſſage cut off which is a continuation of the os ſquamoſum, as at r in Fig. 28.

d Part of the auditory paſſage entire, which is contained in the os ſquamoſum and mammillare.

e The os petroſum.

FIGURE XXX.

The Laxator tympani.

a The laxator tympani inſerted into the handle of the malleus near the root of its ſhorter proceſs.

The ſyſtematic connection is in Fig. 28. a, where the poſition is the ſame, and natural.

Concerning the malleus, See Fig. 32. d e f g.

FIGURE XXXI.

The externus mallei.

a The fleſhy belly.

b The tendon, inſerted into the whole length of the longeſt and ſlendereſt proceſs of the malleus.

The ſyſtematic connection is in Fig. 28. b c d, where the poſition is the ſame, as here.

Concerning the malleus, See Fig. 32. d e f g.

FIGURE XXXII.

The tenſor tympani.

a The tendinous beginning.

b The belly.

c The tendon.

The ſyſtematic connection is in Fig. 29. a b c d, where the poſition is the ſame. Add Fig. 33.

d e f g The malleus. d the head. e the ſlendereſt and longeſt proceſs. f the ſhorter proceſs. g the handle.

FIGURE XXXIII.

The tenſor tympani, a poſterior or inner view of it. See Fig. 32.

a the tendinous beginning.

b The belly.

c The tendon inſerted at d into the handle of the malleus below its very ſlender proceſs, where the handle lies towards the bottom of the tympanum oppoſite the membrane.

Concerning the malleus, ſee Fig. 32. d e g.

FIGURE XXXIV.

The ſtapedius.

a The belly.

b The tendon, inſerted at e into the head of the ſtapes, where it inclines backward.

The ſyſtematic connection is in Fig. 28. i, and Fig. 29. e f. the poſition is the ſame in both.

d The little head of the ſtapes from whence two legs go on to the baſis c.

Muſcles of the os hyoides.

FIGURE XXXV.

The coracohyoideus.

a a The origin from the extreme edge of the upper margin of the ſcapula, near the half moon or notch that is at the root of the coracoide proceſs, from whence it bends itſelf at b.

c The firſt belly.

d The middle tendon.

e The ſecond belly.

f Its inſertion into the lower and fore part of the baſis of the os hyoides, near its horn, by a tendinous extremity.

The ſyſtematic connection is in Tab. II. *a a b* in the neck; where it is covered or concealed by the ſternocleidomaſtoideus *g h i k*, and by the ſubclavius *f* at its origin behind the clavicle and the ſerratus magnus *Y*. And thoſe parts of it which appear naked in Tab. II. lie under the latiſſimus colli Tab. I. *O* in the neck. It lies alſo partly under the cucullaris.

FIGURE XXXVI.

The geniohyoideus viewed from below.

a The tendinous beginning by which it ariſes from the tubercle or rough eminence b, that is fixed on the inner ſide of the lower jaw oppoſite the chin.

c The fleſhy body.

d e The end inſerted into the excavation d, which is the upper and fore part of the baſis of the os hyoides, near the middle of the ſaid baſis; and is

continued to the remaining part of the basis from the excavation to the horn and nearest part of the horn itself e. Its thicker at its insertion into the excavation, but thinner where it is inserted into the rest of the basis and horn.

The systematic connection is exhibited laterally in Tab. X. Fig. 2. r s; where its extremity is seated behind the basioglossus o. In Fig. 1. of that table it is not to be seen, as it lies behind the mylohyoideus d.

f f The under side of the lower jaw: the same as we have represented it in the tables of the bones

g h h i i k k The lower part of the os hyoides. g h h the basis; g its anterior part, h h the posterior part. i i the horns. k k the small grain-like bones.

FIGURE XXXVII.

The stylohyoideus.

a The slender tendon by which it begins, and which arises from the back part of the styloide process of the temporal bone, hard by the small bone, which being joined to that process is in many people moveable.

b The fleshy belly.

c The tendon, inserted at d into the anterior and lower part of the basis of the os hyoides, where the horn is joined to it.

e The slit in the fleshy part and in the tendon through which passes the digastric of the lower jaw: and above that slit is a sinus impressed by the said adjacent digastric muscle.

The systematic connection is in Tab. X Fig. 1. e f; where it is in part covered by the digastric of the mandible g i. Then in Tab. IX. *l* in the head; where it is in part covered by the latissimus colli *m*, and in part by the sternocleidomastoideus *r*. The fore part of it, in Tab. II. R in the neck.

g h i The os hyoides. g the basis, h the horn, i the small grain like bone.

k The mastoide process cut off near the root of the styloide process.

l l The styloide process of the temporal bone.

FIGURE XXXVIII.

The mylohyoideus viewed from below.

a a The beginning for the most part tendinous, arising from the eminence b that goes through the length of the jaw, from the innermost grinding tooth to the symphysis of the lower jaw, being extended from behind obliquely forward towards the chin.

c The place where the right and left join together and are continued in one fleshy part c d the tendinous line formed by the meeting of the right and left. e the aponeurosis.

f The insertion of that aponeurosis into the anterior and lower part of the basis of the os hyoides.

g The convexity that is formed about the geniohyoideus.

The systematic connection is shewn laterally in Tab. X. Fig. 1. d; where it covers part of the digastric of the lower jaw h i. In Fig. IX. no part of it appears being covered over by the latissimus colli *m* in the neck. The fore part is seen in Tab. III. *q* in the neck, and Tab. II. Q in the neck.

Concerning the lower jaw and os hyoides, see Fig. 36.

FIGURE XXXIX.

The sternohyoideus.

a b c d The tendinous beginning arising at a from the inner part of the breast bone, and particularly from that protuberant part of its margin which sustains the clavicle near the cartilage of the first rib: it continues also to arise from the upper and posterior part of the end of that cartilage b, and the ligament c, by which the clavicle is tied to that cartilage, likewise from the nearest posterior and lower part of the head of the clavicle d.

e The tendinous end, inserted into the lower part of the basis of the os hyoides near its middle.

The systematic connection is seen in Tab. II. *c e d* in the neck, where it is in part covered by the sternomastoideus *g h*, also by the clavicle, sternum, and cartilage of the first rib. Then in Tab. I. *i* in the neck, where the latissimus colli *O* is spread over the greatest part of it.

f f g h The sternum, cut off f f, g the cartilage of the first rib, h the clavicle; that thus the beginning of the sternohyoideus behind it might appear to view.

Muscles of the Tongue.

FIGURE XL.

The styloglossus, ceratoglossus, and basioglossus.

a b c d The styloglossus

a Its origin from the anterior, inner, and almost extreme part of the styloide process which is moveable in younger subjects.

b The place where it first joins the tongue near the end of the ceratoglossus, by which it goes along, is extended near to the end of the basioglossus, and runs on farther forwards to the tip of the tongue c.

d The place where it is incurvated a little downward, and continues itself to the ceratoglossus.

Add here Fig. 43. e f g.

The systematic connection is in Tab. X. Fig. 2. k l m; where at its origin, it lies concealed behind the mastoide process of the temporal bone. Then in Fig. 1. just above k; where the greater part is covered by the mylohyoideus d, the stylohyoideus e, and the digastric of the lower jaw g. And, lastly, in Tab. IX. betwixt *k* and *l* in the neck; where it is covered by the stylohyoideus *l*.

e e f The ceratoglossus.

e e Its origin from the outer part of the lower edge of the horn of the os hyoides, from the extremity thereof, almost to that part which is connected with its basis.

f The part that belongs to the tongue.

d The place where it is continued to the styloglossus.

Add here Fig. 43. h

The systematic connection is seen in Tab. X. Fig. 2. n, and in Fig. 1. m, where it is in part covered by the digastric of the lower jaw g i, in part by the stylohyoideus e. In Tab. IX. it lies concealed behind the sternomastoideus *r* in the neck. The anterior view of it is in Tab. III. *l* in the neck; and in Tab. II. T in the neck.

g h i The basioglossus.

g h Its origin g, from the lower and fore part of the basis of the os hyoides near its horn; and from the next adjacent and fore part of the horn itself h.

i The part that joins the tongue.

Add here Fig. 43. h.

The systematic connection is in Tab. X. Fig. 2. o, where part of its origin that springs from the os hyoides is covered by the geniohyoideus r. Then in Fig. 1. k l, where it is in part covered by the mylohyoideus d, and stylohyoideus e f, and digastric of the lower jaw i. Lastly, in Tab. IX. just below the styloglossus, which lies betwixt *k* and *l* in the neck.

k Part of the lingualis. See Fig. 41. e.

l m The tongue. l the part contained in the mouth. m the part incurvated in the fauces. See Tab. X. Fig. 5. h i.

n The mastoide process here cut off, as in Fig. 37. k

o The styloide process of the temporal bone.

The os hyoides is the same here as in Fig. 37.

FIGURE XLI.

The chondroglossus, genioglossus, and lingualis.

a b The chondroglossus.

a The origin from the upper part of the beginning of the small grain like bone of the os hyoides.

b The place where it intermixes with the genioglossus, and then goes into the tongue near the beginning of the lingualis.

The systematic connection is in Tab. X Fig. 4. t, and in Fig. 3. just above *g*; where its greater part is covered by the fibres of the genioglossus, which are incurvated by the side of the pharynx l: and what there appears naked, is in Fig. 2. concealed behind the ceratoglossus o.

c d The genioglossus.

d The tendinous beginning, by which it arises immediately above the geniohyoideus from the rough eminence k, that is fixed in the inner side of the lower jaw at its symphysis. From thence it goes to the tongue.

But here we have removed those fibres which insert it into the small grain-like bone of the os hyoides; as also we have removed those thin fibres which are incurvated laterally through the membrane of the pharynx.

Add here Fig. 41. and Fig. 43. k l l l m n o p.

The systematic connection is in Tab. X. Fig. 5. o p q, and then in Fig. 4. s f, Fig. 3. i k, and Fig. 2. q; where part of it is covered by the basioglossus o: and what there appears naked, in Fig. 1. lies behind the mylohyoideus d

e The lingualis. See Fig. 43. a b c d.

The systematic connection is in Tab. X. Fig. 5. n, and in Fig. 4. r. Fig. 3. h. And then in Fig. 2 p; where it is partly covered by the basioglossus o.

f The styloglossus. See Fig. 40. a b c.

The ceratoglossus and basioglossus are here cut off betwixt the styloglossus f, the chondroglossus a b, and the lingualis e. See Fig. 40. f. i.

g The epiglottis.

h The inner side of the lower jaw. i the part which is cut through, as in Tab. X. Fig. 2. t.

k The rough tubercle or eminence in the inner side of the lower jaw, at its symphysis.

Concerning the tongue, see Fig. 40. l m. And for the os hyoides, see Fig. 37. g h i.

FIGURE XLII.

The genioglossus viewed from below.

a The tendinous beginning by which it arises immediately above the geniohyoideus from the rough eminence b, that is seated on the inner side of the lower jaw at its symphysis.

c d d e A thin tendinous part which at d d belongs to the basis of the os hyoides, and inserts itself at e into the small grain-like bone.

f Thin fibres here cut off which join the inner part of the ceratoglossus.

g Those fibres cut off which run through the side of the pharynx, and which are continued into the upper constrictor of the pharynx.

Add here Fig. 41. c d, and Fig. 43 k l l l m n o p.

The lower jaw and os hyoides may be known from Fig. 36.

FIGURE XLIII.

Represents the tongue stretched out longitudinally with its lower side turned up to shew the lingualis, genioglossi, and ends of the styloglossi, ceratoglossi, and basioglossi.

a b c d The lingualis.

a b Two beginnings by which it proceeds into the tongue at its root, betwixt the fibres of the genioglossi: the first of them a, betwixt that part of the the genioglossus which is incurvated laterally and joins the ceratoglossus and the part that there inserts itself into the tongue.

c The place where it joins with the styloglossus, and with that runs afterwards to the tip of the tongue d.

See Fig. 41. c.

e f g The styloglossus.

e The place where it is cut off.

f The place where it joins with the lingualis and with that runs to the tip of the tongue g.

See Fig. 40. e e f. g h i.

k l l l m n o p The genioglossus, which, because it is cut off from its origin, and the tongue stretched out longitudinally, has here changed its figure; as will appear if you consult Fig 41. c d.

k The origination cut from the lower jaw.

l l l Here it belongs to the tongue near the lingualis.

m Fibres which join the inner part of the ceratoglossus and with that go to the tongue.

n Fibres which are incurvated through the side of the pharynx; some of which go to the upper constrictor of the pharynx.

o A thin tendinous part belonging to the basis of the os hyoides. a portion inserted into the upper part of the beginning of the small grain-like bone of the os hyoides.

See Fig. 41. c d.

q The tongue.

Concerning the os hyoides, see Fig. 36.

Muscles of the Larnyx.

Add here the stylopharyngeus Fig. 27. 28. and 30. Tab. XII.

FIGURE XLIV.

The sternothyroideus.

a b c The broad origination from the internal amplitude of the breast-bone, opposite the lower part of the cartilage of the first rib, and from the edge of the same bone near the same part of the said cartilage: and the portion b c from the inner part of the termination of the said cartilage.

d e The other narrower origination from the upper and posterior part d of the middle of the cartilage belonging to the first rib, and from the adjacent ligament e, by which the clavicle is tied to that cartilage.

f g The broad and thin part of its termination, which is tendinous at g, and inserted into the external part of the side of the thyroide cartilage first a little above its lower edge in the fore part, and from thence obliquely upwards and backwards towards the tubercle which that cartilage has in the fore part of its upper process; in which place the thyroide cartilage is protuberant in some people.

h The narrower and thicker part of the end, inserted by a tendinous extremity i, into the fore-mentioned tubercle k.

The systematic connexion is in Tab. III *q q f r r* in the neck, where its origin lies behind the clavicle, sternum, and cartilage of the first rib Then in Tab. II. *e e e* in the neck, where it is covered by the sternohyoideus *e e*, coracohyoideus *a b*, and sternocleidomastoideus *g b i* and what part of it there appears naked above and below the sternomastoideus, the same lies behind the latissimus colli, Tab. I. *O* in the neck. Then in Tab. I. *u* in the neck.

l m m n The thyroide cartilage. m m the upper processes. n the lower process.

o The cricoide or annular cartilage.

p p p The sternum cut off, with the cartilage of the first rib q r s; that thus the origin of this muscle, which is seated behind it, might appear to view.

FIGURE XLV.

The hyothyroideus.

a b The origination, a from the lower and inner part of the basis of the os hyoides near its horn; and from almost half of the horn itself that is next the basis b.

c d e Its insertion, c d into the lower part of the external side of the thyroide cartilage, just above the insertion of the broader end of the sternothyroideus, f g Fig. 44.: and before the insertion of the part d e into the external and lower edge of the thyroide cartilage, near the middle of its fore part.

The systematic connection is in Tab. III. *s* in the neck. Then in Tab. II. Y in the neck; where the greater part is covered by the coracohyoideus *a b*, and the sternohyoideus *c d*: and what there appears naked, lies behind the latissimus colli, Tab I. *O* in the neck. It is seen laterally in Tab. X. Fig. 1. y.

FIGURE XLVI.

The cricothyroideus, a front view.

This muscle consists of two parts, the one anterior, the other posterior.

a b The anterior part which arises at a from the upper edge of the annular cartilage that belongs to its anterior and lateral part: b its insertion into the external part of the lower margin of the thyroide cartilage, near its middle.

c d d The posterior part, which arises at c from the external part of the annular cartilage, from the middle of it length-wise, and almost from its whole breadth: at its end d d, in its outer part it joins to the lower constrictor of the pharynx.

Add here Fig. 47. and 48.

The systematic connection is in Tab. III. o in the neck, where a large part of it is covered by the sternothyroideus *q f*: and what there appears naked, in Tab. II. lies behind the sternohyoideus, *e* in the neck.

FIGURE XLVII.

The cricothyroideus, a lateral view.

a b The anterior part, which here arose at a from the external and fore side of the annular cartilage even to its lower edge. b its insertion into the outer part of the lower edge of the thyroide cartilage near the middle of its fore part

c d d The posterior part, which in the end of its outer part d d joins to the lower constrictor of the pharynx, whence it is here cut off.

Add here Fig. 48. and 46.

The systematic connection is in Tab. X. Fig. 1. v w x y.

e The thyroide cartilage.

f The cricoide cartilage.

FIGURE XLVIII.

The posterior part of the cricothyroideus, a lateral view.

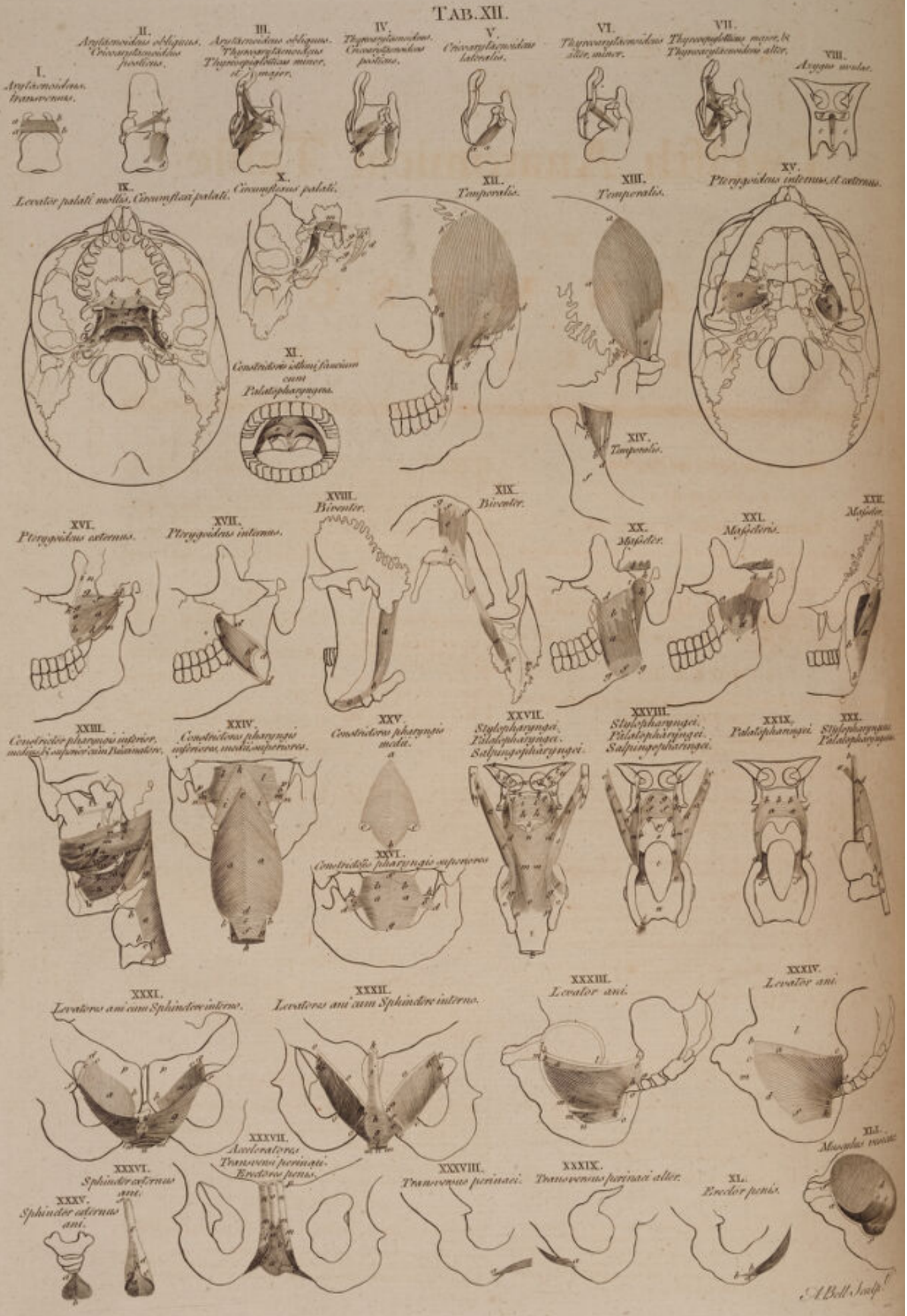
a a Its origin from the external part of the annular cartilage, for almost the whole breadth or height of its middle part length-wise.

b The place from whence its outer part is cut off, which joins to the lower constrictor of the pharynx; under which it is inserted into the thyroide cartilage, occupying the whole lunar edge c c c, that is formed as well by the lower process of the thyroide cartilage, as by the lower margin itself of that cartilage, from the said process even to the tubercle which projects in the middle of its edge longitudinally.

The part of this muscle that belongs to the inner margin of the thyroide cartilage could not be represented in this figure.

Add here Fig. 47.

TAB. XII.


I. Arytænoideus transversus.
II. Arytænoideus obliquus. Cricoarytænoideus posticus.
III. Arytænoideus obliquus. Thyroarytænoideus minor, et ∫ major.
IV. Thyroarytænoideus. Cricoarytænoideus posticus.
V. Cricoarytænoideus lateralis.
VI. Thyroarytænoideus alter, minor.
VII. Thyroarytænoideus major, et Thyroarytænoideus alter.
VIII. Azygos uvulæ.
IX. Levator palati mollis, Circumflexus palati.
X. Circumflexus palati.
XI. Constrictor isthmi faucium cum Palatopharyngeo.
XII. Temporalis.
XIII. Temporalis.
XIV. Temporalis.
XV. Pterygoideus internus, et externus.
XVI. Pterygoideus externus.
XVII. Pterygoideus internus.
XVIII. Biventer.
XIX. Biventer.
XX. Masseter.
XXI. Masseteris.
XXII. Masseter.
XXIII. Constrictor pharyngis interior, medius, et superior cum Palatomaxillare.
XXIV. Constrictores pharyngis inferiores, medius, superiores.
XXV. Constrictores pharyngis media.
XXVI. Constrictor pharyngis superiores.
XXVII. Stylopharyngei. Palatopharyngei. Salpingopharyngei.
XXVIII. Stylopharyngei. Palatopharyngei. Salpingopharyngei.
XXIX. Palatopharyngei.
XXX. Stylopharyngeus. Palatopharyngeus.
XXXI. Levatores ani cum Sphinctere interno.
XXXII. Levatores ani cum Sphinctere interno.
XXXIII. Levator ani.
XXXIV. Levator ani.
XXXV. Sphincter externus ani.
XXXVI. Sphincter externus ani.
XXXVII. Accelerators. Transversi perinæi. Erector penis.
XXXVIII. Transversus perinæi.
XXXIX. Transversus perinæi alter.
XL. Erector penis.
XLI. Musculus vesicæ.
J. Bell, Sculp.

THE

Twelfth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

Muscles of the Glottis and Epiglottis.

FIGURE I.

Arytenoideus transversus, its posterior side.

a a Its insertion into the inner edge of the back part of the left arytenoide cartilage, above its basis.

b b A like insertion of it into the right arytenoide cartilage.

The *fibrematic connection* is seen in Tab. X. Fig. 13. *b b b b*: where it is partly covered by the arytenoidei obliqui *g. g.* Also in Fig. 12. it is covered by the membrane of the pharynx v. Laterally in Fig. 6. o, of the same table, it is in part covered by the obliqui l. m m.

The cartilages of the larynx as well in this as in the next figure may be known from Fig. 14. Tab. X.

FIGURE II.

The arytenoideus obliquus, and cricoarytenoideus posticus, the posterior view or side of them.

a b c The *arytenoideus obliquus.*

a Its origin from the upper and outer part of the posterior side of the basis of the arytenoide cartilage.

b The lower part of its extremity that is continued to the thyreoarytenoideus.

c The upper part of its extremity that goes to the epiglottis.

Before it ends in these extremities it bends itself forward and round the back part of the tip of the arytenoide cartilage, and round the additional cartilage or appendix of the said tip.

Add here Fig. 3. *a b c d.*

The *fibrematic connection* is seen in Tab. X. Fig. 13. *g*; where the right obliquus crosses the left. But in the 12th figure they are covered by the membrane of the pharynx v.

d d d e The *cricoarytenoideus posticus.*

d d d Its origin from the cricoide cartilage, whose hollow surface it occupies, which it has in the back part and side of the middle eminence.

e The extremity inserted into the end of the protuberance that rises up in the back part of the outer side of the basis of the arytenoide cartilage.

Add here Fig. 4. *f f g.*

The *fibrematic connection* is seen in Tab. X. Fig. 13. i; in part going under the thyroide cartilage *m.* in Fig. 12. it is covered by the membrane of the pharynx v, except a small part below *k*, which is also to be seen in Fig. 11. A, and in Fig. 10. *g*, and in Fig. 9. I.

FIGURE III.

The arytenoideus obliquus, thyreoarytenoideus, and thyreoepiglotticus, greater and less viewed laterally.

a b c d Arytenoideus obliquus.

b The lower part of its end, which is continued to the thyreoarytenoideus *e.*

c d The upper part of its extremity, which is directed in course along by the margin of the glottis, betwixt the arytenoide cartilage and the epiglottis, and having reached the latter is inserted into its lateral margin at *d.*

Add here Fig. 2. *a b c.*

The *fibrematic connection* is in Tab. X. Fig. 6. l. m m; where the left l crosses the right m m.

e The *thyreoarytenoideus.* See Fig. 4. *a a b c d e.*

f g h Thyreoepiglotticus major.

g Its origin from the thyroide cartilage near the outer part of the upper portion of the thyreoarytenoideus; from whence it ascends first over the outer part of the said thyreoarytenoideus, and crossing its upper part it then goes up by the side of the glottis, and is inserted at *h* into the lateral edge of the epiglottis, adhering likewise to the extremity of the arytenoideus obliquus, inserted into the same margin of the epiglottis.

Add here Fig. 7. *a a b c d e f g.*

The *fibrematic connection* is in Tab. X. Fig. 6. f g; where it is partly covered by the second thyreoarytenoideus c.

i The *less thyreoepiglotticus*, or depressor of the epiglottis.

k Its origin from the inner part of the thyroide cartilage near its middle.

l Its insertion into the lateral edge of the epiglottis, above its root.

The *fibrematic connection* is in Tab. X. Fig. 6. i, where its extremity lies concealed behind the second thyreoarytenoideus e.

The cartilages of the larynx in this and the four following figures may be explained by the 7th figure of Tab. X.

FIGURE IV.

The thyreoarytenoideus, and cricoarytenoideus posticus, laterally.

a a b c d e The *thyreoarytenoideus.*

a a Its origin from the lower part of the internal side of the thyroide cartilage near its middle.

b Its other origin from the ligament by which the cricoide and thyroide cartilages are tied together in their fore part.

c The outer part which ascends higher.

d The part which going under the former crosses it and lies more transversely. Most of it lies under the said outer part.

e The end inserted into the outer part of the anterior edge of the arytenoide cartilage, above its basis, and so above the end of the cricoarytenoideus lateralis, *b* Fig. 5.

Add here Fig. 3. *e.*

The *fibrematic connection* is in Tab. X. Fig. 6. e, where part of it is covered by the thyreoepiglotticus major f g, and the second thyreoarytenoideus c.

f f g The *cricoarytenoideus posticus.*

f f Its origin from the cricoide cartilage.

g Its extremity inserted into the end of the tubercle that rises up in the back part of external side of the basis of the arytenoide cartilage.

Add here Fig. 2. *d d d e.*

The *fibrematic connection* is in Tab. X. Fig. 6. a. And in Fig. 5. *d*; where the greater part lies concealed behind the thyroide cartilage a, and behind the membrane of the pharynx. So also what appears naked of it in Fig. 4. d. lies concealed in Fig. 3. behind the lower constrictor of the pharynx z d.

FIGURE V.

The cricoarytenoideus lateralis.

a a Its origin from the upper edge of the outer side of the cricoide cartilage, on one side, just beneath the arytenoide cartilage.

b Its end inserted into the basis of the arytenoide cartilage, on one side just before the end of the cricoarytenoideus posticus, *g* Fig. 4.

The *fibrematic connection* is in Tab. X. Fig. 6. b;

FIGURE VI.

The second or less thyreoarytenoideus.

a Its origin from the inner and upper part of the thyroide cartilage, not far from its hart-like fissure.

c Its extremity inserted into the arytenoide cartilage just above the cricoarytenoideus lateralis, *b* Fig. 5.

Add here Fig. 7. *b c.*

The *fibrematic connection* is in Tab. X. Fig. 6. c d.

d The left wing of the thyroide cartilage, cut off at *e.*

FIGURE VII.

The greater thyreoepiglotticus, and second thyreoarytenoideus.

a a b c The *thyreoepiglotticus major* as we sometimes find it.

b Its origin from the thyroide cartilage, near the upper and outer part of the upper origin of the thyreoarytenoideus; from whence it ascends first along

he outer side of the said thyreoarytenoideus, by the side of the glottis to the epiglottis.

c The fasciculus or portion that passes through the second thyreoarytenoideus *h*, while the rest goes behind it.

a d e The accessory portion, arising at *d* from the outer part of the upper edge of the cricoide cartilage, on one side.

f The common end inserted at *g* into the edge of the epiglottis.

Add here Fig. 3. *f g h*.

h The *second thyreoarytenoideus*, cut from its origin at *i*. See Fig. 6. *a c*.

Of the uvula.

FIGURE VIII.

The azygus or single muscle of the uvula, viewed in its upper and posterior part.

a The origin which is first thin, tendinous, and interwove with the tendinous membrane *d d*, and with the tendinous ends of the elevators of the palate, close by the future or meeting of the palate bones, so as seemingly to arise from thence.

b From thence it runs through the middle of the soft palate *e e*, and through the length of the uvula *c*.

The *sclerotic connection* is in Tab. X. Fig. 13. m.

d d The tendinous membrane which coming out of the nostrils runs through the upper part of the soft palate under its skin or covering, which is here in a manner represented as cut off by the circumference of this membrane. See Tab. X. Fig. 14. m.

e e The soft or moveable palate.

f The uvula.

g g The posterior arches which descend from the soft palate through the sides of the fauces.

The rest may be known from Fig. 27.

Muscles of the soft Palate.

Add here the *palatopharyngeus*, Fig. 27. *h*, &c. Fig. 28. *f*, &c. Fig. 29. *a*, &c. and Fig. 11. *f g*.

FIGURE IX.

The elevator and circumflex muscles of the soft palate viewed on the lower side with the soft palate, uvula, entrance into the nostrils, and the Eustachian tubes.

a b c d e f The *elevator of the soft palate*.

a The tendinous beginning by which it arises from the end of the os petrosum, where it is perforated by the Eustachian tube; and from the lower side of the end of the tube, immediately under that part of it which is all the way soft or cartilaginous.

b Its course on the palate, into which at *c* it spreads more and more, to

d Its insertion along the middle of the palate, almost from the posterior edge of the palate bones to the root of the uvula, where the right and left are continued one to the other. See Tab. X. Fig. 14. k.

e The lower part, forming a separate portion.

f The part which is connected by a thin tendinous end to the tendinous membrane, that is extended above upon the soft palate, coming from the nostrils; and with that membrane seems to be inserted into the middle and posterior edge of the palate bones. See Tab. X. Fig. 14. i.

The *sclerotic connection* of its posterior side is seen in Tab. X. Fig. 14. g h i k l. Then in Fig. 13. g h i; where part lies behind the salpingopharyngeus q, and the rest under the palatopharyngeus n. Then in Fig. 12. where a small part w appears at the side of the membrane of the pharynx. See also Fig 11. b; and Fig. 10. i; and Fig. 9. k. Laterally, Tab. X. Fig. 5, and Fig. 4. b, and Fig. 3. b; where part lies concealed behind the upper constrictor of the pharynx q: and Fig. 2. g.

g h i k. g h i k l The *circumflex muscles of the palate*.

h The origin from the end of the os petrosum, near the outer side of the elevator of the soft palate.

i Its broad tendon spread through the beginning of the soft palate, and inserted at *k* into the posterior lunar edge of the palate bones.

l The place where the broad tendons, right and left, meet and conjoin together.

Add here Fig. 10.

The *sclerotic connection* of this circumflex muscle appears in its posterior part in Tab. X. Fig. 16. i—n. Then in Fig. 15. h i k; where the part in the palate is covered by the tendinous membrane n, which coming out of the nostrils goes through the upper part of the soft palate: covered also by the beginning of the palatopharyngeus q, and upper constrictor of the pharynx o. Then in Fig. 14. n; where again the greater part is covered by the elevator of the soft palate g. See it also in Fig. 13. k; and in Fig. 12. z, at the side of the membrane of the pharynx: in Fig. 11. c: and in Fig. 10. k; where it lies hid also behind the upper constrictor of the pharynx b: and in the same manner it appears in Fig 9. l, and Fig. 8. z.

Laterally it is seen in Tab. X. Fig. 5. a, and Fig. 4. a, Fig. 3. a, and Fig. 2. f.

m m The upper membrane of the soft palate.

n The uvula.

o o o o The circumference round which the membrane of the fauces is cut off.

p The opening of the fauces into the nostrils.

q The Eustachian tube: which appears also in the other side.

r The membranous part of the Eustachian tube.

s The end of os petrosum, where it is perforated by the said Eustachian tube: from whence at *v* in the right side, the tube *r* is continued. It is marked *s* in Fig. 10.

The other bones of the head are the same as explained in the tables of the bones.

FIGURE X.

The circumflexus of the palate viewed in its lower part.

a The tendinous beginning arising from the end of the os petrosum *b*, where the same is perforated by the Eustachian tube; and from the lower part of the end of the said tube, just on the outer side of that part of it which is wholly soft or membranous; and arising in the same manner with respect to the beginning of the elevator of the soft palate. See Fig. 9. *b*.

a c From thence in its upper part the said tendinous beginning runs along the edge of the muscles to *c*. This tendinous excursion of its origin was observed broader along the outer side of the muscle, and adhered to a certain thin narrow and tendinous ligament, that was extended from the first ridge of the muscle along the internal root of the acute eminence in the multiform bone, which is behind the hole for the exit of the third branch of the fifth pair of nerves; and so was continued along the inner side of the said oblong eminence that stands out from the multiform bone betwixt the said hole and the os petrosum.

d its anterior beginning arising at *e* from the inner protuberant side of the oblong sinus (*p* Fig. 15.) which is impressed in the root of the internal pterygoide process of the multiform bone, in its outer side, *q* Fig. 15.

f The tendinous beginning of the other portion or lamella, adhering to the upper part of the outer side of the Eustachian tube, where that is of a cartilaginous nature: from whence the part *g g* is cut off.

h The common fleshy belly.

i The beginning of the tendon which it forms, and which being broad at *i*, afterwards is drawn up in a narrow compass, when it bends itself round and behind the hook *k*, of the pterygoide process of the multiform bone.

l After this inflexion it expands at *l* through the beginning of the soft palate in form of an aponeurosis, and is inserted at *m*, into the posterior semilunar edge of the palate bone, as far as the palatine suture: and there at last it joins with its fellow, *l* Fig. 9, from whence it is cut off at *u*.

Part of this muscle which is seen inserted by a tendinous end into the lower part of the pterygoide process, at the outer side of the root of its little hook, is not here expressed; as it may possibly be an exception from the general design of nature.

Add here Fig. 9. *g—l*.

o The end of the os petrosum, where it is perforated by the Eustachian tube. See Fig. 9. *v*.

FIGURE XI.

The constrictors of the isthmus of the fauces, with the palatopharyngei, a force view.

a b c d e The constrictor of the isthmus of the fauces.

a The place where it ascends, from the upper part of the edge of the tongue, round its root.

b Its course from the tongue to the palate, before the tonsil, and through the arch which is seated in the fauces by the side of the tongue, and belongs to the soft palate.

c Its course through the soft palate.

d The meeting of the right and left, from whence small portions run out into the uvula *e*.

The *sclerotic connection* is in Tab. X. Fig. 17. f g. Laterally in Tab. X. Fig. 5. g: Fig. 4. l: and Fig. 3. c; where the greater part lies hid behind the upper constrictor of the pharynx: and the same in Fig. 2. i.

f g The *palatopharyngeus*, that part of it which runs through the soft palate above the constrictor of the isthmus, under part of the elevator of the soft palate. *f* the part which is laid bare before the said constrictor. *g* the part that is naked behind it.

Add here Fig. 27. *h*, &c. Fig. 28. *f*, &c. Fig. 29. and Fig. 30. *d*, &c.

The *sclerotic connection* is in Tab. X. Fig. 17. k l: where (as here) a great part is covered by the constrictor of the isthmus of the fauces g.

From which last cited figure the rest of this may be understood.

Muscles of the lower Jaw.

FIGURE XII.

The temporalis in its fore part.

a b b c d d The first beginning of its origination, coming at *a* from the upper process of the os jugale: at *b b c* from the eminence that is in the side of the os frontis, and in the parietal bone *c*: at *d d* from the temporal bone.

e The tendon.

f g h Its insertion, at *f*, into the top of the coronoide process of the lower jaw, its posterior edge *g*, and its anterior edge *h* going from thence into the point: and the other tip of the tendon which is longer and thicker, is fixed into the eminence *k*, which the coronoide process forms at the inner and fore side of its root. Near

m n The posterior and lower part of the tendon, bends itself round the hollow root of the zygomatic process in its descent under the os jugale to the lower jaw.

Add here Fig. 13. and 14.

The *sclerotic connection* is in Tab. II. i, &c. in the head; where it passes under the os jugale, lying under and behind the masseter o r. In Tab I. it also lies under the aponeurosis epicranii a in the head: and with that under the attollens auriculae *C D*, the anterior of ditto Z, the frontalis b d, and the orbicularis of the eye-lids m n.

l l Part of the os jugale cut off. *m* its process cut off which meets with the zygomatic process of the temporal bone, which is also cut off at *n*.

FIGURE XIII.

The temporalis in its back part.

a a a b The first beginning of its origination from the eminence of the parietal bone *a a a*, and mamillary eminence *b*.

The rest of its origination from the breadth of the side of the skull, which is made up by the superior process of the os jugale, of the lower side of the os frontis, by the parietal bone and os squamosum, by the largest process of the multiform bone, and the eminences which are in the lower part of its side, could not be represented in these figures, as those parts from whence it arises lie underneath the muscle.

Outwardly part of it arises or descends from the tendinous membrane which covers it, and which is here removed.

c The tendon.

Add here Fig. 12. and 14.

The *sesamoid connection* of this part is in Tab. IV. A, &c. in the head; where it passes under the os jugale, and then goes behind the masseter E G. In Tab. V. it also lies under the aponeurosis of the epicranius d d, and with that under the attollens f g, and the anterior muscle k, of the external ear.

FIGURE XIV.

The insertion of the temporalis in the inner side of the jaw.

a Denotes a thin tendinous part of its end, inserted into the posterior edge of the root of the coronoide process of the lower jaw.

b b The insertion of a fleshy part into the whole inner side of the root of the coronoide process.

c The thicker point of the tendon, inserted at *d* into the eminence which is in the fore part of the root of the coronoide process.

e The the thinner point of the tendon.

Add here Fig. 12. and 13.

f The inner side of the left half of the lower jaw.

FIGURE XV.

The pterygoideus internus and externus viewed from below.

a The *pterygoideus internus*.

b Its origination by a tendinous beginning from the bottom of the cavity in the pterygoide process of the multiform bone; also arising from little less than the whole surface of the inner side of the outer plate or wing of the said process.

c Part of the origination from the lower side of the palate bone, where that is inserted betwixt the opening of the pterygoide process. From thence it has a tendinous beginning: and near the same place it also arises at *d* from the upper jaw bone.

e The tendinous end which is inserted into the lower and inner side of that part of the mandible which ascends to the head, even as far as its lower angle *ff*.

Add here Fig. 17.

g The *pterygoideus externus*.

h Its origination from almost the whole outer side of this outer plate of the pterygoide process.

i Its origin from the lower part of the edge of the said plate, that looks towards the pterygoide excavation.

k Its origination from the lower margin of the said plate.

l The place where it arises from the outer part of the pterygoide portion of the palate bone, and from the farthest part of the upper jaw.

k l The tendinous part of its beginning.

m A part which comes from the lower part of the multiform bone, and from the outer side of the root of the pterygoide process.

n n n The tendinous end inserted at *n n* into the neck of the lower jaw, where the same becomes hollow on the inner side of its fore part, immediately after its round head: Also to the anterior and inner edge of the cartilaginous plate *o*, that is interposed betwixt the articulation of the lower jaw.

Add here Fig. 16.

p The protuberance of the inner plate of the oblong sinus, that is impressed at *q* in the root of the inner side of the pterygoide process of the multiform bone, in its outer part. From which protuberant plate arises the circumflexus of the palate, *e* Fig. 10.

The remaining bones of the head here are the same, as explained in our tables of the bones.

FIGURE XVI.

The pterygoideus externus, in its outer, or fore part.

a Its lower part.

b c Its origin behind the jaw from almost the whole external surface of the outer plate of the pterygoide process; and below, near *c*, from the outer part of the pterygoide portion of the palate bone, and extremity of the upper jaw.

d The tendinous part.

e The extremity inserted into the neck of the lower jaw, where it has an excavation in the inner part of its anterior edge, just below its head.

f The upper part, whose fibres meet in an acute angle with those of the lower part.

g g Its origin from the lower part of the multiform bone, near the outer side of the root of the pterygoide process.

h The extremity that is inserted above the lower part of the mandible.

Add here Fig. 15 *g—n*.

The *sesamoid connection* is in Tab. III. *e e* in the head, where it in part lies hid behind the buccinator v, the upper jaw and os jugale, also behind the zygomatic process, and the coronoid process of the lower jaw, about which it passes behind the insertion of the temporalis. Then, in Tab. II. A in the head; where also it lies hid behind the upper jaw, the os jugale, and the buccinator x: also behind the masseter r.

Laterally in Tab. X. Fig. 1. *a*, where it is partly covered by the pterygoideus internus *b*, and in part lies behind the lower jaw.

i The os jugale here cut off, *k* the upper jaw cut off, *l* the zygomatic process of the temporal bone here cut off, *m* the coronoide process of the lower jaw-bone here cut off, which intermediate bones are cut out, that the muscle may come into view.

n The largest lateral process of the multiform bone.

o The upper jaw-bone.

FIGURE XVII.

The pterygoideus internus in its fore part.

a a Here its origination lies behind, in a cavity of the pterygoide process of the multiform bone.

b The tendinous end which at *c c* begins to insert itself into the lower portion of the inner side of that part of the lower jaw, which rises up to the head; where its insertion is extended as far as the lower angle. See *ff* Fig. 15.

Add here Fig. 15. *a—f*.

The *sesamoid connection* is in Tab. IV. *r* in the head; where (as here) at its origination it lies behind the pterygoide process, and also behind the lower jaw, upon which it descends behind the extremity of the temporalis. Then, in Tab. III. *f* in the head; where it also lies behind the buccinator v, and is covered by the external pterygoideus *s*. And what part appears naked in Tab. III. in Tab. II. lies behind the masseter *r* in the head.

Posteriorly it is seen in Tab. VII. *c* in the head; where it likewise is hid behind the mamillary process, and the trachelomastoideus *a* B in the neck. Then, in Tab. VI. I in the head, where it lies hid behind the splenius capitis P in the neck. Next, in Tab. V. *r* in the head, where it is in part covered by the latissimus colli t, behind the sternomastoideus u in the neck, and behind the outer ear.

Laterally Tab X. Fig. 1. b c, it lies hid at its origin behind the mastoide process. In Tab. IX. *i k* in the head, it is partly covered by the latissimus colli *q r*; and, in part, it lies hid behind the sternomastoideus *r* in the neck, and, in part, behind the outer ear.

d d d d A portion of the lower jaw cut off, to shew the muscle that is seated behind it.

FIGURE XVIII.

The biventer of the lower jaw viewed laterally.

a The first belly.

b The middle tendon.

c The second belly, inserted at *d* into the back part of the lower edge of the mandible, near the middle of the chin.

Add here Fig. 19.

The *sesamoid connection* appears in Tab. X. Fig. 1. g h i i; where its origination (as here) is hid behind the mamillary process, and is partly covered by the stylohyoideus *e f*. In Tab. IX. it is wholly covered by the latissimus colli *m* in the neck, by the sternocleidomastoideus *r* in the neck, by the splenius capitis *n*, the stylohyoideus *l*, &c.

Anteriorly it appears in Tab II. y P in the head; where, in part, it lies hid behind the lower jaw, and in part is covered by the sternocleidomastoideus *I* in the neck, and partly by the stylohyoideus R. Then, in Tab I. *S* in the head, where it is likewise hid behind the lower jaw, covered by the sternocleidomastoideus *W* in the neck, and goes behind the outer ear: And below (where it is naked in Tab. II.) it is covered by the latissimus colli *O*.

Posteriorly it is seen in Tab. VI. L in the head, where it is concealed behind the splenius capitis P in the neck, and elevator of the scapula *Z*. And what here naked, in Tab. V. lies behind the sternocleidomastoideus u in the neck.

FIGURE XIX.

The Biventer of the mandible viewed from below.

a Its first belly, *b* the tendinous origin of it from an incisure *c c*, that divides the root of the mastoide process of the temporal bone on its inner side; and principally from the inner and lower edge of it.

d The middle tendon.

e The second belly inserted by a tendinous end *f* into the back part of the lower edge of the mandible *g g*, near the middle of the chin.

h The aponeurosis that comes out from the lower side of the tendinous insertion *f*, and from the tendinous beginning of the second belly, and afterwards fixes itself at *i* into the fore part of the basis of the os hyoides, near the lateral part of its lower edge, betwixt the ends of the stylohyoideus, sternohyoideus, and coracohyoideus.

Add here Fig. 18.

The bones here may be understood from the tables of the bones.

FIGURE XX.

The masseter, in its fore part.

a The outer and larger part.

b The tendinous part of its origin externally.

c Its origin from the anterior and lower part of the external process of the upper jaw that joins the os jugale; from whence it is continued all along externally from the lower edge of the os jugale, where it forms part of the zygomatic process, ceasing its origination a little before the lower part of the zygomatic suture.

e f The tendinous end inserted into the surface of the outer part of the side of the lower jaw, even as far as the extreme angle *g*.

h The inner and less portion of this muscle, where it lies uncovered.

i The origin of this portion from the lower edge of the os jugale, near the zygomatic process of the temporal bone: and at *k* it arises from the lower margin of the zygomatic process, as far as the tubercle that stands out for the articulation of the lower jaw.

l A portion that goes off above the os jugale from the inner part of the tendinous membrane, that covers the temporalis externally, and is fixed to the os jugale; from which membrane this portion is cut off.

Add here Fig. 21. and 22.

The *sesamoid connection* appears in Tab. II. o—x in the head. Then in Tab. I. V W X Y in the head; where it is in part covered by the zygomaticus major E, and the latissimus colli *c c*.

FIGURE XXI.

The inter'or and lefs portion of the maffeter, in its fore part.

a a b Its origin from the whole length of the os jugale; *a a* from the bottom part of the lower margin of the os jugale, all the way as it extends to the zygomatic procefs of the temporal bone; and from that procefs itfelf of the temporal bone at *b*, as far as the tubercle that ftands out for the articulation of the lower jaw.

c A tendinous part of its origin.

d The tendinous end inferted into the external fide of the coronoide procefs, from the top to the bottom of it; and alfo into the next adjacent part of the lower jaw, below the root of the faid procefs *e e e*.

f The portion that goes off above the os jugale from the inner part of the tendinous membrane, that covers the temporalis externally, and is fixed to the os jugale: from which membrane, here removed, this portion of the maffeter is cut off.

Its origin from the inner fide of the os jugale cannot be perceived in the figure.

Add here Fig 20. and 22.

FIGURE XXII.

The maffeter viewed in its back part.

a The outer and larger part, inferted at the inferior angle of the lower jaw *b b*.

c d The inner and lefs portion. *c* the outer part that lis uncovered. *d* the inner part.

e Its origin from the zygomatic procefs of the temporal bone.

Add here Fig. 20. and 21.

The *fyftematic connection* appears in Tab VI. E F G H in the head. Then in Tab V. p q in the head; where part of it is covered by the latiffimus colli t, part by the greater zygomaticus r, and part lies hid behind the external ear.

Laterally it appears in Tab. IX. *d—b* in the head; where it is partly covered by the latiffimus colli *o p*, and in part by the greater zygomaticus y z.

Mufcles of the Pharynx.

Add here the *Palatopharyngeus*, Fig. 11. f g.

FIGURE XXIII.

The lower, middle, and upper conftrictors of the pharynx with the buccinator viewed laterally.

a The *lower conftrictor of the pharynx.*

b b c d The head which arifes from thyroide cartilage; and particularly *b b* from the outer part of the upper margin before the fuperior procefs; and from the adjacent tubercle that is at the root of the faid procefs; alfo from the oblong eminence that is in the fide of the thyroide cartilage. *c* from the lower margin of the cartilage that is before its lower procefs. *d* from the outer part of its lower procefs.

e e The head arifing from the lower part of the external fide of the cricoide cartilage near its back part, immediately below the thyroide procefs, which receives that of the cricoide cartilage.

Betwixt thefe two heads, near *d*, it receives a portion from the cricothyroideus, d d Fig. 47. Tab. XI.

Add here Fig. 24. *a*.

The *fyftematic connection* is feen in Tab X. Fig. 3. *z*. and Fig. 2, *d*. Then in Fig. 1. *b*; where part of its origin lies under the hyothyreoideus q.

Anteriorly it is feen in Tab. III. *o* in the neck; where it is partly covered by the hyothyreoideus *t*, and part of it lies hid behind the fternohyoideus *q*. Then in Tab II. X. in the neck; where it is partly likewife covered by the hyothyreoideus Y, and alfo lies hid behind the fternocleidomaftoideus *l*. But what appears naked in Tab. II. lies hid in Tab. I. behind the latiffimus colli O in the neck.

f The middle conftrictor of the pharynx.

g One of the heads which is the broadeft, arifing from the upper and outer part of the end of the horn of the os hyoides.

h The other head arifing from the fmall grain-like bone of the os hyoides.

Add here Fig 24. *i*. and Fig. 25.

The *fyftematic connection* is in Tab. X. Fig. 3. w z y; where (as here) its lower part is covered by the lower conftrictor z. Then in Fig. 2. *a b e*; where alfo its lower part is covered by the lower conftrictor *d*, and alfo by the origin of the ceratogloffus n, and baffogloffus o. Then in Fig. 1. *d e f*; where alfo its lower part is covered by the lower conftrictor *b*, and by the origin of the ceratogloffus m, the baffogloffus l, and the biventer g of the lower jaw.

i The *upper conftrictor of the pharynx.*

k The uppermoft part, which comes out from the fuperior part of the poftcrior edge of the tendon of the circumflexus of the palate, where that paffes from behind the hook into the palate. See its origin Tab. X. Fig. 15. o.

l The part that arifes from the inner fide of the whole length of the hook of the pterygoide procefs of the multiform bone, and from the inner plate of the faid procefs, at the root of the little hook.

m That part that is joined to the middle origin of the buccinatee.

n The part that arifes from the inner fide of the lower jaw, near the upper edge of the focket of the laft grinding tooth: from whence it is cut off.

o The very thin part that arifes from the fide of the root of the tongue, where the ftylogloffus firft meets the ceratogloffus.

p That part that comes from the fibres of the genioglofus, which are incurvated round the fide of the pharynx.

Add here Fig. 24. *l*. and Fig. 26.

The *fyftematic connection* is in Tab. X. Fig. 3. p q r s t u n; where (as here it is in part covered by the middle conftrictor w. Then in Fig. 2. y y z, where in like manner it is partly covered by the middle conftrictor *a*; and it alfo lies hid behind the ftylopharyngeus w, and the ftylogloffus k. Then in Fig. 1. e; where alfo it is in part covered by the middle conftrictor *d*, and lies hid behind the biventer of the lower jaw g.

q The *buccinator.*

r Its origination from the outer part of the end of the hook of the pterygoide procefs of the multiform bone.

s The origin from the bottom of the fpace, that is betwixt the hook and outer plate of the faid procefs.

t The part where it arifes from the outer fide of the upper jaw, immediately above the gums, behind the innermoft grinding tooth.

u The part which arifes from the outer fide of the lower jaw, from an oblong ridge fent out for that purpofe, betwixt the innermoft grinder and the root of the coronoide procefs, from whence it is here cut off.

m The intermediate part of this mufcle, that is continued to the upper conftrictor of the pharynx.

Add here Tab. XI. Fig. 14. a—c and Fig. 13. k k.

The *fyftematic connection* is feen in Tab. IX. *c* in the head; where it is covered by the zygomaticus major y, the maffeter *d*, and the latiffimus colli *s p*.

v The tongue. See Tab. XI. Fig. 41.

w The ftylogloffus, here cut off at *a*. See Tab. XI. Fig. 41. f.

y The lingualis. See Tab XI. Fig. 41. e.

z The ceratogloffus and baffogloffus cut off. See Tab. XI. Fig. 41. betwixt f b e.

a The genioglofus, arifing at b b from the rough eminence that is in the inner fide of the lower jaw near its fymphyfis. c thin fibres incurvated round the fide of the pharynx, fome of which afcend at d to the ceratogloffus and ftylogloffus, others vanifh at e in the membrane of the pharynx, and others march at *p* to the upper conftrictor of the pharynx. See Tab. XI. Fig. 41. c d, and Fig. 42.

f The lower jaw, cut off at g g.

The reft may be known from Fig. 2. Tab. X.

FIGURE XXIV.

The upper, middle, and lower conftrictors of the pharynx, in their back part.

a a The *lower conftrictor of the pharynx.*

b b The origination from the cricoide cartilage.

c The point in which they terminate above.

c—d The courfe in which the fibres meet in angles, more acute as they afcend higher.

e The part where the right and left fibres are continued one into the other in curves.

Add here Fig. 23 *a*.

The *fyftematic connection* is in Tab. X. Fig. 8. a b. a b c d e.

f The inner fibres of the gula, which are tranfverfe, laid bare in this plate. *g g* the outer fibres which defcend obliquely backward on each fide.

h The gula or oefophagus cut off.

The *fyftematic connection* of this part is in Tab. X. Fig. 8. f. g g

i i The *middle conftrictors of the pharynx*, a great part of which lies under the lower *a a c*.

k The point in which they terminate above; and which in many bodies is found thin, tendinous, and inferted into the lower part of the occipital bone, before its great foramen.

Add here Fig. 25. and Fig. 23 *f g h*.

The *fyftematic connection* appears in Tab. X. Fig. 9. a. a b c. Then in Fig. 8. n. n o; where (as here) a great part lies under the lower conftrictors a a c.

l l The *upper conftrictors of the pharynx*, of which a great part lies under the middle conftrictors *i. i k*.

m m Parts which arife from the lower jaw at *n n*, near the innermoft of the grinding teeth.

o o The parts cut off from the buccinators.

See Fig. 26. and add Fig. 23. *i—p*.

The *fyftematic connection* appears in Tab. X. Fig. 10. a—g. a—g; where they in part lie behind the ftylopharyngei o p. o p. Then in Fig. 9. d e f. d e f; where they are alfo behind the ftylopharyngei r q. r q; and a great part of them (as here) lies behind the middle conftrictors a a. The fame alfo appears in Fig. 8. p q r. p q r; a great part being there under the middle conftrictors n n o; and the ftylopharyngei v w. v w.

p p The inner grinding teeth.

The reft may be known, upon occafion, from Tab. X. Fig. 8.

FIGURE XXV.

The middle conftrictors of the pharynx, in their back part.

a The upper point in which they meet.

b The lower point.

Betwixt which points the fibres meet in angles, pointing upwards from *c* to *a*; and more acute as they rife higher, till they become direct at *c c*; from whence they defcend and meet in angles that are more acute as they go lower.

Add here Fig. 24. *i i k*. and Fig. 23. *f g h*.

c c The ends of the horns of the os hyoides.

FIGURE XXVI.

The upper conftrictors of the pharynx in their back part.

a The lower part which tranfverfes the upper *b*.

s The part which arifes at *d* from the inner fide of the lower jaw, near the innermoft grinding tooth.

t The portion that is cut off from the buccinator.

f The point in which the right and left portions meet together above.

Betwixt *f* and *g* their fibres meet in obtufe angles.

Add here Fig. 24 *l m n o. l m n o.* and Fig. 23. *i*, &c.

h h The innermoft of the lower grinding teeth.

FIGURE XXVII.

The ftylopharyngei, palatopharyngei, and falpingopharyngei.

a The *ftylopharyngeus.*

b The tendinous beginning arifing at *c* from the inner, poftcrior, and upper part of the bony portion, that is joined to the ftyloide procefs of the temporal bone, and which is moveable in young fkulls.

a The superior and less portion of this muscle, which at *l* joins to the palatopharyngeus.

e The lower and larger portion, of which the part *f* is inserted into the outer side of the edge of the thyroide cartilage, at the root of its upper process: and the part *g* is inserted into the subsequent portion of the edge of the said cartilage, as far as the root of its lower process.

Add here Fig. 28. *a*, &c. and Fig. 30. *a*, &c.

The *systematic connection* is seen in Tab. X. Fig. 11. f. &c. Then in Fig. 10. l, &c. where it is in part covered by the upper constrictor of the pharynx *z e e*. Then in Fig. 9. o, &c. where it is also in part covered by the upper constrictor d, and by the middle one *z*. And in the same manner it is seen in Fig. 8. u, &c.

h l The *palatopharyngeus*.

h The part that is spread through the soft palate, above the elevators of the said palate.

i Here it rises out, near the posterior edge of the palate bones, from the tendinous membrane that comes out of the nostrils, and goes through the upper part of the soft palate.

Through the middle of the soft palate, the right and left stylopharyngeus are continued one into the other, almost from the posterior edge of the palate bones to the root of the uvula.

k The part, which at its origin lying under the elevator of the soft palate comes out from the aponeurosis of the circumflexus of the palate. See Fig. 29. *b*.

l Here the muscle coming out from the soft palate, is incurvated through the side of the pharynx, and goes on through its back part, till it joins with the stylopharyngeus *d*.

Add here Fig. 28. *f*, &c. Fig. 29. and 30. *d*, &c. and Fig. 11. *f g*.

The *systematic connection* of the part that is in the pharynx appears in Tab. X. Fig. 11. e: and in Fig. 10. it lies behind the upper constrictor of the pharynx *z*. That of the portion in the palate appears in Tab. X. Fig. 13. n o p; where it lies partly hid behind the salpingopharyngeus q, and under the azygus of the uvula m.

m The common end of the stylopharyngei and palatopharyngei, running through the posterior part of the membrane of the pharynx.

n o The meeting of the right and left fibres together, through the middle of the length of the pharynx *p o p* the place where they vanish in the back part of the membrane of the pharynx, and at *p p* are inserted into the thyroide cartilage.

Add here Fig. 30. *i*.

The *systematic connection* appears in Tab. X. Fig. 11. o. Then in Fig. 10. *t*; where in its upper part it lies under the upper constrictor of the pharynx *a*. Then in Fig. 9. *t*; where it also lies under the middle constrictor *a*: and what there appears naked is in Fig. 8. covered by the lower constrictor *a*.

q The *salpingopharyngeus*: which joins itself to the inner part of the palatopharyngeus.

r Its origin from the lower and anterior part of the Eustachian tube, where that is of a cartilaginous texture, near its extremity.

Add here Fig. 28. *k l*.

The *systematic connection* appears in Tab. X. Fig. 13. q.

The pharynx is here laid open in its upper part, by cutting out all that lies betwixt the basis of the skull and the upper edge of the palatopharyngei.

s s The place from whence the back part of the pharynx is cut off.

t u v The Eustachian tube, as yet covered at *t* with the membrane that lines the fauces internally; of which it is laid bare at *u*, upon which part lay the elevator of the soft palate. *v* the orifice that opens at the side of the posterior foramen of the nostril.

w The partition of the nostrils, covered with its mucous membrane.

x x The cavity of the nostrils.

y The lower os spongiosum, covered with the mucous membrane.

z z The place from whence is cut off the membrane that lines the cavity of the nostrils internally.

The foregoing parts are the same as in Fig. 15. Tab. X.

a a The tendinous membrane, which coming out of the nostrils, is spread over the upper side of the soft palate.

b The external side of the pterygoide process of the multiform bone, with its little hook c, as in Tab. X. Fig. 16.

d The uvula as in Tab. X. Fig. 15.

e e The thyroide cartilage.

f The naked membrane of the lower part of the pharynx, to which part of the gula is continued; but is cut off at g.

The foregoing parts are the same as in Tab. X. Fig. 10.

h The styloide process of the temporal bone, as in Fig. 9. Tab. X.

FIGURE XXVIII.

The stylopharyngei, palatopharyngei, salpingopharyngei.

The whole back part of the pharynx being cut off from the top, and longitudinally from each side and removed, the internal part that then appears is here represented, with the internal membrane or covering also taken off, as in Tab. X. Fig. 13. The cricoide and arytenoide cartilages with their epiphyses or additaments are also removed here, as in Tab. X. Fig. 15.

a b c d e The *stylopharyngeus*.

b Its tendinous origin cut off at *c* from the styloide process of the temporal bone.

d The upper and less part of the stylopharyngeus, *e* its larger and lower part.

Add here Fig. 27. *a*, &c. and Fig. 30. *a*, &c.

The *systematic connection* appears in Tab. X. Fig. 13. r, &c. Fig. 14. p, &c. and Fig. 15. x, &c.

f g h The *palatopharyngeus*.

f The part that is spread through the soft palate above the elevator of the said palate: and which with its fellow is continued through the whole middle length of the palate.

g The place where it goes off from the tendinous membrane that is detached from the nostrils, and spread over the upper side of the soft palate.

h The part which at its origin lies under the elevator of the soft palate, and springs from the aponeurosis of the circumflexus palati. See Fig. 29. *b*.

From *i* to *i* are cut off the portions of the palatopharyngei and stylopharyngei which run down the posterior membrane of the pharynx, *l d e m* Fig. 27.

Add here Fig. 27. *b*, &c. Fig. 29. and Fig. 30. *d*, &c. and Fig. 11. *f g*.

The *systematic connection* appears in Tab. X. Fig. 13. n o p: where, as here, it lies hid in part behind the salpingopharyngeus, and under the azygus uvulae m.

k The *salpingopharyngeus*, which joins itself to the inner part of the palatopharyngeus.

l Its origin from the anterior and lower part of the Eustachian tube, which is of a cartilaginous nature, near its extremity.

Add here Fig. 27. *q r*.

The *systematic connection* appears in Tab. X. Fig. 13. q.

m The common end of the palatopharyngeus and salpingopharyngeus, which descends through the side of the pharynx, is protuberant within the same, and forms the posterior arch that goes down from the soft palate through the side of the fauces.

Add here Fig. 29. *c*.

The *systematic connection* appears in Tab. X. Fig. 13. w.

n o Part of the common end of the stylopharyngeus and palatopharyngeus, springing from the stylopharyngeus: of which the part *n* runs inward upon the lateral ligament of the epiglottis to the lateral edge of the epiglottis: and the part *o* is inserted into the upper edge of the thyroide cartilage, betwixt its upper process and the epiglottis.

Add here Fig. 29. *e f*.

The *systematic connection* appears in Tab. X. Fig. 13. z y. and Fig. 14. y z.

p The uvula.

q q The posterior edges of the soft palate.

r r The tonsils.

s The tongue.

t The epiglottis.

u The thyroide cartilage.

The foregoing parts are in Tab. X. Fig. 15.

The remaining parts of this figure are the same as those in Fig. 27.

FIGURE XXIX.

The palatopharyngei.

We have removed those parts of them that are spread through the soft palate, above the elevators of the said palate, *f g*. *f g* Fig. 28. The salpingopharyngei, *k k* Fig. 28. are also here taken off.

a The part that is spread through the soft palate under the end of the elevator of the said palate: and which continues itself with its fellow, through the middle of the length of the palate.

b b The place where it springs from the aponeurosis of the circumflexus of the soft palate.

The *systematic connection* is seen in Tab. X. Fig. 15. p, &c. Then in Fig. 14. w: where it is covered by the elevator of the soft palate k l.

c The part which descends through the side of the pharynx, is protuberant within the same, and forms the posterior arch that goes down by the side of the fauces from the soft palate.

The *systematic connection* is seen in Tab. X. Fig. 15. t, and Fig. 14. z.

From *d* to *d* are cut off the portions of the palatopharyngeus and stylopharyngeus, which run through the back part of the membrane of the pharynx, *i d e m* Fig. 27.

e f Part of the common end of the stylopharyngeus and palatopharyngeus produced from the stylopharyngeus: of which the part *e* runs inward upon the lateral ligament of the epiglottis to the lateral edge of the epiglottis: and the part *f* is inserted into the upper margin of the thyroide cartilage, betwixt its upper process and the epiglottis.

The *systematic connection* appears in Tab. X. Fig. 15. v w.

Add here Fig. 28. *f g h i i m n e*: and Fig. 27. *h i k l m*. Fig. 30. *d*, &c. and Fig. 11. *f g*.

The rest of this figure may be known in part from Fig. 27. and in part from Fig. 28.

FIGURE XXXI.

The stylopharyngeus, and palatopharyngeus on one side.

a The *stylopharyngeus* cut off at *b*. It is that marked *a b*, &c. in Fig. 27. and *a b*, &c. in Fig. 28.

c The portion of it that joins itself to the upper part of the palatopharyngeus, *d* Fig. 27.

The *systematic connection* is seen in Tab. X. Fig. 4. d e. Then in Fig. 2. w; where it is partly covered by the middle constrictor of the pharynx *b*, and what there appears naked, in Fig. 1. lies under the biventer of the lower jaw g.

d e The *palatopharyngeus*, cut off at *e*. It is that in Fig. 27. marked *l*.

The *systematic connection* appears in Tab. X. Fig. 4. f f; where (as here) it in part lies hid behind the stylopharyngeus d.

e The common end of the stylopharyngeus and palatopharyngeus.

f That part of the stylopharyngeus which is inserted into the upper edge of the thyroide cartilage, betwixt its upper process and the epiglottis. See Fig. 28. *e e*; and Fig 29. *e f*.

g h Portions of the stylopharyngeus inserted into the edge of the thyroide cartilage, the part *g* into the external side of its margin at the root of its upper process; the part *h* into the rest of the margin. They are those marked *f*, *g*. Fig. 27.

i Part vanishing below in the membrane of the pharynx, marked *o p* in Fig. 27.

The *systematic connection* appears laterally in Tab. X. Fig. 4. g g h i k; where part lies hid behind the horn of the os hyoides w; part behind the ligament z, that goes from the end of the horn of the os hyoides to the upper process of the thyroide cartilage; and part (as here) behind the thyroide cartilage y z. Then in Fig. 3. betwixt x y, and at *r*; where part also lies behind the horn *b* of the os hyoides, its ligament *i*, and the thyroide cartilage *k*: it is also there covered by the middle constrictor of the pharynx w x y, and the lower one z. Then in Fig. 2. it appears betwixt *b* and *c*, and at x; where besides lying behind the hyoidal horn v, and its ligament, with the middle constrictor

of the pharynx *a b c*, and the lower one *d*, with the thyroide cartilage *i*, it is also behind the ceratoglossus n. Then in Fig. 1, it appears betwixt *e* and *f*, and at p; where in like manner it lies behind the hyoidal horn n and its ligament, the middle constrictor *d e f*, the lower one *h*, and the thyroide cartilage: it moreover lies behind the hyothyreoideus q r.

Anteriorly it appears in Tab. III. *s* in the neck, where part of it appears naked betwixt the hyoidal horn *l*, its ligament *y*, the thyroide cartilage and the hyothyreoideus *r*, with the lower constrictor of the pharynx *z*, behind all which it is also placed. So also it appears in Tab. II. *w* in the neck; placed also behind the same hyoidal horn, and its ligament v, the thyroide cartilage, the hyothyreoideus Y Z, and the lower constrictor X. And what part of it has appeared naked in the fore mentioned tables, lies hid in Tab. I. behind the latissimus colli *O* in the neck.

k The membrane of the pharynx, with the membrane of the gula that is continued to it.

Muscles of the Anus, Penis, Urethra and its Bulb, with the end of the Rectum, and the Anus.

FIGURE XXXI.

The elevators of the anus with the external sphincter, a posterior view.

a a—k The *levatores ani*, in some measure resembling the shape of a funnel, and besides the portions fixed to the os coccyx, they together form a sort of tape, or swath, that is principally wound about the intestinum rectum, but is also attached by its extremities to the sides of the pelvis, to the angles of the penis and the bulb of the urethra, as will be here pointed out. Besides surrounding the rectum intestinum, it also takes in the lower part of the bladder with the seminal vesicles and prostrate gland; also the vagina in women.

a a The anterior portions viewed on their inner side within the pelvis.

b c d Their origin from the inner side of the os pubis, at *b* near the lower end of the synchondrosis, from whence (the part *b c* is fleshy, the part *c d* tendinous) it ascends backward round the beginning of the obturator internus.

e The tendon which forms its upper edge, and arises in its highest part from the os pubis, and continues through the side of the pelvis, almost to the acute process of the ischium.

f Its origination from the acute process of the ischium.

g The posterior part seen in its outer side.

h The place where it is inserted behind into the anterior edge of the last, and last but one of the bones of the coccyx.

i i The tendinous ends that are continued to each other just below the coccyx, the fibres meeting together in angles that point upwards.

k The place where its fleshy parts are continued.

Add here Fig. 32. *a—g a—g*, and Fig. 33. and 34.

The *sphincteric connection* appears in Tab. VI. *c c* in the lower part of the trunk, where they pass under the external sphincter of the anus *f*. Then, in Tab. V. *e* in the buttocks, where they also pass under the outer sphincter *g* of the anus, and are hid behind the largest glutei *c c*.

l l The *internal sphincter of the anus*.

Add here Fig. 32. *l*.

The *sphincteric connection* is not represented.

m m The end of the intestinum rectum.

n The anus.

o o The synchondrosis, or cartilaginous juncture of the ossa pubis *p p*.

FIGURE XXXII.

The elevators of the anus, with its internal sphincter, seen from before.

a—g a—g The *levatores ani*.

a b c The origination from the inner side of the os pubis, the part *a* near the lower end of the synchondrosis; and from thence it is continued (partly fleshy *a b*, partly tendinous *c*) upward and backward round the origin of the obturator internus.

d The tendon that forms the upper edge of this muscle from the highest part of its origination at the os pubis through the side of the pelvis, almost to the acute process of the ischium.

e The thin portion that comes out from the angle *f*, where the head of the penis joins the spongy body of the urethra; it is also continued from along the upper part of the side of the bulb of the urethra, as far as *g*.

Add here Fig. 31. *a—k a—k*, and fig. 33. and 34.

The *sphincteric connection* of this part of it is not to be seen, as it is covered by the erectors of the penis *f f*, Tab. IV. in the trunk; and by the transversus of the perinaeum *i i*.

h The bulb of the urethra, going into the spongy body of the urethra *i*.

k The urethra with its spongy body cut off.

l The *internal sphincter of the anus*.

Add here Fig. 31. *l l*.

m m The end of the intestinum rectum.

n The anus.

o o o o, o o o o The places from whence portions of the ossa pubis are cut out, to view the elevators that lie behind.

FIGURE XXXIII.

The left elevator of the anus viewed in its outer and lateral part.

a The tendon that forms its upper edge from the highest part of its origin at the os pubis, along the side of the pelvis, almost to the acute process of the ischium.

b c d Its origination from the inner side of the os pubis, partly tendinous *b c*, and partly fleshy *c d*, where it passes round the origin of the obturator internus.

e The origin from the inner part of the acute process of the ischium.

f The thin portion that comes out of the angle of the ossa pubis, wherein the head of the penis joins with the spongy body of the urethra, and is thence continued laterally to the upper part of the bulb of the urethra.

g Its insertion into the anterior edge of the last but one, and the last *h*, of the bones of the coccyx.

i k The place where the fibres of one muscle are continuous with those of the other, below the coccyx.

Add here Fig. 34. and Fig. 31. *a—k*. and Fig. 32. *a—g*.

l l l The ischium cut off, *m m m m* the os pubis, *n o s* the tubercle of the ischium, which bone being cut out, the elevator comes into view.

FIGURE XXXIV.

The right elevator of the anus, a lateral view of its inner side.

a The tendon that forms its upper edge from the highest part of its origination at the os pubis, through the side of the pelvis, almost to the acute process of the ischium.

b c d Its origination from the inner side of the os pubis, (partly tendinous *b c*, and partly fleshy *c d*) whence it goes round the origin of the obturator internus.

e Its origin from the inner part of the acute process of the ischium.

f The thin portion that comes out of the angle, in which the head of the penis joins with the spongy body of the urethra, and ascends laterally to the upper part of the bulb of the urethra.

g Its insertion into the anterior edge of the last but one, and the last *h*, of the bones of the coccyx.

i k The place where they are continuous with each other below the coccyx, tendinous at *i*, and fleshy at *k*; from whence the left elevator is cut off.

Add here Fig. 33. and Fig. 31. *a—k*. and Fig. 32. *a—g*.

l The left os ischium; *m* the os pubis.

FIGURE XXXV.

The external sphincter of the anus, seen in its back part.

a The posterior tip by which it adheres to the extremity of the coccyx, to which, from the anus *b*, the fibres meet together from each side in angles that point upwards, and are more acute as they ascend higher.

Add here Fig. 36. *a b c c*.

The *sphincteric connection* appears in Tab. VI. *f* in the lower part of the trunk. Then, in Tab. V. *g* near the buttocks.

FIGURE XXXVI.

The external sphincter of the anus, in its fore part.

a The fibres which meet together from each side, so as to form angles that point upwards; being more acute as they ascend higher, and more obtuse as they are lower.

b The tip or tail in which it ends, and at last vanishes in the perinaeum.

c c A portion that goes out above the foresaid tip, into a sort of triangular point that is attached to the lower part of the accelerators, where they are conjoined together.

Add here Fig. 35.

The *sphincteric connection* appears in Tab. IV. *h* in the trunk, where the tip, or tail, is hid by the declivity of a portion of the penis. Then in the same manner in the trunk of Tab. III. *l*.

d The bulb of the urethra going into the spongy body of the urethra *e*.

f The urethra, with its spongy body cut off.

FIGURE XXXVII.

The accelerators, transversus, first and second of the perinaeum, and the erectors of the penis.

a a b c c The *accelerators* investing the bulb of the urethra, where that is protuberant.

The one joins the other along the middle of the bulb *b*. And where they meet the fibres form angles, which are hardly to be perceived in the posterior fibres, that meet almost in a direct course; the anterior fibres form angles more acute as they are farther from the posterior ones.

c c The anterior tips, or points, by which they go off from the penis.

The rest of the origination, from the middle of the upper side of the urethra, is not to be seen in the figure.

The *sphincteric connection* appears in Tab. IV. *g g* in the trunk, where it is partly covered by the external sphincter of the anus *h*, partly by the transversus of the perinaeum *i i*; in part by the erectors of the penis *f f*, and part from the declivity of the portion of the penis is not to be seen. Then, in Tab. III. *m* in the trunk, where part is in like manner covered by the external sphincter *l*, and part by the erector penis n.

d The *transversus of the perinaeum*.

e The end that joins partly with the accelerator, partly with the external sphincter ani, and likewise usually joins with its fellow.

Add here Fig. 38.

The *sphincteric connection* appears in Tab. IV. *i* in the trunk, where it goes under the external sphincter of the anus *h*.

f The *second transversus of the perinaeum*.

i This bending its extremity to the erector penis, arose betwixt that and the accelerator, in the angle in which the head of the penis joins the bulb of the urethra.

Add here Fig. 39.

k l m. k l m The *erectors of the penis*.

l The tendinous end inserted into the larger cavernous body of the penis at *n n*, beyond its head. But it is also inserted into the head of the penis, where that does not lie under the ossa pubis, almost all the way from the beginning of its said head; and beyond the head it is inserted as far as *n m*.

Add here Fig. 40.

L The thin expansion that goes from one of the foresaid tendons to the other, and conjoins them together. Under that expansion, the chord of the spermatic vessels passes along, accompanied with the beginning of the cremaster muscle; which both come out at M.

N N The lower tendinous edge, extended from the anterior extremity of the spine of the ilium to the pubis.

O P An aponeurosis, or tendinous part. P Q the part which is fleshy, and in some bodies is extenuated into a tendinous end, inserted along the upper and outer edge of the fore part of the spine of the os ilium.

R The aponeurosis inserted into the cartilage of the sixth rib.

For the manner in which the upper part of the aponeurosis is inserted into the bottom of the sternum, see Tab. I. *s* in the trunk.

Add here Fig. 2. following.

The *sphermatic connection* appears in Tab. IX. S, &c. in the trunk, where its upper part lies under the pectoralis H I; its heads under the serratus major N R O R P R Q, and under the latissimus dorsi O E D, and betwixt D and C.

FIGURE II.

The external obliquus of the abdomen, anteriorly.

a a The fleshy body.

b c d d The first head. c the tendinous part. d d its origin from the fifth rib.

e f g g The second head. f the tendinous part. g g its origin from the sixth rib.

h i k k The third head. i the tendinous part. k k its origin from the seventh rib.

l m o n The fourth head. m the tendinous part. n n its origin from the eighth rib.

o p The fifth head. p its origin from the ninth rib.

q q q q r r s s t t t t u u v v w w x x y y z z A B B B C D E F F F G H I K The aponeurosis, or tendinous expansion of this muscle.

r r The part where the flesh of the internal obliquus is protuberant under the same aponeurosis.

s The place where the flesh of the transverse is protuberant under the said aponeurosis, and also under that of the obliquus internus.

t t t t The protuberances of the fleshy portions of the rectus.

u u u u The appearances of the tendinous lines, or intersections of the rectus, through the aponeuroses of the obliquus externus and internus.

v The protuberance of the pyramidalis under the same.

w w The lower tendinous edge, which goes from the extremity of the fore part of the spine of the ilium to the pubis.

x x y y The two portions into which the aponeurosis divides itself, and is thence continued to the pubis, under the appearance of two distinct tendons: And, through this division, or fissure, it is that the chord of the spermatic vessels, with the cremaster muscle, pass out to the scrotum; and, in women, it gives a passage to the round ligament of the uterus.

z The thin expansion extended from one of the foresaid tendons to the other, and connecting them together all the way from the place where they first divide, or recede from each other. Under this expansion, the chord of the spermatic vessels, and beginning of the cremaster muscle pass along. And, below this, just above the pubes, the spermatic chord passes out through the small oblique ring A of this tendon, being a space left betwixt the expansion z, the tendons x y, and the os pubis.

B B B, &c. Slender, remote tendinous threads, which cross those fibres of the aponeurosis, that run in the same direction with the muscle. These compose the expansion z, which runs from one tendon y y, to the other x x, at the pubes.

C The uppermost part of the aponeurosis, inserted into the fore part of the cartilage of the sixth rib.

D The part which is inserted into the fore side of the end of the cartilage of the seventh rib.

E The part inserted into the bone of the ensiform cartilage.

E F F F The linea alba, in which the aponeuroses of the two external oblique muscles of the abdomen cross each other, are intermixed, and also conjoined with the subjacent aponeuroses of the internal obliqui.

G The opening in the linea alba, through which the umbilical vessels passed out in the foetus.

H The place where the right and left aponeuroses, running down from above, cross each other, and are intermixed with the ligaments which invest the fore part of the synchondrosis of the pubis.

I The lowermost portion running down and mixing itself with the ligaments which invest the fore part of the synchondrosis of the pubis, and inserting itself with them into the opposite bone of the pubes.

Add here Fig. 1.

The *sphermatic connection* appears in Tab. I. d, &c. in the trunk, where in its upper part its lies under the pectoralis *e* in the trunk, it head lies under those of the serratus major *z a b*, than under the latissimus dorsi *r u*. Its posterior part appears in Tab. V. W in the back, where it is partly covered by the latissimus dorsi P Q.

L The synchondrosis, or cartilaginous juncture of the ossa pubis, invested, or tied together in the fore part by ligaments.

FIGURE III.

The internal obliquus of the abdomen, in its back part.

a a The broad tendon which begins by aponeuroses, the outermost of which lies under the broad tendon i of the latissimus dorsi, which is spread over and attached to it.

b b The tendinous beginning arising from the upper part of the spine of the ilium.

c The fleshy part.

d e The extremity that is inserted into the outer part of the lower edge of the twelfth rib. d part of the bony end of that rib e the cartilaginous part.

f g The end inserted into the outer part of the lower edge of the eleventh rib. f part of its bony end. g its cartilaginous extremity.

h The end that belongs to the tenth rib.

i The broad tendon by which the latissimus dorsi begins: which tendon is in Tab. XVIII. Fig. 2.

k k The place from whence the broad tendon of the latissimus dorsi is cut off, where that tendon no longer coheres with the broad tendinous beginning of the obliquus internus.

Add here Fig. 4. and 5.

The *sphermatic connection* appears in Tab. VI. M, &c. in the lower part of the trunk; whereas here it is covered at its beginning by the broad tendon U of the latissimus dorsi. And what part of it appears naked in that table, in Tab. V. lies under the latissimus dorsi P Q, and the external oblique muscle, W in the back.

FIGURE IV.

The internal obliquus of the abdomen, with the cremaster.

a The fleshy part.

b The origin from the upper part of the spine of the ilium.

c c The margin that springs from the tendinous edge of the obliquus externus.

d d The fleshy part inserted into the lower margin of the cartilage of the tenth rib.

e e e The aponeurosis as yet single, before it reaches the rectus, and inserted at f f into the lower part of the cartilage of the ninth rib.

g g g h The anterior lamella, or plate of those two, into which the aponeurosis divides near the rectus.

h The insertion of the said anterior lamella into the lower part of the ninth rib.

Betwixt the lower g and lower i, that part of the aponeurosis that is below the middle space betwixt the navel and synchondrosis of the pubis, continues single, and is joined in its back part with the aponeurosis of the transversis, and together with that goes before the rectus.

i i i Here the anterior lamella or plate, continuous with the lower part of the aponeurosis, which as yet continues single, is cut off according to the length of the abdomen, in the part where it first joins itself with the aponeurosis of the external obliquus; while the posterior part or lamella of it continues to invest the abdomen as far as the linea alba. And above, the anterior lamella disappears along the margin of the thorax in the aponeurosis itself of the obliquus externus. Below, this aponeurosis inserts itself, with the aponeurosis of the external obliquus, into the spine, tubercle, and ligaments of the pubis.

k k The posterior of these two lamellae into which the aponeurosis divides itself near the rectus; whence it passes behind the rectus. In the upper part of it some slender fibres appear crossing its principal fibres.

l m n Its insertion into the lower margin of the thorax, which is formed by the cartilages of the seventh and eigth ribs n m, and m l.

o p Its insertion into the lateral margin of the bony part of the ensiform cartilage; and into the same side of that cartilage itself, at p q. q *r* its insertion into the fore part of the cartilage not far from its point.

s s s Its termination in the linea alba.

t Part of the flesh, under which runs the chord of the spermatic vessels, a little protuberating and conspicuous through the same. This portion runs afterward for some length upon the spermatic chord.

u The portion which ends in the beginning of the cremaster; and behind which the spermatic chord y passes out.

Add here Fig. 3. and 5.

The *sphermatic connection* appears in Tab. II. M, &c. in the trunk; where the upper and larger part of the posterior of those plates (into which the aponeurosis divides itself at the rectus,) lies hid behind the rectus Z Z, &c. and below the spermatic chord *r*, the beginning of the cremaster q, goes down before it, as here. But in Tab. I. it lies behind the external obliquus *d*, &c. in the trunk.

v w x x The cremaster muscle.

w Its origin or beginning from the internal obliquus, from whence it joins itself to the chord of the spermatic vessels.

x x Its lower extremity extenuated and inserted into the vaginal tunics of the testicle. But in other bodies we have found it terminating otherwise: See our history of the muscles, Lib. III. Cap. 80.

Add here Fig. 5.

The *sphermatic connection* of the cremaster appears in Tab. II. p q in the trunk: where, as here, part of it lies hid behind the chord of the spermatic vessels, and testicle. Then in Tab. I. *s* in the trunk: where the beginning lies hid behind the aponeurosis of the external obliquus of the abdomen *s*.

y The chord of the spermatic vessels.

z The synchondrosis of the ossa pubis, constringed or tied together in their fore part by ligaments.

FIGURE V.

The internal obliquus of the abdomen, laterally.

a The outermost aponeurosis of those two by which it begins, and which lines the inner side of the broad tendon by which the latissimus dorsi begins; arising with that from the spines of the three lower vertebrae of the loins, and the following spines of the os sacrum: also from the upper part of the spine of the ilium b b.

For the inner of those aponeuroses by which it begins, for Tab. XIV. Fig. 3.

c c The broad tendon in which its double aponeurosis conjoins itself.

d d Its origin by a tendinous beginning from the upper part of the spine of the ilium.

e e The part which goes off from the margin of the external obliquus of the abdomen.

f f The fleshy part.

g h Its insertion into the outer part of the lower margin of the twelfth rib: as well into part of its bony extremity g, as its cartilage h.

The *ſpermatic connection* appears in Tab. IV. *ff* in the trunk, where its end is not to be ſeen for the declivity of the portion of the penis.

n n o The penis. *n n* the larger cavernous, or ſpongy bodies. *o* the ſpongy body of the urethra. *p* the penis cut off.

FIGURE XXXVIII.

The tranſverſus of the perinæum in its poſterior part.

a Its origin from the inner part of the tubercle of the iſchium.

Add here Fig. 37. *d e*.

The *ſpermatic connection* is in Tab. IV. h in the lower part of the trunk, where its end goes under the external ſphincter of the anus *g*, and lies hid behind the largeſt gluteus.

FIGURE XXXIX.

The ſecond tranſverſus of the perinæum in its back part.

a Its origin from the inner part of the os pubis, near about the middle, betwixt the tubercle of the iſchium, and ſynchondroſis of the os pubis.

Add here Fig. 37. *f i*.

The *ſpermatic connection* is in Tab. IV. g in the lower part of the trunk, where its end goes under the elevator e of the anus: And what is there naked in Tab. V. lies hid behind the largeſt gluteus *c*.

FIGURE XL.

The erector of the penis in its back part.

a The tendinous beginning which ariſes at *b b* from the inner ſide of the tubercle of the iſchium, a little before it ends in the os pubis.

Add here Fig. 37. *k l m*.

Muſcles of the Bladder.

FIGURE XLI.

The muſcle of the bladder, laterally.

This muſcle, although I have found it in but a very few bodies, I thought proper to exhibit here, on account of its elegance. Whether or no is it that which formerly ſeemed to belong to the proſtrate, called its Compreſſor?

a That part which aroſe from the inner ſide of the os pubis, almoſt in the middle ſpace betwixt the bottom edge of the ſynchondroſis and the uppermoſt part of the great foramen, or hole, near the inner part or the origin of the elevator of the anus.

b Its incurvation round the ſide of the bladder, gradually expanding itſelf a little above the proſtrate, till at

c c It at laſt becomes exceeding thin, and continues itſelf with the fibres of the bladder, or rather goes into them.

d The bladder.

e The proſtate.

f f The place from whence the left os pubis is cut off, and taken away with the reſt of the os innominatum, in order to expoſe this muſcle with the bladder and proſtate to the view.

THE

Thirteenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

Muſcles of the Abdomen and Teſticle.

Add here Tab. XIV.

FIGURE I.

The external obliquus of the abdomen, laterally.

a a The fleſhy part.

b c d d The firſt head. c the tendinous part of its origin. d d its origin from the fifth rib.

e f g g The ſecond head. f the tendinous part. g g its origin from the ſixth rib.

h i k k The third head. i the tendinous part. k k its origin from the ſeventh rib.

l m n n The fourth head. m the tendinous part. n n its origin from the eighth rib.

o p q q The fifth head. p the tendinous part. q q its origin from the ninth rib.

r s t t The ſixth head. s the tendinous part. t t its origin from the tenth rib.

u v w w x The ſeventh head. v the tendinous part. w w its origin from the eleventh rib. x the part which is connected with the beginning of the tranſverſe muſcle of the abdomen, there coming out from the ſaid tendinous part.

y z A The eighth head. z the tendinous part. A its origin from the twelfth rib.

The heads ariſe from the lower edge of each rib, with their ſides placed obliquely, and proceed forward and upward over the outer ſide of the rib towards its upper edge.

B B B B B C C D E E E E E F F F G H H I K L M The tendinous expanſion.

C C The protuberance of the fleſhy part of the obliquus internus under the ſaid expanſion.

D The protuberance of the fleſhy part of the tranſverſus under the ſame, and alſo under the aponeuroſis of the internal obliquus.

E E E E The protuberance of the fleſhy body of the rectus.

F F F The places where the tendinous lines, or interſections of the rectus, appear through the aponeuroſes, or tendinous expanſions of the two obliqui.

G The protuberance of the pyramidalis under the ſame aponeuroſis.

H H I K The two portions into which the aponeuroſis divides itſelf, from whence it is continued, even to the pubes, under the appearance of diſtinct tendons; and betwixt them a ſlit, or aperture, is formed, through which paſſes the chord of the ſpermatic veſſels with the cremaſter muſcle.

K The place where the outer of the ſaid portions inſerts itſelf into a protuberance, that ſtands out in the upper and fore part of the os pubis, and into the adjacent ſpine that lies on the outer ſide of the ſaid protuberance: And partly it joins into the ligaments that lie on the inner ſide of the ſaid protuberance, and which inveſt the fore part of the ſynchondroſis, or cartilaginous juncture of the oſſa pubis.

L The thin expanſion that goes from one of the foreſaid tendons to the other, and conjoins them together. Under that expanſion, the chord of the ſpermatic veſſels paſſes along, accompanied with the beginning of the cremaſter muſcle; which both come out at M.

N N The lower teadinous edge, extended from the anterior extremity of the ſpine of the ilium to the pubis.

O P An aponeuroſis, or tendinous part. P Q the part which is fleſhy, and in ſome bodies is extenuated into a tendinous end, inſerted along the upper and outer edge of the fore part of the ſpine of the os ilium.

R The aponeuroſis inſerted into the cartilage of the ſixth rib.

For the manner in which the upper part of the aponeuroſis is inſerted into the bottom of the ſternum, ſee Tab. I. *s* in the trunk.

Add here Fig. 2. following.

The *ſyſtematic connection* appears in Tab. IX. S, &c. in the trunk, where its upper part lies under the pectoralis H I; its heads under the ſerratus major N R O R P R Q, and under the latiſſimus dorſi O E D, and betwixt D and C.

FIGURE II.

The external obliquus of the abdomen, anteriorly.

a a The fleſhy body.

b c d d The firſt head. c the tendinous part. d d its origin from the fifth rib.

e f g g The ſecond head. f the tendinous part. g g its origin from the ſixth rib.

h i k k The third head. i the tendinous part. k k its origin from the ſeventh rib.

l m n n The fourth head. m the tendinous part. n n its origin from the eighth rib.

o p The fifth head. p its origin from the ninth rib.

q q q q q r r s s t t t t u u u v v w w x x y y z A B B B C D E F F F G H I K The aponeuroſis, or tendinous expanſion of this muſcle.

r r The part where the fleſh of the internal obliquus is protuberant under the ſame aponeuroſis.

s The place where the fleſh of the tranſverſe is protuberant under the ſaid aponeuroſis, and alſo under that of the obliquus internus.

t t t t The protuberances of the fleſhy portions of the rectus.

u u u u The appearances of the tendinous lines, or interſections of the rectus, through the aponeuroſes of the obliquus externus and internus.

v The protuberance of the pyramidalis under the ſame.

w w The lower tendinous edge, which goes from the extremity of the fore part of the ſpine of the ilium to the pubis.

x x y y The two portions into which the aponeuroſis divides itſelf, and is thence continued to the pubis, under the appearance of two diſtinct tendons: And, through this diviſion, or fiſſure, it is that the chord of the ſpermatic veſſels, with the cremaſter muſcle, paſs out to the ſcrotum; and, in women, it gives a paſſage to the round ligament of the uterus.

z The thin expanſion extended from one of the foreſaid tendons to the other, and connecting them together all the way from the place where they firſt divide, or recede from each other. Under this expanſion, the chord of the ſpermatic veſſels, and beginning of the cremaſter muſcle paſs along. And, below this, juſt above the pubes, the ſpermatic chord paſſes out through the ſmall oblique ring A of this tendon, being a ſpace left betwixt the expanſion z, the tendons x y, and the os pubis.

B B B, &c. Slender, remote tendinous threads, which croſs thoſe fibres of the aponeuroſis, that run in the ſame direction with the muſcle. Theſe compoſe the expanſion z, which runs from one tendon y y, to the other x x, at the pubes.

C The uppermoſt part of the aponeuroſis, inſerted into the fore part of the cartilage of the ſixth rib.

D The part which is inſerted into the fore ſide of the end of the cartilage of the ſeventh rib.

E The part inſerted into the bone of the enſiform cartilage.

E F F F The linea alba, in which the aponeuroſes of the two external oblique muſcles of the abdomen croſs each other, are intermixed, and alſo conjoined with the ſubjacent aponeuroſes of the internal obliqui.

G The opening in the linea alba, through which the umbilical veſſels paſſed out in the fœtus.

H The place where the right and left aponeuroſes, running down from above, croſs each other, and are intermixed with the ligaments which inveſt the fore part of the ſynchondroſis of the pubis.

I The lowermoſt portion running down and mixing itſelf with the ligaments which inveſt the fore part of the ſynchondroſis of the pubis, and inſerting itſelf with them into the oppoſite bone of the pubes.

Add here Fig. 1.

The *ſyſtematic connection* appears in Tab. I. d, &c. in the trunk, where in its upper part its lies under the pectoralis *e* in the trunk, its head lies under thoſe of the ſerratus major *z a b*, then under the latiſſimus dorſi *t u*. Its poſterior part appears in Tab. V. W in the back, where it is partly covered by the latiſſimus dorſi P Q.

L The ſynchondroſis, or cartilaginous juncture of the oſſa pubis, inveſted, or tied together in the fore part by ligaments.

FIGURE III.

The internal obliquus of the abdomen, in its back part.

a a The broad tendon which begins by aponeuroſes, the outermoſt of which lies under the broad tendon i of the latiſſimus dorſi, which is ſpread over and attached to it.

b b The tendinous beginning ariſing from the upper part of the ſpine of the ilium.

c The fleſhy part.

d e The extremity that is inſerted into the outer part of the lower edge of the twelfth rib. d part of the bony end of that rib. e the cartilaginous part.

f g The end inſerted into the outer part of the lower edge of the eleventh rib. f part of its bony end. g its cartilaginous extremity.

h The end that belongs to the tenth rib.

i The broad tendon by which the latiſſimus dorſi begins: which tendon ſee in Tab. XVIII. Fig. 2.

k k The place from whence the broad tendon of the latiſſimus dorſi is cut off, where that tendon no longer coheres with the broad tendinous beginning of the obliquus internus.

Add here Fig. 4. and 5.

The *ſyſtematic connection* appears in Tab. VI. M, &c. in the lower part of the trunk; whereas here it is covered at its beginning by the broad tendon U of the latiſſimus dorſi. And what part of it appears naked in that table, in Tab. V. lies under the latiſſimus dorſi P Q, and the external oblique muſcle, W in the back.

FIGURE IV.

The internal obliquus of the abdomen, with the cremaſter.

a The fleſhy part.

b The origin from the upper part of the ſpine of the ilium.

c c The margin that ſprings from the tendinous edge of the obliquus externus.

d d The fleſhy part inſerted into the lower margin of the cartilage of the tenth rib.

e e e The aponeuroſis as yet ſingle, before it reaches the rectus, and inſerted at f f into the lower part of the cartilage of the ninth rib.

g g g h The anterior lamella, or plate of thoſe two, into which the aponeuroſis divides near the rectus.

h The inſertion of the ſaid anterior lamella into the lower part of the ninth rib.

Betwixt the lower g and lower i, that part of the aponeuroſis that is below the middle ſpace betwixt the navel and ſynchondroſis of the pubis, continues ſingle, and is joined in its back part with the aponeuroſis of the tranſverſe, and together with that goes before the rectus.

i i i Here the anterior lamella or plate, continuous with the lower part of the aponeuroſis, which as yet continues ſingle, is cut off according to the length of the abdomen, in the part where it firſt joins itſelf with the aponeuroſis of the external obliquus; while the poſterior part or lamella of it continues to inveſt the abdomen as far as the linea alba. And above, the anterior lamella diſappears along the margin of the thorax in the aponeuroſis itſelf of the obliquus externus. Below, this aponeuroſis inſerts itſelf, with the aponeuroſis of the external obliquus, into the ſpine, tubercle, and ligaments of the pubis.

k k The poſterior of theſe two lamellae into which the aponeuroſis divides itſelf near the rectus; whence it paſſes behind the rectus. In the upper part of it ſome ſlender fibres appear croſſing its principal fibres.

l m n Its inſertion into the lower margin of the thorax, which is formed by the cartilages of the ſeventh and eigth ribs n m, and m l.

o p Its inſertion into the lateral margin of the bony part of the enſiform cartilage; and into the ſame ſide of that cartilage itſelf, as p q. q *r* its inſertion into the fore part of the cartilage not far from its point.

s s s Its termination in the linea alba.

t Part of the fleſh, under which runs the chord of the ſpermatic veſſels, a little protuberating and conſpicuous through the ſame. This portion runs afterward for ſome length upon the ſpermatic chord.

u The portion which ends in the beginning of the cremaſter; and behind which the ſpermatic chord y paſſes out.

Add here Fig. 3. and 5.

The *ſyſtematic connection* appears in Tab. II. M, &c. in the trunk; where the upper and larger part of the poſterior of thoſe plates (into which the aponeuroſis divides itſelf at the rectus,) lies hid behind the rectus Z Z, &c. and below the ſpermatic chord *r*, the beginning of the cremaſter *q*, goes down before it, as here. But in Tab. I. it lies behind the external obliquus d, &c. in the trunk.

v w x x The cremaſter muſcle.

w Its origin or beginning from the internal obliquus, from whence it joins itſelf to the chord of the ſpermatic veſſels.

x x Its lower extremity extenuated and inſerted into the vaginal tunics of the teſticle. But in other bodies we have found it terminating otherwiſe: See our hiſtory of the muſcles, Lib. III. Cap. 80.

Add here Fig. 5.

The *ſyſtematic connection* of the cremaſter appears in Tab. II. p q in the trunk: where, as here, part of it lies hid behind the chord of the ſpermatic veſſels, and teſticle. Then in Tab. I. x in the trunk: where the beginning lies hid behind the aponeuroſis of the external obliquus of the abdomen *s*.

y The chord of the ſpermatic veſſels.

z The ſynchondroſis of the oſſa pubis, conſtringed or tied together in their fore part by ligaments.

FIGURE V.

The internal obliquus of the abdomen, laterally.

a The outermoſt aponeuroſis of thoſe two by which it begins, and which lines the inner ſide of the broad tendon by which the latiſſimus dorſi begins; ariſing with that from the ſpines of the three lower vertebræ of the loins, and the following ſpines of the os ſacrum: alſo from the upper part of the ſpine of the ilium b b.

For the inner of thoſe aponeuroſes by which it begins, ſee Tab. XIV. Fig. 3.

c c The broad tendon in which its double aponeuroſis conjoins itſelf.

d d Its origin by a tendinous beginning from the upper part of the ſpine of the ilium.

e e The part which goes off from the margin of the external obliquus of the abdomen.

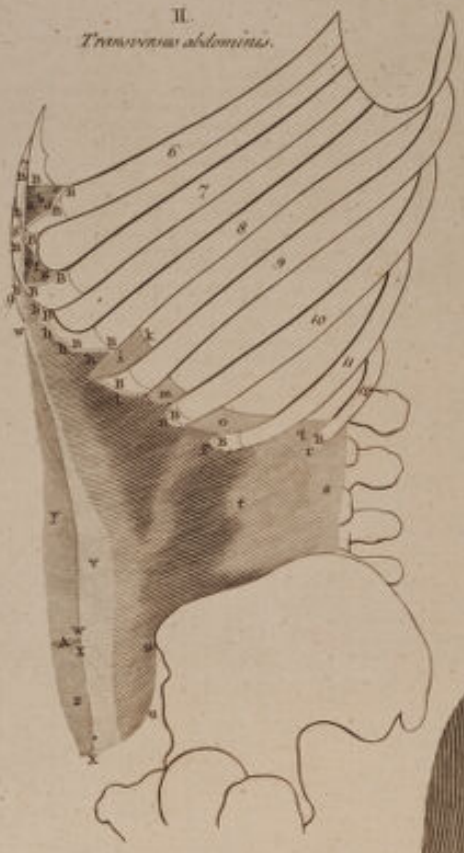
f f The fleſhy part.

g h Its inſertion into the outer part of the lower margin of the twelfth rib: as well into part of its bony extremity g, as its cartilage h.

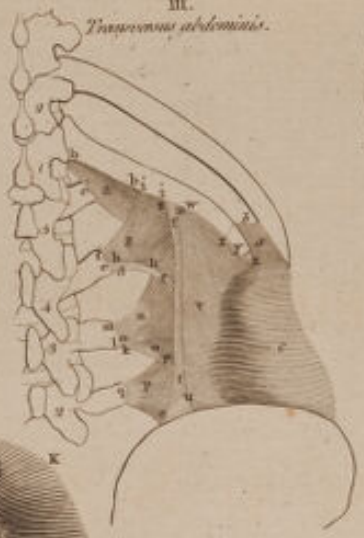
TAB. XIV.

I.
Transversus Abdominis cum Triangulari Sterni.

II.
Transversus abdominis.

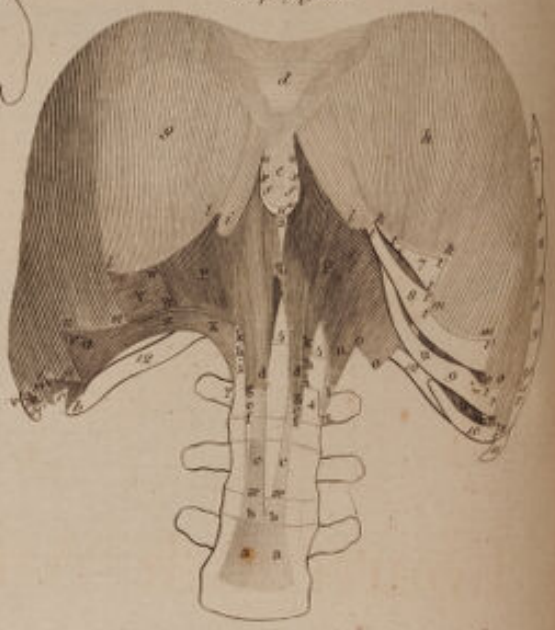


III.
Transversus abdominis.

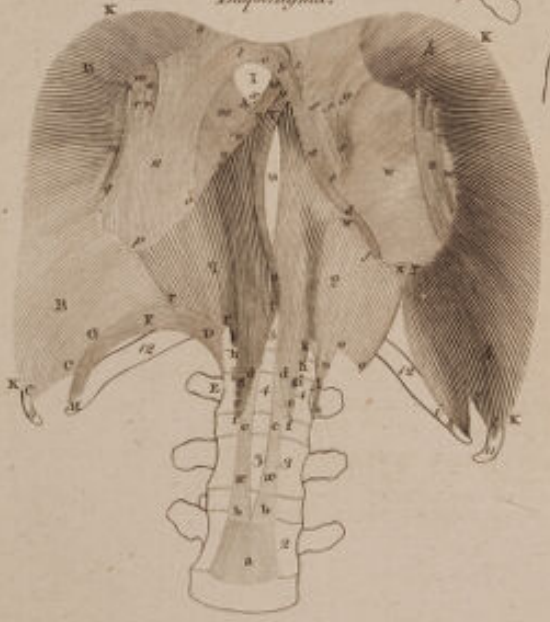


IV.
Diaphragma.

V.
Diaphragma.



VI.
Diaphragma.



VII.
Diaphragma.

A. Bell Sculp.

i The edge that goes along the side of the eleventh internal intercostal muscle.

k l Its insertion into the outer part of the lower margin of the eleventh rib: into the end of its bony part k, and its cartilaginous part l.

m The edge that ascends along with the tenth internal intercostal muscle.

n n Its insertion into the lower part of the cartilage of the tenth rib.

o o o The aponeurosis which is single in this part, before it reaches the rectus. And here the margin of it at p ascends along with the ninth internal intercostal muscle, and is then fixed at q q into the lower margin of the cartilage of the ninth rib.

r r The anterior of those two lamellae, into which the said aponeurosis divides itself near the rectus.

Betwixt the lowest r and lowest s, that part of the aponeurosis that is below the middle space betwixt the navel and synchondrosis of the ossa pubis, continues single, and is joined in its back part with the aponeurosis of the transversus, passing along with that before the rectus.

s s s Here the anterior lamella or plate, continuous with the lower part of the aponeurosis, that as yet remains single, is cut off according to the length of the abdomen, in the place where it first conjoins itself with the aponeurosis of the external obliquus of the abdomen: the posterior portion of it investing the abdomen even as far as the linea alba.

t t t The posterior of those two lamellae, into which the aponeurosis divides itself near the rectus, and which goes behind the rectus. In the upper part of this lamella, some slender tendinous threads cross the principal fibres of it.

u Part of its flesh, under which runs the chord of the spermatic vessels, a little protuberant and conspicuous through the same.

v The part that ends in the beginning of the cremaster.

Add here Fig. 3. and 4.

The *sphematic connection* appears in Tab. IX. where it lies behind the external obliquus of the abdomen S, &c. in the trunk, and behind the latissimus dorsi O A.

w The beginning of the cremaster muscle, going off from the internal obliquus.

x The chord of the spermatic vessels.

y The cremaster muscle, with the chord of the spermatic vessels cut off.

The *sphematic connection* of the cremaster muscle appears in Tab. IX. I in the trunk; where its beginning lies hid behind the aponeuroses of the external oblique muscle of the abdomen f.

FIGURE VI.

The rectus muscle of the abdomen.

a b c The principal tendon by which it begins, and which springs at b from the upper and fore part of the ligament, that invests or ties together the fore part of the synchondrosis of the ossa pubis: and at c there is a small portion arises from the adjacent os pubis.

d e The second and longer tendon, by which it arises from the fore part of the same ligament, and conjoins into one with the tendon a.

f g h i The four fleshy portions or bellies.

k The half tendinous line or intersection, that is below the navel.

l The tendinous line, that is in the umbilical region.

m The tendinous line, that is in the middle betwixt the navel and the place where the rectus first climbs upon the thorax.

n The tendinous line, that is seated where the rectus first ascends, or is about to ascend upon the thorax.

o o The extremity inserted into the lower and next adjacent outer part of the cartilaginous end of the seventh rib.

p p The end that is inserted into the outer part of the lower margin of the cartilage of the sixth rib, near the middle of its length, and on the outer side of the former end.

q q The end that is inserted into the outer and lower part of the cartilage of the fifth rib, almost where that cartilage begins, and on the outer side of the second end.

The *sphematic connection* appears in Tab. II. Z Z, &c. in the right side of the trunk; where at its origin it lies behind the pyramidalis I; in the left side also it is in part covered by the anterior of those two lamellae, into which the aponeurosis of the internal obliquus divides itself near the rectus; but beneath it lies the common aponeurosis of the obliqui and transversus, of which that part only can be seen here, that is formed by the anterior of those lamellae, into which the aponeurosis of the obliquus internus divides itself near the rectus, W X, &c. But in Tab. I. the rest of it lies under the common aponeurosis of the obliqui and transversi, and then under the common aponeurosis of the obliqui, of which that part only can be seen, which is formed by the aponeurosis of the obliquus externus, o p, &c. in the trunk: and where it climbs upon the thorax only that of the aponeurosis of the external obliquus can be seen: and lastly under the aponeurosis of the pectoralis muscle e in the trunk.

r The synchondrosis of the ossa pubis, constringed or tied together with ligaments.

FIGURE VII.

The pyramidalis muscle of the abdomen.

a b The tendinous origin by which it springs from the upper part of the ligament, that ties together the fore part of the synchondrosis of the ossa pubis; and from the next adjacent part of the os pubis at b.

c The fleshy part.

d The broad extremity that belongs to the linea alba.

The *sphematic connection* appears in Tab. II. l m in the trunk; where it is partly covered by the common aponeurosis of the transversus and obliqui, of which only the anterior of those two plates can be seen, into which the aponeurosis of the internal obliquus divides itself Y Q in the trunk. And what there appears naked (*i. e.* in Tab. II.) lies under the foresaid common aponeurosis in Tab. I. of which aponeurosis only that part can be seen, which belongs to the external obliquus, q w in the trunk.

e The synchondrosis of the ossa pubis, invested or constringed by ligaments.

THE

Fourteenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

The remaining Muscles of the Abdomen.

Add here Tab. XIII.

FIGURE I.

The fore part of the transversus of the abdomen, with the triangularis of the sternum.

a—v The *triangularis of the sternum.*

a b c d The tendinous beginning of the head, which arises from the inner part of the third rib, from the end of its bony part b c, and beginning of its cartilaginous part c d.

e f g h The tendinous beginning of the head, which arises from the inner part of the fourth rib; from the end of its bony part f g, and from the beginning of its cartilage g h.

i k l m The tendinous beginning of the head, which arises from the inner part of the fifth rib, from the end of its bony part k l, and from the beginning of its cartilage l m.

n n The tendinous part which is formed by the fleshy portion, that arises from the conjunction of the two upper heads; and which in some bodies is joined with the tendinous end of the lower head u u, and in others is separate. It is inserted into the inner part o of the extreme cartilage of the fourth rib,

and of the breast bone p, betwixt the ends of the cartilages of the fourth and fifth ribs, also of the extreme cartilage of the fifth rib q; of the breast-bone betwixt the ends of the cartilages of the fifth and sixth ribs; also into the inner side of the cartilaginous end of the sixth and seventh rib.

u u The tendinous end in which the flesh of the third head terminates: inserted at v into the edge of the bone of the ensiform cartilage. But the manner in which it continues to be inserted into the rest of the edge of that bone, as far as the ensiform cartilage, and into the edge of the said cartilage itself, cannot be seen in this figure, because the inner plate of the aponeurosis belonging to the internal obliquus of the abdomen q, is here spread over it. But you may see Tab. X. Fig. 24. v w.

The *syssomatic connection* appears in Tab. III. x in the trunk, where its end is spread over the inner plate of the aponeurosis of the internal obliquus of the abdomen s: and the rest lies under the ribs, sternum, and the internal intercostals, as the sixth h, the fifth b, the fourth a, and the third Z. But what appears there naked, lies under part of the plate of the aponeurosis belonging to the internal obliquus, here cut off. In its back part see Tab. X. Fig. 24.

w—n The *transversus of the abdomen.*

w The first head arising tendinous from the inner part of the sixth rib; from its bony end y, and its contiguous cartilage z. This head may be referred to the triangularis, as it joins sooner and in a more similar course with the lower head of that muscle, than with the head which next follows it.

a The second head arising tendinous at b from the inner part of the cartilage of the seventh rib c c.

d d d d The beginning that is split into several portions (into four here) which arise from the inner part of the cartilage of the eighth rib d d d d.

e The aponeurosis by which it comes from the space betwixt the eighth and ninth rib. See Fig 2. i.

f The origin from the inner part of the cartilage of the ninth rib.

g The aponeurosis that comes from the space betwixt the ninth and tenth rib. See Fig. 2. m.

h The origin from the inner part of the cartilage of the tenth rib.

i The origin from the inner part of the cartilage of the eleventh rib.

k The origin from the spine of the ilium.

l l The edge that springs from the tendinous margin of the external obliquus of the abdomen.

m The fleshy part. n n the aponeurosis in which it ends.

Add here Fig. 2. and 3.

The *syssomatic connection* appears in Tab. III. l—q in the trunk; where its heads lie under the ribs: the first of them under the fifth internal intercostal b, and sixth h; the fourth under the eighth e, the fifth under the ninth f. The rest in Tab. II. lies under the internal obliquus M, &c. in the trunk.

o o o The posterior plate of the aponeurosis of the internal obliquus cut off, where it first joins itself with the aponeurosis of the transversus, and with the tendinous end of the triangularis sterni.

p p The aponeurosis of the internal obliquus cut off, where it first joins itself with that part of the aponeurosis of the transversus, which goes before the rectus and pyramidalis.

q The posterior plate of the aponeurosis of the internal obliquus of the abdomen, spread over that part of the aponeurosis of the transversus which lies under the rectus; and together with that is inserted at r into the fore part of the ensiform cartilage, near its tip: and into the lower part of the edge of the said cartilage at f; also into its upper edge and bony edge t, joined with the tendinous end of the triangularis sterni.

Add here Fig. 2. and Tab. XIII. Fig. 4.

u The aponeurosis of the internal obliquus where it is single, and spread over that part of the aponeurosis of the transversus, which goes before the rectus and pyramidalis.

Add here Fig. 2. and Tab. XIII. Fig. 4.

w w w x x The insertion of the aponeurosis of the transversus, (with the aponeurosis of the obliquus internus that is spread over it) into the linea alba.

y The fissure or opening in the aponeurosis of the transversus, about its middle part, betwixt the navel and synchondrosis of the pubis: and this is formed by a transverse separation of the aponeurosis, extended to the linea alba, by which the upper part of the aponeurosis, that goes behind the rectus, is severed from the lower, that goes before the rectus and pyramidalis. The rectus therefore passes thro' this fissure, to the size and figure of which it corresponds. But there is also found a thin continuation of the aponeurosis behind the lower part of the rectus, in some thicker, in others thinner, and in some more or less in a manner discontinued, and more or less in its breadth.

z z The linea alba, from whence at A A is cut off the aponeurosis of the obliquus externus, with the anterior lamella or plate of the aponeurosis of the obliquus internus.

B, &c. the ribs here cut off; C D E F the cartilages of those ribs, C of the fourth, D of the fifth, E of the sixth, F of the seventh; G G the breast-bone cut off, to shew the triangularis and transversus that are seated behind it.

FIGURE II.

The transversus of the abdomen, laterally.

a b c d The first head. a the fleshy part. b the tendinous beginning arising from the sixth rib; from the end of the bony part c, and from its contiguous cartilage d.

e f g The second head. e the fleshy part. f the tendinous beginning arising at g from the inner part of the cartilage of the seventh rib.

h h h h The beginning that is split into several (here four) parts, arising from the inner part of the cartilage of the eighth rib h h h h.

i The aponeurosis that comes from the space betwixt the eighth and ninth rib, from the inner surface of the internal intercostal, and partly from the ninth rib itself. k the part cut off; for it has a longer thin origin.

l The origin from the inner part of the cartilage of the ninth rib.

m The aponeurosis that comes from the interval betwixt the ninth and tenth rib, like i.

n The origin from the inner part of the cartilage of the tenth rib.

o The aponeurosis that comes from the interval betwixt the tenth and eleventh rib; like i.

p The origin from the inner part of the cartilage of the eleventh rib.

q The aponeurosis that comes from the interval of the eleventh and twelfth rib; like i.

r The origin from the inner part of the extreme cartilage of the twelfth rib, tendinous.

s The broad tendon by which it begins in the loins. t the fleshy part.

u u The edge that comes from the tendinous margin of the internal obliquus of the abdomen.

v The aponeurosis in which the flesh ends.

Add here Fig. 1. and 3.

w w The posterior lamella of the aponeurosis of the internal obliquus cut off, *o o o* Fig. 1.

x x The aponeurosis of the internal obliquus cut off, *p p* Fig. 1.

y The posterior lamella of the aponeurosis of the internal obliquus, *q* Fig. 1.

z The aponeurosis of the internal obliquus where it remains single, *u* Fig. 1.

A The slit in the aponeurosis of the transversus, *y* Fig. 1.

B B, &c. The ribs here cut off, to shew the transversus that is seated behind them.

FIGURE III.

The transversus of the abdomen, in its back part.

a—r The origins of the broad tendon, by which the transversus begins, together with the origins of the inner plate, which being common to the aponeurosis of the internal obliquus and lower posterior serratus, springs from the transverse processes of the second, third, and fourth vertebra of the loins.

The *syssomatic connection* appears in Tab. VII. where they lie under the communis capitis, sacrolumbalis, and longissimus dorsi, *d e* in the trunk.

a The tendinous head of the transversus, which arises at b b from the outer part of the lower edge of the twelfth rib, and at c from the posterior extremity of the transverse process of the fifth vertebra of the loins.

d e f g h i i The tendinous head which arises at e f from the posterior part of the end of the transverse process of the fourth lumbal vertebra. g is a thin tendon spread over it, and arising with it from the transverse process at f, and also at h h goes off from the head itself, and is inserted at i i into the outer part of the lower edge of the twelfth rib.

k l m n o o A like tendinous head which arises at l m from the outer part of the end of the transverse process of the third lumbal vertebra. n a thin tendon like the former, with which it is covered, and arises with it at m, but departs from it at o o.

p q The tendinous head, upon all of which is spread the thin tendon, arising with it at q from the back part of the end of the transverse process of the second lumbal vertebra.

r r The place where the fibres cross each other, and are interwove in a manner too obscure to be represented; but chiefly in this manner as in the body whence this figure was taken: varying more or less in others

s s The part whence is cut off the outer plate of the aponeurosis, common to the serratus posticus inferior, and the internal obliquus of the abdomen.

t t The aponeurosis common to the posterior lower serratus, and internal obliquus, cut off at u u, where it no longer coheres with the broad tendon by which the transversus begins.

v The broad tendon by which the transversus begins, adhering to the lower edge of the twelfth rib; to its bony part w x, and its cartilage x y to the tip.

z The origin from the inner part of the cartilage of the twelfth rib, beginning tendinous.

a The aponeurosis q, Fig. 2. here cut off at *b*.

c The fleshy part.

Add here Fig. 2. and 1.

The *syssomatic connection* appears in Tab. VII. Y Z in the trunk; where in part it lies under the aponeurosis, common to the posterior lower serratus, and internal obliquus of the abdomen *e e*; and under the tenth internal intercostal X. But what there appears naked in Tab. VI. lies hid behind the posterior lower serratus C K, and the internal obliquus M N in the trunk.

e The cartilage of the twelfth rib cut off.

FIGURE IV.

The diaphragm, laterally.

a The second fleshy portion of the left side, that goes into the left lateral end.

b b Its end inserted into the inner part of the cartilage of the seventh rib.

c c That which is inserted into the inner part of the cartilage of the eighth rib.

d e f That to the inner side of the ninth rib, its cartilaginous part d e, and its bony part e f. d the tendinous part of this end.

g h i That to the inner part of the tenth rib, to its cartilaginous part g h, and its bony part h i. g the tendinous part of this end.

k l m That which in part belongs k l to the ligament w, and in part l m is inserted into the inner side of the bony part of the eleventh rib, near its cartilage. l the tendinous part.

n o p That whose part n o belongs to the ligament v, and part o p is inserted into the inner side of the twelfth rib: Into its cartilage o, and its bony part o p. o the tendinous portion.

q r r r s The aponeurosis marked p—s, Fig. 7. here q r r r denote the tendinous part, r r r s the fleshy part.

t t The middle tendon of the diaphragm.

u The large left head, a æ b c Fig. 5.

Add here Fig. 5. 6. and 7.

v The ligament that is extended almost from the tip of the cartilage of the twelfth rib, to the bony part of the eleventh near its cartilage.

w The ligament that is extended almost from the beginning of the cartilage of the eleventh rib, to the bony part of the tenth rib near its cartilage.

x, &c. The ribs cut off to shew the diaphragm that is seated behind them.

FIGURE V.

The diaphragm in its fore part.

a a b c d. a a b c d The two first heads, of which the left is less than the right. a a the thin tendinous part which arising from the ligaments that run along the surface of the bodies of the lumbal vertebræ, joins the diaphragm outwardly. a a here these heads arise beneath with thick tendons at c c from the lower part of the body of the third vertebra of the loins, and particularly from the sides of its fore part. In others as here, at b b they arise from the upper part of the body of the second vertebra. Some have these tendons on each side divided into two; others have fleshy portions on each side, as at d d in which the said tendons enter on the outer sides. The beginnings which usually join these heads from behind them are not here visible, as they lie underneath them.

e f g. e f g The second head arising tendinous at e e from the ligament f, that is interposed betwixt the bodies of the third and fourth vertebra of the loins. g g the fleshy portions in which they end.

h i k. h i k The third head arising tendinous at h h, from the sides of the upper margin of the body of the fourth lumbal vertebra. k k the fleshy parts in which they end.

l m n The fourth head of the left side. l the tendinous beginning, arising at m from the fore part of the root of the transverse process of the fourth lumbal vertebra. n the flesh in which it ends.

o o A beginning that is sometimes found, springing from the surface of the quadratus lumborum.

p p The first fleshy portion of the diaphragm formed by the conjunction of its heads.

q A portion of the first left head that joins the f[illegible]y part of the first on the right side, and afterwards runs along through the right side of the hole, by which the gula, or oesophagus, comes out of the thorax.

r Part of the first right head, which going along behind the portion q crosses the same, and goes into the first left fleshy portion; so that it occasions a crossing of many of the fasciculi, or bundles of fibres.

s The hole through which the oesophagus comes out of the thorax into the abdomen.

t Part of its middle tendon.

u u u u The second fleshy part on the left side. See Fig. 6.

v v v v w w The second fleshy part on the right side, climbing over the first at w w, crossing the same, and soon after becoming tendinous.

x y z a b A portion as I have sometimes found it in one, and sometimes in both sides, forming the lower margin of the diaphragm on this side; and which here arises (but differently in others) from the transverse process of the fourth lumbal vertebra y, and also from the fifth; and first tendinous at x, (but differently both in substance and figure in various bodies) then fleshy at z, and joining the second fleshy portion v, unites with the same behind a, and is inserted at b into the cartilage of the twelfth rib.

c c The margin cut off, which is marked C C in Fig. 6.

d The anterior point of the middle tendon in which it ends, and wherein the fibres cross each other.

e The middle fleshy end which is extended along the inner part of the ensiform cartilage almost to its end f f.

g h The two second fleshy portions, which go into two lateral ends.

i i The extremities of them which connect themselves to the peritoneum.

k k The end inserted into the inner part of the cartilage of the seventh rib. It is cut off from thence at l l.

m m That inserted into the inner part of the cartilage of the eight rib. It is cut off from thence at n n.

o o That inserted into the inner part of the cartilage of the ninth rib. It is cut off from thence at p p.

q That inserted into the inner part of the cartilage of the tenth rib. It is cut off from thence at r.

s s The ends inserted into the inner part of the cartilage of the eleventh rib.

Add here Fig. 6. 7. and 4.

The *systematic connection* appears in Tab. IV. M—o in the trunk; where the left fourth head lies in part under the psoas magnus z; the right under the psoas parvus r, and the magnus t; the first head in part under the great psoas, betwixt v and w.

t t, &c. Here the ribs are cut off, to shew the diaphragm that lies behind them.

u u u The ensiform cartilage cut off. w its cartilage, x x its bony part.

FIGURE VI.

The posterior part of the diaphragm, viewed from before.

a a b c d. a a b c d The two first heads, as in Fig. 5.

e f g. e f g The second heads, e f g. e f g Fig. 5.

h i k. h i k The third heads, as in Fig. 5.

l m n The left fourth head, as in Fig. 5.

o o The beginning, so marked in Fig. 5.

p The first left fleshy portion of the diaphragm; q the right, formed by a conjunction of the heads, and at length occupying the whole posterior lunated edge of its tendon.

r r The part which comes from the transverse process of the fourth lumbal vertebra, as at l m n; but it goes behind the part D E F, as in Fig. 7. e f.

s A portion of the first left head joining the first right fleshy part, q Fig. 5.

t Part of the first right head, going into the first left fleshy part, r Fig. 5.

u The hole in the first fleshy part, through which the gula passes.

v The upper angle of that hole, where the right and left fibres cross each other; the right being anterior.

w w w x y The left part of the middle tendon. x part of the tendon climbing over the rest w, and crossing it. y a portion that runs over the part x, crosses it, and goes into the lower part of the second left fleshy portion.

z A certain aponeurosis that is stretched round the lateral tendon from the flesh, which is at the posterior point of the left tendon, coming forwards and crossing the fibres of the tendon, and ending forwards in the anterior fleshy portion.

a Part of the aponeurosis v x x x, Fig. 7. penetrating to the lower part of the tendon, and receiving (when it has penetrated) a portion from the lower part of the tendon, near the left opening for the gula; it bends to the right, and goes above the said foramen at b to the fore part of the right fleshy end; and in part runs at c along the anterior edge of the hole for the cava, and joins itself to the aponeurosis z.

d A portion joining the aponeurosis a, and coming from the first left fleshy portion near the beginning of the tendon.

e e f f f g Tendinous fibres which come out at e e from the tendon w, and backwards is partly interwove with the tendon f f, and partly continued on g.

h h Part of the second left fleshy portion to which the tendon w w w x y goes.

i i Its end inserted into the lower part of the twelfth rib into its bony part i, and its cartilage k.

l l The edge cut off where it was joined to the transversus of the abdomen betwixt the two last ribs; but otherwise it arises from the ligament v, Fig. 4.

m m m The right portion of the middle tendon formed by the first right fleshy part.

n The broad aponeurosis coming from the flesh at the posterior point of the right tendon, and continued to the first fleshy portion o p, but coming out from the tendinous fibres p q near the second, whence it goes forwards crossing the fibres of the tendon; and, in the fore part at r r partly interweaves itself with the tendon, partly ends in the anterior flesh s s s, and partly runs on along the right side of the hole for the cava.

u u u The aponeurosis m m m m, Fig. 7. penetrating (near the bottom of the hole for the cava) to the lower part of the tendon; and afterwards bending itself round the left side of that hole, goes to its edge. Behind it runs thro' the anterior point of the tendon.

x The same as marked A, Fig. 7.

y The tendinous part into which the first right fleshy part joins, and crosses the left in the upper angle of the hole through which the gula passes, and which afterwards runs behind the tendon b, and then along the lower part of the tendon c.

A The tendinous margin that belongs to the back part of the hole through which the vena cava passes, formed chiefly by that part of the tendon which goes to the right from the first fleshy portion to the second. It is marked B, Fig. 7.

B B The second right fleshy portion in which the tendon m m m ends.

C C Its margin cut off, marked l l in the left side.

D E F G H The portion x—b in Fig. 5. E its origin, D the tendinous part, F the fleshy part, conjoined at G with the second fleshy portion B, and inserted at H into the cartilage of the twelfth rib.

I The hole in the tendon through which the vena cava passes.

K K K K The anterior part of the diaphragm cut off from this circumference.

Add here Fig. 5. 7. and 4.

FIGURE VII.

The diaphragm, in its back part.

a b The two first heads.

c d. e f The second heads. c. e the tendinous origins. d. f the fleshy parts.

g The beginning marked o o, Fig. 5.

h Part of the first right head that joins the first left fleshy portion.

i The flesh that is formed by part of the first right head, joined with a portion of the first right head q, Fig. 5. and Fig. 6.

k l The first fleshy parts, k the right, l the left.

m Part of the first left fleshy portion crossing the right in the upper angle of the hole through which the gula passes.

n The hole in the first fleshy part through which the gula passes.

o o o The left part of the middle tendon, formed of the first fleshy part.

p, &c. The broad aponeurosis, which being gradually formed by the flesh at the side of the broad tendon p p p, thence along the lateral edge of the tendon, and through the beginning of the second fleshy portion betwixt p p p q and r r r; and through the tendon betwixt r r r and s s s it goes to the posterior tip of the tendon, and passing round the same, it continues itself partly beneath at t to the first fleshy portion, and partly goes on at v along the posterior lunated edge of the tendon: And at x x x penetrates into the lower part of the tendon, and forms a, Fig. 6. at last it runs to the right at w along the upper part of the hole for the cava. at u u the fasciculi cross each other.

y The broad aponeurosis, which arising from the first left fleshy portion, comes out here at v from under the aponeurosis z z; and being for a long way conjoined at s s s with the aponeurosis p p p q r r s s s, then departs from it, and runs partly at a along the upper edge of the hole for the cava joined with the aponeurosis w; and partly runs forward through the upper side of the tendon b.

c c The left second fleshy part in which the tendon o o o ends.

d Its margin cut off, marked l l in Fig. 6.

e Its end which it inserts into the twelfth rib; i k, Fig. 6.

f The right part of the middle tendon formed by the first fleshy portion.

g g g h, &c. The broad aponeurosis, which being gradually formed by the flesh of the side of the broad tendon, by a thin aponeurosis g g g, is thence continued along the lateral edge of the tendon, chiefly through the beginning of the second fleshy part betwixt g g g h and i i i; and through the tendon betwixt the lower i i and k k, it passes to the posterior tip of the tendon, and passing round it goes along the posterior lunated edge of the tendon l; and in its course penetrates to the lower part of the tendon, and forms u u u in Fig. 6. at last it ends in the lower part of the foramen for the cava at n, and partly bends itself to the right of the hole for the cava at o. p the place where the fibres cross each other

q r r r s t t u u u u Certain portions detached in a manner from the forefaid aponeurosis, running through the tendon, and joining themselves thereto at u u u u. Here at t t the fasciculi cross each other.

w w w Tendinous fasciculi, which coming out of the tendon, run forwards through it.

x A tendinous bundle coming out of the tendon, and belonging to the second fleshy portion y.

z Is the same with w in Fig. 6.

A Part of the tendon here belonging to the edge of the hole through which the cava passes. It is marked z, Fig. 6.

B The tendinous edge belonging to the back part of the hole through which the vena cava passes. It is formed chiefly by that principal tendinous part that goes to the right from the first fleshy portion to the second. It is marked A, Fig. 6.

C The hole in the tendon through which the vena cava passes.

DD The second right fleshy portion into which goes the tendon f.

EE Its margin cut off, marked C C, in Fig. 6.

F The end of the portion marked D E F G H in Fig. 6.

Add here Fig. 6. 5. and 4.

The *ischiomatic connection* appears in Tab. VIII. m in the loins, where part of it is covered by the quadratus lumborum l.

But it ought to be observed here, once for all, that there being many and great varieties to be found in the structure of the diaphragm, we were obliged to single out this one.

THE

Fifteenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

Muscles of the Spine.

FIGURE I.

The multifidus of the spine.

a The head which arises all the way from the third spinal process of the os sacrum, as far as the tubercle of the said bone, that is formed by the concretion of the fourth oblique descending process, with the oblique ascending process of the fifth vertebra, and from the said tubercle itself of the os sacrum.

The other three heads which arise from the tubercles, formed by the concretion of the oblique descending process of the third vertebra of the os sacrum, with the ascending process of the fourth vertebra, of the second descending with the third ascending, and of the first descending with the second ascending processes; these heads I say cannot be seen in this figure, because they lie under the muscle.

b c The head which arises partly at b from the eminence which the os sacrum has in its back, at the outer side of the second and third of its holes; and partly at c, from the ligament that is extended from the foresaid eminence to the lower part of the said bone.

d The part that lies under the os ilium, from whence it arises in this place.

e The tendinous excursion of the head that arises from the oblique ascending process of the first vertebra of the os sacrum. f a like excursion from the ascending process of the first lumbal vertebra. g that from the process of the second. h that from the third. i from the fourth. k from the fifth. l that from the upper part of the end of the transverse process of the first vertebra of the back.

m The tendinous head arising from the transverse process of the second vertebra of the back; and that from the upper and posterior part of the end of the said process.

n The like tendinous head which arises from the upper and posterior part of the transverse process of the third dorsal vertebra, betwixt its root and the root of the tubercle in which it ends. o a like head arising in like manner from the process of the fourth dorsal vertebra. p the like from the fifth. q from the sixth. r from the seventh. s from the eighth. t from the ninth. u from the tenth. v from the eleventh. w from the twelfth.

x The like head arising from the upper and posterior part of the oblique descending process of the second vertebra of the neck. y the like from the third. z from the fourth.

a The tendinous end which inserts itself into the lower edge of the spine (near its extremity) of the first or lowermost vertebra of the loins. b that to the second. c to the third. d to the fourth. e to the fifth. f to the first of the back. g to the second. h to the third. i to the fourth. k to the fifth. l to the sixth. m to the seventh. n to the eighth. o to the ninth. p to the tenth. q to the eleventh. r to the twelfth. s that to the first, or lower vertebra of the neck. t that to the second. u to the third. w to the fourth. x to the fifth. But, from these terminations, all the foresaid portions continue to insert themselves beneath into the lower edge of each vertebra as far as their oblique descending processes, as is represented in the uppermost extremity y z.

y z The uppermost tendinous end, inserted into the sixth vertebra of the neck; first into the lower edge of the spine near its extremity at y, and thence as far as the oblique descending process z, terminating outwardly tendinous.

The course of the heads and tails of these portions, and the conjunction of their fibres are externally, as they appear in the figure.

And, in the end that belongs to the sixth vertebra of the neck, appears the manner in which the portions from several heads, belonging to one and the same vertebra, meet together as it were at one tail, before they terminate or insert themselves. For the end y z that belongs to the said vertebra, is formed the three heads marked z. y. z; and that portion of it that comes from the nearest head z, is inserted just by the oblique process z; next to this the portion is inserted from the next lower head y; and next to that again at y, is inserted the portion from the next head z, each of them coming near the end of the spinal process as they are removed lower from the head. The same is also to be understood of the rest, of which only the long portions appear outwardly, as the shorter lie immediately under the longer portions.

Add here fig. 2.

The *ischiomatic connection* appears in Tab. VIII. 14. 14. in the left side; where its uppermost end is covered by the lower obliquus capitis, k l in the head and neck. Then at 14. 14. in the right side, where it is also covered by the spinalis colli 2. and semispinalis dorsi, p in the back. Then in Tab. VII. 1 in the trunk, where, except that part, it is covered all the way by the common head of the longissimus dorsi and sacrolumbalis, d e in the trunk, and the longissimus dorsi itself, S in the trunk; and by the spinalis dorsi, i in the trunk; and the complexus, u in the neck. But that part which is there naked in Tab. V. lies under the gluteus magnus, c in the buttock.

FIGURE II.

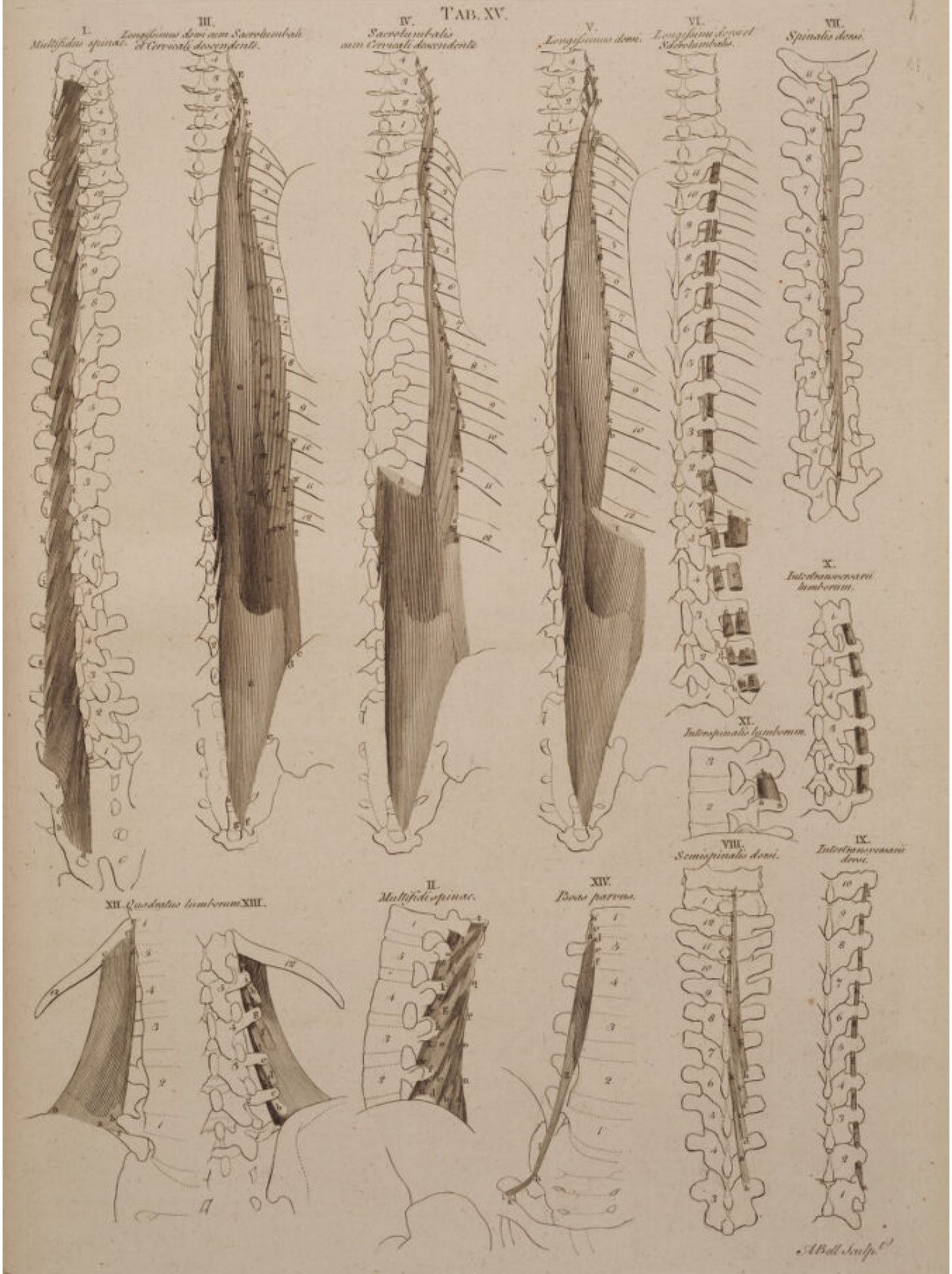
The multifidus of the spine, laterally.

We have here exhibited that portion of it which is in the loins and next adjacent part of the back, in order to show what could not be seen in the first figure.

a The part which comes from the os sacrum, from the ligament detached from that bone to the os ilium, and from the os ilium itself; a b c d Fig. 1.

b The tendinous head that comes from the oblique ascending process of the first vertebra of the os sacrum. The beginning of which head lying behind the os ilium cannot be seen in this figure. But it arises from that process in the same manner as the next head c does from the oblique ascending process of the first lumbal vertebra.

c d The tendinous head arising at d from the edge of the oblique ascending process of the first vertebra of the loins, near the outer side of the ob-


TAB. XV.
I.
Multifidus spinae.
III.
Longissimus dorsi cum Sacrolumbali et Cervicali descendente.
IV.
Sacrolumbalis cum Cervicali descendente
V.
Longissimus dorsi.
VI.
Longissimus dorsi et Sacrolumbalis.
VII.
Spinalis dorsi.
X.
Intertransversarii lumborum.
XI.
Interspinalis lumborum.
VIII.
Semispinalis dorsi.
IX.
Intertransversarii dorsi.
XII. Quadratus lumborum XIII.
II.
Multifidus spinae.
XIV.
Psoas parvus.
A Bell Sculp.t

lique descending process of the second vertebra, to which it is attached as it ascends.

e f The like tendinous head from the oblique ascending process of the second lumbal vertebra f.

g h The like from the oblique ascending process of the third lumbal vertebra.

i k The like from the oblique ascending process of the fourth lumbal vertebra.

l m The like from the oblique ascending process of the fifth, or uppermost vertebra of the loins.

n The tendinous end that belongs to the spine of the second lumbal vertebra. o that to the third. p to the fourth. q to the fifth. r that to the spine of the first, or lowermost vertebra of the back. s that to the spine of the second.

t The place where it is cut off.

u v w x y z a b c Portions which may be either referred to the multifidus, or reckoned distinct muscles. Each of them is inserted into two of the lumbal vertebræ that are next to each other; and the uppermost of them is inserted into the lowermost vertebra of the back, and the fifth, or uppermost of the loins.

u v The first that arises at u from the outer part of the root of the oblique ascending process. Inserts itself at v into the lower part of the root of the tubercle, that projects betwixt the transverse and the oblique ascending process; also into the lower part of the edge of that oblique process itself. The rest are disposed in the same manner.

w x The second. w its origination. x its insertion.

y z The third. y the origin. z the insertion of it.

a b The fourth. a its origination. b its insertion.

c The fifth. c its origin.

But the second of them w x only can be entirely seen, since the ends of the rest are hid behind the transverse processes; the fifth has its whole upper end hid; and the first, at its origin, lies in part behind the os ilium.

Add here Fig. 1.

Muscles of the Back and Loins.

FIGURE III.

The longissimus dorsi, sacrolumbalis, and cervicalis descendens.

a b The *common head* by which the longissimus dorsi and sacrolumbalis arise. a the tendinous part. b the fleshy part.

c d e The origin of that head from the crista, or edge of the os ilium, fleshy at c, tendinous at d e. e f the part that coheres with the gluteus magnus. g h the tendinous part which arises from the two upper protuberances, at the opening in the end of the channel of the os sacrum. h i the tendinous part discontinued, formed by the tendons arising from the spines of the two lower lumbal vertebræ, and all the spines of the os sacrum.

k l m Tendons which arise from the spines of the lumbal vertebræ, k of the third, l of the fourth, m of the fifth.

n The division of the common head into the longissimus dorsi and sacrolumbalis.

o The *longissimus dorsi*.

p The tendinous portion of the common head, joined with that which comes from the tendons i k l, and runs through the longissimus dorsi externally.

q The tail ascending through the neck and forming the tendon r, which at last joins with the tendon of the cervicalis descendens E E. And at the same place it goes off in another tendon, belonging to the lower part of the end of the horn of the posterior transverse process of the third vertebra of the neck.

The portion given by the tendon r to the trachelomastoideus, Tab. VII. *O* in the neck, is here cut off.

Add here Fig. 5. and 6.

Under this lies partly the sacrolumbalis s. See Fig. 5.

s The *sacrolumbalis*.

t u v, &c. Its tails belonging to the ribs; of which t. w. z. *c. f. i. m. p. f* denote the fleshy parts; u. x. *a d. g. k. n. q. t.* w. *y* the tendons in which they end. These tendons are inserted into the ribs; v in the eleventh, y to the tenth, *b* to the ninth, *e* to the eighth, *h* to the seventh, *l* to the sixth, *o* to the fifth, *r* to the fourth, u to the third, x to the second, z to the first. The tail that belongs to the twelfth, see in Fig. 6. t.

They are inserted into the bottom part of the rough surface that is in the outer side of the rib not far from the spine, and into the bow itself of each rib; except the two uppermost belonging to the two upper ribs, which are inserted near the tubercle *z. z*, to which is affixed the ligament tying the rib to the transverse process of the vertebra. And that belonging to the first rib is inserted in the like part *z*, and also into the transverse process of the uppermost vertebra of the back.

Add here Fig. 4.

A The *cervicalis descendens*.

B The tendinous excursion of that head of it, which arises from the sixth rib. See Fig. 4.

C C C. D D. E E Its three tendinous tails, which bend themselves round the subjacent muscles, and end C C C in the second vertebra of the neck, D D in the third, E E in the fourth; at the bottom of the end of the horn of each of their transverse processes. Those to the fourth E E are conjoined with the tendon r of the longissimus dorsi.

Under the origin of this muscle lies the sacrolumbalis. See Fig. 4. z.

Add here Fig. 4.

The *fasciatic connection* appears in Tab. VII. *d—O* in the trunk, and D in the neck, where the last tendon of the longissimus dorsi is conjoined with the tendon of the cervicalis descendens, and bends itself behind the transversalis of the neck, C C in the neck. Then in Tab. VI. *k—s* in the trunk, and X in the neck; where the greater part is covered by the broad tendon, by which arise the serratus posticus inferior and internal obliquus of the abdomen; over which is spread the broad tendon U by which the latissimus dorsi begins; covered also by the serratus posticus inferior C D, the rhomboides major p p q, the serratus posticus superior *z* b, and the levator scapulæ Z. And what appears naked in the right side of that table, the same is in Tab. V. covered by the latissimus dorsi P, and the cucullaris B in the back; except a small part there marked M.

FIGURE IV.

The sacrolumbalis with the cervicalis descendens.

a b c d e f g h i k l The tendinous tails of the sacrolumbalis cut off, which were seen entire in the third figure n. r, &c. where under them are concealed portions coming from the ribs.

m The portion that joins the sacrolumbalis from the twelfth rib. n that from the eleventh, o from the tenth, p from the ninth, q from the eighth, r from the seventh rib.

s s, &c. The tendinous beginnings by which those portions arise from the ribs, from their back part a little nearer the spine, than where the tails of the sacrolumbalis are inserted.

t u v w x The heads of the cervicalis descendens, of which t arises from the sixth rib, u from the fifth, v from the fourth, w from the third, x from the second.

y y, &c. The tendons by which those heads begin and arise from the back part of the ribs, a little nearer the spine than where the tails of the sacrolumbalis are inserted. These tendons soon produce fleshy portions, which run to a greater length inwardly than what appears outwardly.

z The cervicalis descendens so conjoined with the sacrolumbalis, that it appears a continuation of it, namely of those portions which it receives from the ribs.

a The tendinous excursion of the first head, namely of that which comes from the sixth rib t. But in other bodies it does not run to so great a length.

b b c d d e f f g Three tendinous tails of the cervicalis descendens, which bend themselves round the subjacent muscles; and belong *b b* to the second vertebra of the neck, *d d* to the third, *f f* to the fourth; and insert themselves into the posterior and lower part of the horn of their transverse processes *e e g*.

h The longissimus dorsi here cut off. See Fig. 3. n o. From whence also the rest of this figure may be known.

Add here Fig. 3.

FIGURE V.

The longissimus dorsi.

a The longissimus dorsi.

b c d e f g h i The tails which are here mostly tendinous, and inserted into the outer side of the ribs, soon after their departure from the transverse processes. b that inserted into the tenth. c to the ninth. d to the eighth. e to the seventh. f to the sixth. g to the fifth. h to the fourth. i to the third. But they grow broader as they ascend, and lie partly under each tail next following. Those inserted into the eleventh and twelfth ribs do not appear, because they lie under the muscle.

l The last of those tails which it inserts into the transverse processes of the vertebræ of the back, ending by a long tendon l, in the posterior and lower part of the end of the transverse process m, and the next part of the adjacent first rib n.

o The tail ascending through the neck, and here dividing itself into two tails, which form the tendons p p q. r s, which bend themselves round the subjacent muscles. The one of them p p inserts itself at q into the posterior and lower part of the end of the horn of the transverse process of the fourth vertebra of the neck; the other r s, into the same part of the third vertebra at s.

t The sacrolumbalis cut off from hence.

Add here Fig. 3. and 6.

The remaining parts of this figure are the same as in Fig. 3.

FIGURE VI.

The longissimus dorsi and sacrolumbalis.

The longissimus and sacrolumbalis are here cut off with their common head, leaving behind those portions which the common head inserts into the vertebræ of the loins and into the last rib; also those which the longissimus gives to the transverse processes of the vertebræ of the back, except that to the uppermost; those portions are also left which go to the longissimus. All which either lie under the common head, or under the longissimus.

a b c d e f g h i k Five tails cut off from the common head; of which a b is inserted into the lower protuberance that is near the back part of the root of the transverse process of the first vertebra of the loins; c d to the second, e f to the third, g h to the fourth (which is inserted into the lower edge of the back part of the oblique ascending process of the fourth vertebra at h), i k to the fifth. Of these b, d, f, h, k denote the tendinous parts by which they insert themselves.

l m n o p q r s The five tails cut off from the common head; of which l m are inserted into the lower margin of the back part of the transverse process of the first vertebra of the loins, at the end of the said process; n o to that of the second, p q to that of the third, r to the fourth, s to the fifth. The two lower of these end in tendons m, o: the middle one is in part tendinous at q; the two upper are wholly fleshy.

t The broad portion which the common head of the sacrolumbalis (whence it is cut off) here, inserts itself at u u into the lower edge of the outer part of the last rib. At its origin it is conjoined with the portion s, belonging to the end of the transverse process of the fifth vertebra of the loins.

v w x y, &c. The tails of the longissimus, which it inserts into the transverse process of the vertebræ of the back, at the lower and back part of their extremity. v w that inserted by the longissimus dorsi into the first vertebra in the back, where w denotes the tendinous end by which it is inserted. x y that to the second, of which y denotes the tendinous end by which it is inserted. z *a* that to the third, of which *a* denotes the tendinous end by

which it is inserted. *bc* that to the fourth, which is first split into two, and inserted by the common tendinous end *c*. *de* that to the fifth, which is also first split in two, before it is inserted by the common tendinous end *e*. *fg* that to the sixth, in like manner split into two, and then forming the common tendinous end *g* by which it is inserted. *hi* that to the seventh, inserted by the tendinous end *i*. To the eighth belongeth two tails with tendinous ends *kl*; and the like to the ninth *mn*. To the tenth belongeth only one, inserted into it by the tendinous end *o*. The like to the eleventh *p*. All which are cut off from the longissimus dorsi. That tail which belongs to the transverse process of the twelfth dorsal vertebra, and the first rib, see in Fig. 5. l m.

qrst The tendinous beginnings of the heads which join to the inner part of the longissimus dorsi, arising at *qrst* from the upper and back part of the transverse processes of the first, second, third, and fourth dorsal vertebra, from near the edges of the said processes. *uuuu* the places where they are cut off.

Add here Fig. 3. and 5.

Muscles of the Back.

Add here the interspinalis dorsi like those of the loins in Fig. 11. which see.

FIGURE VII.

The spinalis of the back.

a b c d e Five tendons by which it arises from the spines of the two upper vertebrae of the loins, and three lower of the back. The lower of them *a*, which arises from the fourth vertebra of the loins, is the longest and thickest; the next *b*, from the uppermost vertebra of the loins, is shorter and more slender: the other *c*, is still shorter and thinner than that, and comes from the first vertebra of the back; the fourth *d*, comes from the second vertebra of the back; the uppermost *e*, from the third vertebra of the back is the shortest and slenderest. They all at length end in

f The fleshy body.

g h i k l m n The seven tails in which the fleshy body ends. These tails are first fleshy and afterwards tendinous at g h i k l m n where they go to the spines of the seven dorsal vertebrae which follow next after the uppermost, and are inserted at the edges almost of their extreme ends or tips. The lower one is the shortest and slenderest; those next above are longer and larger as they are seated higher in order. The tendinous ends are also longer and more considerable, as the tails from whence they arise are higher in order. g that belonging to the spine of the fifth vertebra of the back, h to the sixth, i to the seventh, k to the eighth, l to the ninth, m to the tenth, n to the eleventh.

The *sesamoid connection* appears in Tab. VII. i in the trunk. Then in Tab. VI. *a* in the back, where a great part is covered by the serratus posticus inferior C, the rhomboides major p p q. and splenius colli V in the left side. And what appears naked in that table, is in Tab. V. covered by the latissimus dorsi F, and the cucullaris B in the back.

FIGURE VIII.

The semispinalis dorsi.

a b c d e f g h Four heads which are for a long way tendinous at a c e g, and which arise from the posterior and upper part near the ends of the transverse processes of the third b, fourth d, fifth f, and sixth vertebra h of the back. The tendons are shorter as they are placed higher in order.

i The fleshy body.

k l m n o p q The seven tendons of the tails in which it ends, belonging to the lower part of the sides of the spines of the five upper vertebrae of the back, and two next of the neck, not far from the ends or tips of their spines; k that to the spinal process of the eight dorsal vertebra, l to the ninth, m to the tenth, n to the eleventh, o to the twelfth; p to the first or lowermost of the neck, q to the second. They are longer as they go higher. But the upper tails, contrary to what they are, appear narrower in the figure on account of the perspective.

The *sesamoid connection* appears in Tab. VIII. p in the back. Then in Tab. VII. a b c d e g h; where the rail is covered by the spinalis dorsi i, by the longissimus dorsi *S*, and the biventer cervicis h in the neck. Then in Tab. VI. *s* in the back, where it is also covered by the splenius colli U V, and the splenius capitis P in the neck; and what there appears naked, in the right side, lies behind the rhomboides major, p p q in the back.

FIGURE IX.

The intertransversarii of the back.

a b The first which arises at a from the fore part of the transverse process of the first dorsal vertebra, and inserts itself into the lower and back part of the transverse process of the second vertebra of the back.

c d The second which arises at c from the upper and back part of the transverse process of the second dorsal vertebra, and is inserted into the lower and back part of the third transverse process.

e The third, f the fourth, g the fifth, h the sixth, i the seventh, k the eighth, l the ninth. All which arise and are inserted like the second.

The lowermost of them are the largest; those which follow are smaller, and slenderer, and less fleshy as they go higher; the uppermost of them being so slender and tendinous that they rather resemble ligaments than muscles.

The *sesamoid connection* appears in Tab. VIII. f g h i k l m n o in the back in the left side. In the right side h denotes the third, i the fourth, k the fifth, and l the sixth, in part covered by the semispinalis dorsi q r s t; m the seventh, n the eighth, o the ninth; 3. 4. 5 the spinalis colli. And what there appears naked in Tab. VII. lies under the longissimus dorsi, *S* in the trunk.

Muscles of the Loins.

FIGURE X.

The intertransversarii of the loins.

a b The first, which arises from the upper part of the transverse process of the lowest vertebra of the loins, not far from the end of its said process; and is inserted at b into the lower part of the second transverse process, near its end.

c d The second, arising in like manner at c from the upper part of the transverse process of the second vertebra, and inserted at d into the lower part of the transverse process of the third vertebra.

e f The third, arising in like manner at e from the upper part of the transverse process of the third vertebra, and inserted at f into the lower part of the transverse process of the fourth vertebra.

g h The fourth, arising in like manner at g from the upper part of the transverse process of the fourth vertebra, and inserted at h into the lower part of the transverse process of the fifth vertebra.

i k The fifth, arising in like manner at i from the upper part of the transverse process of the fifth vertebra of the loins, and is inserted at k into the protuberance that stands out from beneath the outer and back part of the transverse process of the lowest vertebra of the back.

The *sesamoid connection* appears in Tab. VIII. *TOabc* in the loins, which in Tab. VII. lies behind the common origin of the sacrolumbalis and longissimus dorsi, *de* in the trunk.

FIGURE XI.

The interspinalis of the loins, on one side.

We have here exhibited only one of them, which is that arising from the spinal process of the second lumbal vertebra, and inserted into that of the third.

a a The tendinous beginning that springs from the eminence in the spine at the bottom of the lower oblique process, and is continued from thence almost to the end of the spine.

b The tendinous end inserted into the lower part of the side of the spine, below the eminence before mentioned.

The like muscles are placed betwixt the rest of the spines of the lumbal vertebrae; and also betwixt the spines of the uppermost lumbal vertebra, and the last of the back.

The *sesamoid connection* appears posteriorly in Tab. VIII. *HLXPSW* along the spine, where laterally the multifidus lies near them on each side 14. and in Tab. VII. But their edges, or back part, lies behind the broad tendon, by which the serratus posticus inferior, and internal obliquus of the abdomen arise, over which tendon again is spread the broad tendon by which the latissimus dorsi begins, U Tab. VI. in the trunk.

The *interspinales dorsi* are like those of the loins, only less, and found betwixt the lower spines of the dorsal vertebrae.

The *sesamoid connections* of the interspinales of the back, are also exhibited in Tab. VIII. *CD* along the spine, where the multifidus 14. lies at the side of them. These also have their back parts, or edges, placed behind the broad tendon, by which the serratus posticus inferior, and internal obliquus of the abdomen arise; over which again is spread the broad tendon, whereby the latissimus dorsi begins, U Tab. VI. in the trunk.

FIGURE XII.

The quadratus lumborum, viewed in its fore part.

a a The tendinous beginning which arises at a a from the upper and inner part of the crista, or edge of the os ilium, almost from the posterior half of its length, divided in the middle; and at b it arises from the ligament that goes across from the transverse process of the lowest lumbal vertebra to the os ilium.

c c The broad tendinous end that is inserted into the inner part of the lower edge of the twelfth rib, not far from its first head.

d e The small tendinous end that is inserted at e into the side of the body of the lowest vertebra of the back, near the last rib.

Add here Fig. 13.

The *sesamoid connection* appears in Tab. IV. p in the trunk, where the rest of it is covered by the psoas magnus r, lies hid behind the diaphragm T S R in the trunk, and *PR*.

f The ligament that runs a-cross from the transverse process of the lowest lumbal vertebra to the os ilium.

FIGURE XIII.

The quadratus lumborum, viewed in its back part.

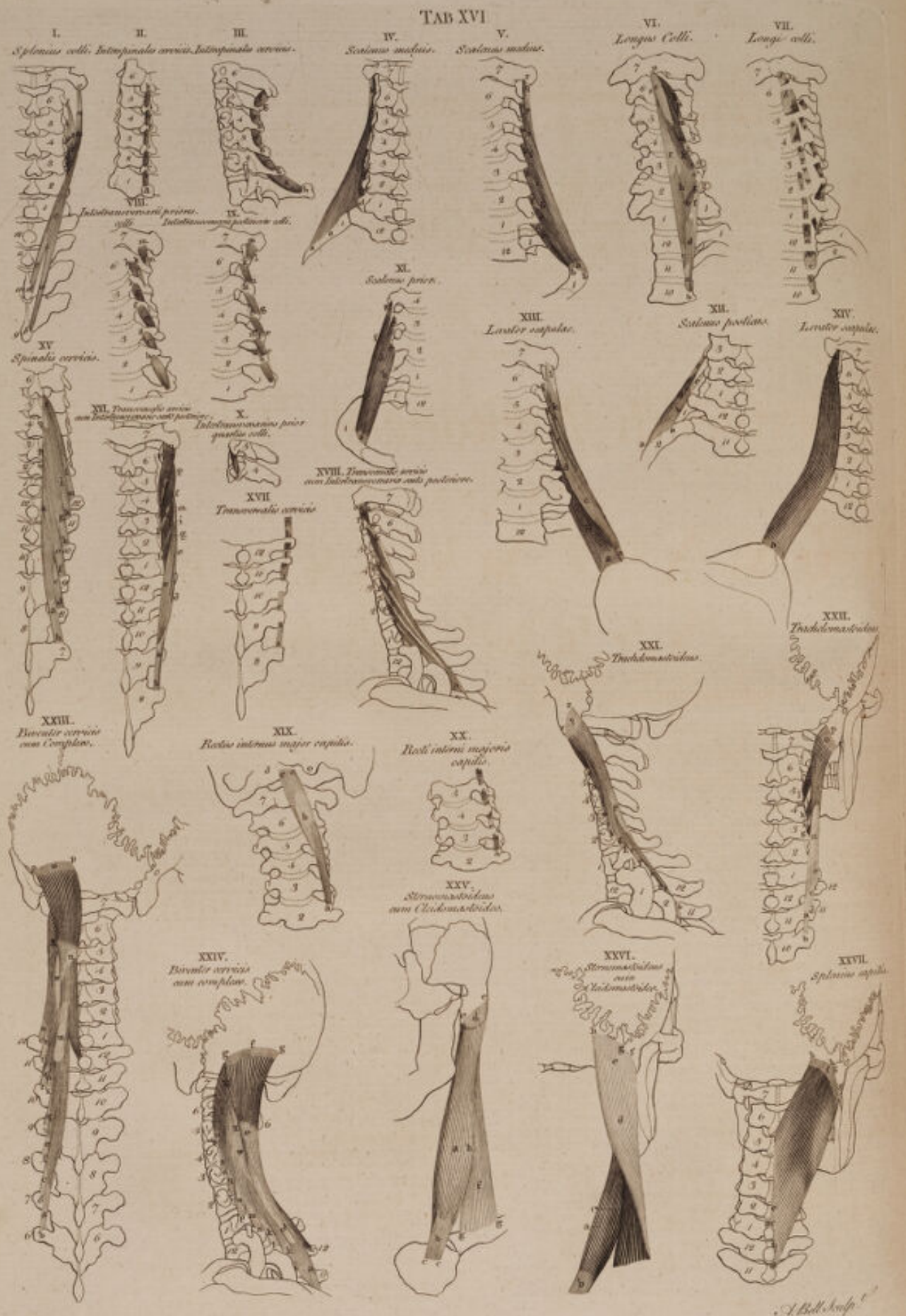
a Part of its origin from the ligament that goes across from the transverse process of the lowest lumbal vertebra to the os ilium.

b c d e f g h i Tendinous portions inserted into the lower part of the ends of the transverse processes; c to the second, e to the third, g to the fourth, i to the fifth of the lumbal vertebrae.

k l m n Heads which arise tendinous from the upper part of the ends of the transverse processes; k of the second, l of the third, m of the fourth, n of the fifth of the vertebrae of the loins. The flesh in which they end is then joined to the back part of the muscle, as in the uppermost of them n, so in the rest before the transverse processes.

Add here Fig. 12.

The *sesamoid connection* appears in Tab. VIII. *d* in the loins, where in part it lies under the intertransversarii of the loins *T. O. a. b. c.* And what there appears naked is covered by the tendinous beginning of the transversalis of the abdomen, over which again is spread the common tendinous origin of the obliquus internus of the abdomen, and serratus posticus inferior, also by the common head of the sacrolumbalis and longissimus dorsi, *de* in the trunk. Tab. VII.


TAB XVI
I. Splenius colli.
II. Intertransversalis cervicis.
III. Intertransversalis cervicis.
IV. Scalenus medius.
V. Scalenus medius.
VI. Longus Colli.
VII. Longus colli.
VIII. Intertransversalis prioris colli.
IX. Intertransversalis posterior colli.
XI. Scalenus prior.
XIII. Levator scapulae.
XII. Scalenus posticus.
XIV. Levator scapulae.
XV. Spinalis cervicis.
XVI. Transversalis cervicis cum Intertransversalis anti posteriore.
X. Intertransversalis prior quartus colli.
XVII. Transversalis cervicis
XVIII. Transversalis cervicis cum Intertransversalis anti posteriore.
XXII. Trachelomastoideus.
XXI. Trachelomastoideus.
XXIII. Biventer cervicis cum Complexo.
XIX. Rectus internus major capitis.
XX. Recti interni majoris capitis.
XXV. Sternomastoideus cum Cleidomastoideo.
XXIV. Biventer cervicis cum complexo.
XXVI. Sternomastoideus cum Cleidomastoideo.
XXVII. Splenius capitis.
A. Bell Sculp.

o The ligament that is extended acrofs from the tranfverfe procefs of the loweft lumbal vertebra to the os ilium.

The *fyftematic connection* appears in Tab. VIII. *f* in the loins.

FIGURE XIV.

The pfoas parvus.

a The tendinous beginning by which it adheres at b to the lower margin of the body of the loweft vertebra of the back, on one fide; and likewife to the ligament c, interpofed betwixt the body of that dorfal and the uppermoft lumbal vertebra; and alfo at d from the fuperior margin of the uppermoft vertebra of the loins.

f The other tendinous beginning, adhering at e to the lower margin of the uppermoft lumbal vertebra, and at f to the intervening ligament next following below.

g The tendon which it forms, and which begins about the middle part of the length of the loins. From thence the tendon bends itfelf to the pfoas magnus. i the broad end by which it inferts itfelf into the margin of the os ifchium, where it forms part of the upper rim of the pelvis before the os ilium, near the fpine k, that is in the faid rim above the great foramen.

l l Along this part the aponeurofis is cut off, that goes from this tendon and inveffs the pfoas magnus, with the iliacus internus in their fore part, as they pafs before the ifchium.

The *fyftematic connection* appears in Tab. IV. r s in the trunk; where at its origin it lies hid behind the diaphragm R; and in its end behind the pfoas magnus t.

THE

Sixteenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

Mufcles of the Neck.

Add here the *cervicalis defcendens*, Tab. XV. Fig. 3. A. and Fig. 4. z.

FIGURE I.

The fplenius colli.

a b The tendinous head that arifes at b from the fide of the end of the fpinal procefs of the ninth vertebra of the back.

c d The tendinous head that arifes from the fide of the end of the fpinal procefs of the tenth dorfal vertebra, and which is fhorter than the preceding.

e The fleffy belly.

f g h The end that is firft fleffy at f, then tendinous at g, and belongs at h to the back part of the end of the poftcrior tubercle of the tranfverfe procefs of the fifth vertebra of the neck.

i k l The end that is firft fleffy at i, then tendinous at k, and is inferted at l into the lower part of the end of the tranfverfe procefs of the fixth vertebra of the neck.

m n o The end which is firft fleffy at m, then tendinous at n, and is inferted at o into the fore part of the tip that is moft prominent at the tranfverfe procefs of the feventh vertebra of the neck.

The *fyftematic connection* appears in Tab. VI. T U V in the left fide of the neck and back, where, for the moft part, it is covered by the upper ferratus poftcus *n* b, and the elevator of the fcapula Z. Then in the right fide of the neck and back in the fame table, where it is alfo covered by the elevator of the fcapula Z, and by the ferratus poftcus fuperior *n* b, and in its lower part by the rhomboides major p p q q; and that part of it which there appears naked, is in Tab. V. placed under the cucullaris B in the neck and back. But laterally part of it appears naked in Tab. IX. *o* in the neck, where the reft of it is covered by the cucullaris z, and its upper end lies under the fternocleidomaftoideus *r*.

FIGURE II.

The interfpinales of the neck, a poftcrior view.

a b The firft, which fpringing from the fide of the upper part of the fpine of the loweft cervical vertebra at a, near the end of its tubercle, goes to the lower and inner part b, of the horn of the fecond vertebra.

c d The fecond, which arifing from the upper part of the horn of the fecond cervical vertebra, goes to the lower and fame inner part of the third vertebra.

e f The third, which fpringing from the upper part of the horn of the third cervical vertebra at e, goes to the lower and fame inner part of the fourth.

g h The fourth, which fpringing from the upper part of the horn of the fourth cervical vertebra at g, goes to the lower and fame inner part of the fifth h.

i k The fifth, which arifing from the upper part of the horn of the fifth cervical vertebra at i, goes to the lower and fame inner part of the fixth vertebra k.

Add here Fig. 3.

The *fyftematic connection* appears in Tab. VIII. n o p q r in the left fide of the neck. Then in the right fide, where the three upper n o p, in part lie under the fpinalis colli z. Then in Tab. VII. p q r s t in the neck, where alfo the three uppermoft r s t lie partly under the fpinalis colli o, and the uppermoft t under the biventer cervicalis L. And what there appears naked in Tab. VI. lies under the fplenius capitis P in the neck; the uppermoft is alfo in part uncovered by that mufcle juft below O; and in Tab. V. it lies under the cucullaris B in the neck and back.

FIGURE III.

The interfpinales of the neck, laterally.

a b The firft. b its origin from the fide of the upper part of the fpine of the lowefk vertebra of the neck, near the end of its tubercle.

c The fecond. d the third. e the fourth. f the fifth. g, &c. The origin of each from the upper part of the horn of the fpine.

The infertion cannot be feen, as lying behind the horn of the fpine.

Add here Fig. 2.

FIGURE IV.

The middle fcalenus, in its back part.

a a The origin from the firft rib.

b The head joining it from the upper part of the end of the tranfverfe procefs of the firft, or lowefk vertebra of the neck. c the other head from the upper part of the end of the poftcrior tubercle of the tranfverfe procefs of the fecond vertebra.

d e f g h i k l The extremities inferted into the tranfverfe procefles of the vertebræ of the neck, d of the firft, e of the fecond, f of the third, g of the fourth, h of the fifth, i of the fixth, by a tendinous end; k l of the feventh, chiefly tendinous at k, but partly fleffy at l.

Add here Fig. 5.

The *fyftematic connection* appears in Tab. VIII. *s*, &c. in the neck, where below it is covered by the elevator of the firft rib *k*; above by the fixth intertranfverfarius in the back part of the neck *d*. Then in Tab. VII. E in the neck, where it is alfo covered by the fcalenus poftcus F G H, the cervicalis defcendens D, and by the fupreme tendon of the longiffimus dorfi, the tranf-

verſus cervicalis C, and the trachelomaſtoideus z; and what is there uncovered in Tab. VI. lies under the elevator of the ſcapula Z in the neck. But laterally it appears in Tab. IX. x in the neck.

FIGURE V.

The middle ſcalenus, in its fore part.

a The tendinous part of its beginning, by which it ariſes from the firſt rib at b b, occupying the whole height of the ſaid rib.

c d The firſt tail, inſerted by a tendinous end into the anterior and lower part of the tranſverſe proceſs of the lower vertebra of the neck.

e f The ſecond tail, inſerted by a tendinous extremity into the lower part of the end of the poſterior tubercle, and at the end of the lunar edge of the tranſverſe proceſs of the ſecond cervical vertebra.

g h The third tail, h the tendinous end belonging to the end of the lunar edge of the third cervical vertebra.

i k The fourth tail, inſerted by the tendinous end k into the extreme lunar edge of the fourth cervical vertebra.

l m The fifth tail, inſerted by the tendinous end m into the extreme lunar edge, and into the bottom of the anterior tubercle of the fifth vertebra of the neck.

n o The ſixth tail, belonging by the tendinous end o, to near the extremity of the proceſs of the fifth vertebra.

p q r The ſeventh tail, with an extremity inſerted partly fleſhy p, and partly tendinous q, at the fore part the lower edge of the tranſverſe proceſs r of the atlas, about the middle of its length.

Add here Fig 4.

The *ſyſtematic connection* appears in Tab. IV. *b c*, &c. in the neck; where at its origin it lies behind the clavicle, and has alſo a large part covered by the anterior ſcalenus *P*, &c. And then at its inſertion behind the larger rectus capitis internus *C*. Then in Tab. II. *o p* in the neck; covered by the coracohyoideus *a* near the clavicle, and the ſternomaſtoideus *r k*. And what appears naked in that table, in Tab. I. lies behind the latiſſimus colli *O*, &c. in the neck.

FIGURE VI.

The longus colli.

a The tendinous head by which it ariſes at b from the middle of the lateral part of the body of the tenth dorſal vertebra.

c The tendinous part of the head, by which it ariſes from the body of the twelfth dorſal vertebra. See Fig. 7. c.

d The part from which the lower portion of the muſcle on the outer ſide is formed, going a little obliquely to one ſide, and forming one tail e f, partly fleſhy *e*, and partly tendinous f, and ending at g in the lower part of the anterior tubercle of the tranſverſe proceſs of the ſecond vertebra of the neck.

h The other principal part of the muſcle, belonging to the bodies of the vertebræ.

i k The firſt of thoſe heads, which join the principal portion of the muſcle from the tranſverſe proceſſes: ſpringing by a tendinous origin i, from the upper and inner part of the anterior tubercle of the tranſverſe proceſs of the 2d cervical vertebra, that is towards the body of the vertebra. k the fleſhy part.

l m The ſecond head, ſpringing by a tendinous origin from the upper and inner part of the anterior tubercle of the 3d cervical vertebra. m the fleſhy part.

n o The third head, ſpringing by a tendinous origin n, from the ſame part of the tubercle of the fourth vertebra. o the fleſhy part.

p q The fourth head, ſpringing by a tendinous origin from the ſame part of the tubercle of the fifth vertebra. q the fleſhy part.

r The tendinous part, inſerted by the extremities into the body of the ſixth vertebra of the neck.

t The tendinous tail, inſerted at u into the lower part of the tubercle of the atlas, which is fixed in the middle of its fore part.

Add here Fig. 7.

The *ſyſtematic connection* appears in Tab. IV. t, &c. in the neck. Then in Tab. III. *D H* in the neck; where it is in part covered by the larger rectus internus capitis *G*; lies partly behind the lower constrictor of the pharynx *n*; and is in part hid behind the ſternothyroideus *g*, &c. But what appears naked in that table, in Tab. II. lies hid behind the ſternomaſtoideus *g l* in the neck.

FIGURE VII.

The heads and tails of the longus colli.

a b The tendinous head by which it ariſes from the middle of the lateral part of the body of the tenth dorſal vertebra. b the place where it is cut off. It is marked a b in Fig 6.

c d The head, which ſprings by a tendinous origin from the middle of the lateral part of the body of the 11th dorſal vertebra. d the fleſhy part cut off.

e f The head, which ariſes by a tendinous beginning at e from the middle of the lateral part of the body of the 12th dorſal vertebra. f the fleſhy part cut off.

g h The tendinous head, which ariſes at g from about the middle of the lateral part of the body of the 1ſt vertebra of the neck. h the place where it is cut off.

i k The tendinous head, which ariſes at i from about the middle of the lateral part of the body of the 2d cervical vertebra. k the place where it is cut off.

l m The head, which ariſes tendinous at l from the beginning of the firſt rib. m the fleſhy part cut off.

n o The head, which ariſes tendinous at n from the upper and inner part of the anterior tubercle (next the body of the vertebra) belonging to the tranſverſe proceſs of the ſecond cervical vertebra. o the fleſhy part cut off. It is marked i k in Fig. 6.

p q The head, which ariſes tendinous at p from the upper and inner part of the anterior tubercle (that is next the body of the vertebra) belonging to the tranſverſe proceſs of the third vertebra of the neck. q the fleſhy part cut off. It is marked l m in Fig. 6.

r s The head, which ariſes in like manner tendinous at r from the anterior tubercle of the tranſverſe proceſs of the fourth cervical vertebra. s the fleſhy part cut off. It is marked n o in Fig. 6.

t u The head, which ariſes in like manner tendinous at t from the anterior tubercle of the tranſverſe proceſs of the fifth cervical vertebra. u the fleſhy part cut off. It is that marked p q in Fig. 6.

v w The tendinous tail, which is inſerted at v into the body of the third cervical vertebra, in the anterior and lateral part of it not far from its lower margin. w the place where it is cut off.

x y The like tendinous tail, inſerted in like manner at x into the body of the fourth vertebra. y the place where it is cut off.

z *a* The tail, inſerted by a tendinous end z into the body of the fifth vertebra, like the preceding. *a* the fleſhy part that is cut off.

b c The like tail, but much more conſiderable, inſerted by a broader tendinous end about the middle of the height of the fore part of the body of the ſixth vertebra, laterally. *c* the fleſhy part that is cut off.

d e The tail, which is inſerted by the tendinous end *d* into the lower part of the tubercle of the atlas, which is fixed in the middle of the fore part of it. *e* the fleſhy part cut off together with its tendinous part. It is marked t u in Fig. 6.

f g h The tail, which is inſerted at *f* into the lower part of the anterior tubercle of the tranſverſe proceſs of the ſecond vertebra of the neck. It conſiſts of the fleſhy part *g*, and the tendinous part *h*, both of them cut off. It is that marked e f g Fig. 6.

i k The tendinous tail, belonging at *i* to the fore part of the root of the ſpine, that is near the fore part of the tranſverſe proceſs of the firſt cervical vertebra. *k* the place where it is cut off.

Add here Fig. 6.

FIGURE VIII.

The anterior intertranſverſarii of the neck.

a b The firſt, which ariſes at a from the eminence that is in the firſt cervical vertebra, at the anterior root of its tranſverſe proceſs: and is inſerted at b into the lower and fore part of the root of the tubercle, and alſo into the anterior tubercle itſelf of the ſecond tranſverſe proceſs.

c d The ſecond, whoſe origin is from the upper and back part of the anterior tubercle and root of the tranſverſe proceſs of the ſecond vertebra, which here lies behind the ſaid tubercle ſo as to be hid from the view: but ſee *a* in Fig. X. It is inſerted into the lower and fore part of the root and anterior tubercle itſelf of the third vertebra.

e f The third, whoſe origin, like that of the ſecond, is not to be ſeen. f its inſertion into the fourth vertebra, like that of the ſecond into the 3d vertebra.

g h The fourth. Its origin is alſo concealed. f its inſertion into the fourth vertebra, like that of the ſecond into the third vertebra.

i k k The fifth. Its origin is likewiſe concealed. i the tendinous part. k k its inſertion into the lower part of the root of the tranſverſe proceſs of the ſixth vertebra, (and into the edge of its fore part) that ſuſtains the atlas; alſo into the next adjacent part of its body, immediately below the ſaid edge.

l m n The ſixth, which ariſes at l from the fore part of the anterior root of the tranſverſe proceſs of the ſixth vertebra; and is inſerted at m into the bottom of the anterior margin of the root of the tranſverſe proceſs of the ſeventh vertebra. n the tendinous part of its origin.

Add here Fig. 10.

The *ſyſtematic connection* appears in Tab. IV. *a* the fourth, *p* the third, *g* the ſecond, *e* the firſt in the neck; where in part they lie under the tails of the middle ſcalenus *m. l. i. g*: and firſt under the tails of the longus colli *x a*, belonging to the tranſverſe proceſs of the ſecond cervical vertebra; alſo the ſecond, third, and fourth of the heads of the ſaid longus, which ariſe at z. w v, from the tranſverſe proceſſes of the vertebræ of the neck. Then in Tab. III. firſt *L* in the neck, where it alſo in part lies under the tail *H* of the longus colli, belonging to the tranſverſe proceſs of the ſecond vertebra of the neck: and alſo under the tail *W* of the anterior ſcalenus: but the other three are hid behind the larger rectus internus capitis *G*.

FIGURE IX.

The poſterior intertranſverſarii of the neck.

a b The firſt, which ariſes tendinous at a from the ſame upper and anterior part of the tranſverſe proceſs of the firſt cervical vertebra. It is inſerted at b into the lower and back part of the poſterior tubercle and adjacent extremity of the lunar margin of the ſecond vertebra.

c d The ſecond, which ariſes tendinous at c from the upper part of the poſterior tubercle of the tranſverſe proceſs of the ſecond cervical vertebra. It is inſerted at d into the lower and back part of the poſterior tubercle and lunar margin of the third vertebra.

e f The third which ariſes tendinous at e from the third cervical vertebra, like the ſecond from the ſecond vertebra: and is inſerted at f into the fourth, as the ſecond is into the third vertebra.

g h The fourth, which ariſes alſo by a tendinous beginning at g from the fourth vertebra, as the ſecond from the ſecond: and is inſerted at h into the fifth vertebra, as the ſecond is into the third vertebra.

i k The fifth, which alſo ariſes tendinous at i from the fifth vertebra, as the ſecond does from the ſecond vertebra: and is inſerted at k into the lower and poſterior part of the tranſverſe proceſs of the ſixth vertebra.

l m The ſixth, which ariſes tendinous at l from the upper part of the end of the tranſverſe proceſs of the ſixth vertebra. It is inſerted at m into the lower part of the extremity of the ſeventh tranſverſe proceſs, near its fore part.

Add here Fig. 16. r. and Fig. 18. q r.

The *ſyſtematic connection* appears in Tab. IX where they lie behind the anterior intertranſverſarii *o p q r* in the neck, and the tails of the middle ſcalenus *m. l. i. g*. In their back part they appear in Tab. VIII. *d e f g h i* in the neck; where the ſixth *d* lies in part behind the lower obliquus capitis k.

n n The anterior tubercles of these vertebrae here cut off, that the intertransversarii may appear entire.

FIGURE IX.

The fourth anterior intertransversarius colli.

It is here represented laterally and apart, that its origin might be seen. After the same manner with this arise the second, third, and fifth.

a The origin from the upper and back part of the anterior tubercle, and root of the transverse process of the fourth vertebra of the neck.

Add here Fig. 8.

FIGURE XI.

The anterior scalenus.

a The tendinous beginning, by which it arises from the upper edge of the first rib, not far from its cartilage.

b c The first tail, which is the broadest, inserted by the tendinous end c into the lower part of the anterior tubercle of the transverse process of the second vertebra of the neck: and is also continued to the lunar edge of the lowest or first cervical vertebra.

d e The second tail, which is narrower than the first; and inserted by the tendinous end e into the transverse process of the third cervical vertebra, as the first was into the second.

f g The third tail, which is still narrower than the second, inserted by the tendinous end g into the lower lunar edge, and next adjacent part of the anterior tubercle of the transverse process of the fourth cervical vertebra.

The *sydesmatic connection* appears in Tab. III. *P S*, &c. in the neck; where below it is seated behind the clavicle: the insertion of its end is behind the larger rectus internus capitis *C*, and extremity of the longus colli *H*, belonging to the transverse process of the second vertebra of the neck. Then in Tab. II. *r* in the breast; where the rest of it lies behind the clavicle, the coracohyoideus *a* in the neck; and the sternocleidomastoideus *g i l*. And what appears naked of it in that table, is in Tab. I. seated behind the pectoralis *e* in the trunk.

FIGURE XII.

The posterior scalenus.

a b The tendinous beginning, by which it springs from the outer part of the upper edge of the second rib, betwixt that part of it that is fixed to the transverse process, and that which forms the curvature forwards.

b c The first tail, inserted by the tendinous end c into the end of the posterior tubercle of the transverse process of the second vertebra of the neck.

d e The second tail, inserted by the tendinous end e into the extremity of the posterior tubercle of the transverse process of the 3d vertebra of the neck.

The *sydesmatic connection* appears in Tab. VIII. F G H in the neck and trunk; where at its insertion it lies behind the cervicalis descendens D, and the transversus cervicalis C C. But the rest in Tab. VI. is covered by the elevator scapulae Z in the neck.

FIGURE XIII.

The elevator scapulae, in its fore part.

a a The tendinous beginning, by which it springs from the margin of the scapula, just above the beginning of its spine.

b The inner part of it. c the outer part.

d e The first tail, inserted by the tendinous end e into the extremity of the posterior horn of the transverse process of the fourth vertebra of the neck.

f g The second tail, inserted by the tendinous end g into the extremity of the posterior horn of the transverse process of the fifth vertebra.

h i The third tail, inserted by the tendinous end i into the lower and forepart of the end of the transverse process of the sixth vertebra.

k l The fourth tail, which is thicker than the rest, and inserted by the tendinous end l into the anterior and lower part of the transverse process of the seventh vertebra, betwixt the root and extremity of the said process.

The tails are each longer as they are higher.

Add here Fig. 14.

The *sydesmatic connection* appears in Tab. II. *g* in the neck; where the rest lies behind the clavicle, and the coracohyoideus *a* above the clavicle, and the sternocleidomastoideus *l*. In Tab. I. it lies behind the cucullaris T in the neck and trunk.

FIGURE XIV.

The elevator of the scapula, in its back part.

a The tendinous beginning, by which it springs from the edge of the scapula, and which it forms just above the first beginning of its spine.

b The inner part of the fourth tail, at last tendinous.

Add here Fig. 13.

The *sydesmatic connection* appears in Tab. VI. Z in the neck; where its insertion lies hid behind the splenius capitis P. Then in Tab. V. A in the neck; where the rest is covered by the cucullaris B, and sternocleidomastoideus u: and there concealed also behind the splenius capitis *x*. Then laterally in Tab. IX. *y* in the neck; where likewise the rest lies under the cucullaris *z*, and sternocleidomastoideus *r*.

FIGURE XV.

The spinalis colli.

a b The first tendinous head, arising at b from the posterior and upper part of the transverse process of the seventh vertebra of the back, at the tubercle in which its root ends.

c d The second head, e f the third, g h the fourth, i k the fifth, l m the sixth; which arise in the same manner from the eighth vertebra d, from the ninth f, from the tenth h, from the eleventh k, and the twelfth m.

They are each of them shorter as they are higher.

n o p q r The ends, which insert themselves into the side of the lower edge of the end of the spine of the second vertebra of the neck n, of the third o, of the fourth p, of the fifth q, and the sixth r. The portion or end inserted into the sixth is thicker. They lie one upon the other, whence it is that only the uppermost can be entirely seen in the figure.

The *sydesmatic connection* appears in Tab. VIII. *z*, &c. in the back and neck. Then in Tab. VII. o o in the neck and trunk; where it is also covered by the biventer cervicalis I i, &c. and by the complexus u, with the longissimus dorsi *Y S*. Then in Tab. VI. where it is not distinct from the semispinalis dorsi *z* in the back: the rest lies under the splenius colli T in the neck; and splenius capitis P in the neck: also behind the serratus posticus superior *x* b in the back; and where it appears not covered by the semispinalis dorsi, *x* in the left side; in the right side it lies under the rhomboides major p p q in the back.

FIGURE XVI.

The transversalis of the neck, in its back part.

a b The first tendon, by which it arises at b from the upper and back part of the transverse process of the seventh vertebra of the back near its extremity.

c d e f The outer part of the muscle. d the tendon which is marked d Fig. 18. e the tendon that is marked f Fig. 18. f the tendon that is marked k Fig. 18.

g h i k l m n o p The inner part of the muscle.

g h i The head, springing by a tendinous origin at h from the posterior part of the oblique ascending process of the first or lowest vertebra of the neck, at the outer side of the oblique descending process of the second vertebra. i the flesh in which it ends.

k l m The head, which springs by a tendinous origin k from the back part of the oblique ascending process of the second cervical vertebra, at the outer side of the oblique descending process of the third vertebra. m the flesh in which it ends.

n o p The head, that springs by a tendinous origin n from the back part of the oblique ascending process of the third cervical vertebra o, at the outer side of the oblique ascending process of the fourth vertebra. p the flesh in which it ends.

q The tendinous end, which being conjoined with the sixth posterior intertransversarius colli r, is inserted into the anterior and lower part of the transverse process of the atlas.

Add here Fig. 17 and 18.

The *sydesmatic connection* appears in Tab. VII. C C in the neck; where it also lies under the longissimus dorsi *Y*, the cervicalis descendens D, and the transversus cervicalis z. Then in Tab. VI. Y in the neck; where it also lies under the serratus posticus superior *x* b, and the elevator of the scapula Z, with the longissimus dorsi X: above it also lies hid behind the splenius colli T, and splenius capitis P. And what appears naked in that table (*i. e.* VI.) in Tab. V. lies under the cucullaris B in the neck and back.

r The sixth posterior intertransversarius of the neck.

Add here Fig. 18. p q r. and Fig. 9. l m.

FIGURE XVII.

The first five heads of the transversalis colli.

a b The first tendinous head, arising from the upper and back part of the transverse process of the eighth vertebra of the back, near its end. b the place where it is cut off. It is marked a b in Fig. 16.

c The second tendinous head, arising in the same manner from the ninth vertebra.

d e The third, arising from the tenth vertebra, d the tendinous beginning, afterwards forming the flesh e.

f g The fourth head, arising from the eleventh vertebra by the tendinous beginning f, ending in the flesh g.

h i The fifth head, arising from the twelfth vertebra in like manner by the tendinous beginning h, and then forming the flesh i.

They are all cut off, like the first; and lie under the muscle in Fig. 16.

Add here Fig. 16. and 18.

FIGURE XVIII.

The transversalis colli, laterally.

a The lower part to be observed in Fig. 16.

b c The first tendon, inserted at c into the lower and back part of the posterior horn of the end of the transverse process of the second cervical vertebra.

d e The second tendon, inserted at e into the third cervical vertebra, as the first is into the second.

f g The third tendon, inserted at g into the fourth vertebra, like the first into the second.

h i The fourth tendon, inserted at i into the fifth vertebra, like the first into the second.

k l The fifth tendon, inserted at l into the lower and back part of the end of the sixth transverse process.

These tendons run from the external part thro' the belly of the muscle, and are lodged therein almost to the extremity of the flesh.

m The end, which conjoins itself to the sixth posterior intertransversarius colli at n, and is therewith inserted by the tendinous end o, into the lower and fore part of the transverse process of the atlas.

Add here Fig. 16. and 17.

p The beginning of the sixth posterior intertransversarius colli, from the upper part of the end of the transverse process of the sixth cervical vertebra.

q r The back part of the sixth posterior intertransversarius colli, with which is conjoined the end of the transversalis. r the tendinous end.

Add here Fig. 16. r. and Fig. 9. l m.

Muscles of the Head and Neck.

FIGURE XIX.

The rectus major internus capitis.

a The first head, arising from the upper and fore part of the anterior tubercle of the transverse process of the second cervical vertebra.

b The tendinous part by which the flesh is covered.

c c The end, inserted into the lower edge of the occipital bone that is towards the os petrosum, almost at the opening by which the eighth nerve of the head passes out, almost as far as the multiform bone.

d Part of the occipital bone that is before the great foramen.

e The lunar edge of the occipital bone, that belongs to the opening thro' which pass out the internal jugular vein, with the eighth nerve of the head.

Add here Fig. 20.

The *sphenomatic connection* appears in Tab. III. *C* in the neck. Then in Tab. II. *e* in the neck; where in part it lies behind the sternomastoideus *g f*. In Tab. I. the part does not appear that is seen in Tab. II. as being covered by the latissimus colli *O*.

FIGURE XX.

The heads of the rectus internus capitis major.

a b The first head, wholly fleshy, arising from the upper and fore part of the anterior tubercle of the transverse process of the second cervical vertebra: b the place from whence it is cut off. It is marked a Fig. 19.

c d The second head, arising by a tendinous beginning c from the third vertebra, as the first does from the second. d the fleshy part cut off, together with its tendinous part.

e f The third head, arising by a tendinous beginning from the fourth vertebra, as the first does from the second. f the fleshy part cut off, together with the tendinous part.

g h The fourth head, arising by a tendinous beginning g from the fifth vertebra, like as the first does from the second. h the fleshy part cut off.

The second, third, and fourth heads lie under the belly of the muscle in its posterior ascending parts.

Add here Fig. 19.

FIGURE XXI.

The trachelomastoideus, laterally.

a b The tendinous beginning of the first head, arising at b from the transverse process of the tenth dorsal vertebra.

c d The tendinous beginning of the second head, arising at d from the transverse process of the eleventh dorsal vertebra.

e f The tendinous beginning of the third head, arising at f from the transverse process of the twelfth dorsal vertebra.

g h The tendinous beginning of the fourth head, arising at h from the upper and back part of the transverse process of the first or lowest cervical vertebra, near the oblique ascending process.

i k The tendinous beginning of the fifth head, arising at k from the oblique ascending process of the second vertebra of the neck; from the outer and back part of the root of the said process, whence it is continued almost as far as the beginning of the transverse process.

l m The tendinous beginning of the 6th head, arising at m from the oblique ascending process of the third cervical vertebra, as the fifth head does from the second vertebra.

n o The tendinous beginning of the 7th head, arising at o from the oblique ascending process of the fourth cervical vertebra, as the fifth head does from the second vertebra.

The origin of the fifth, sixth, and seventh heads, from the oblique descending processes, cannot here be seen, but may be observed in Fig. 22.

p The tendinous part. See Fig. 22. n.

q The tendinous end, inserted at r into the posterior edge of the mastoide process.

Add here Fig. 22.

FIGURE XXII.

The trachelomastoideus, in its back part.

a b The tendinous beginning of the first head, arising at b from the upper and back part, almost of the extremity of the transverse process of the tenth dorsal vertebra.

c d The tendinous beginning of the second head, arising at d from the eleventh dorsal vertebra, as the first head does from the tenth vertebra.

f The tendinous beginning of the third head, arising in like manner at f from the twelfth vertebra of the back.

Near g is the tendinous origin of the fifth head, arising from the back part of the outer lateral edge of the oblique descending process of the 3d vertebra of the neck: and below that from the oblique ascending process of the 2d vertebra.

Near h i is the tendinous beginning of the sixth head, arising at h from the back part of the external lateral edge of the oblique descending process of the fifth cervical vertebra: and below that from the oblique ascending process i of the third vertebra.

k l m The tendinous beginning of the seventh head, arising at l from the back part of the outer lateral edge of the oblique descending process of the fifth cervical vertebra: and below that from the oblique ascending process of the fourth vertebra m.

n The tendinous portion.

o The tendinous end, inserted at p into the posterior edge of the mastoide process.

Add here Fig. 21.

The *sphenomatic connection* appears in Tab. VII. z, &c. in the neck, where it is covered by a portion of the longissimus dorsi *T*, and transversalis colli C. Then in Tab. VI. W in the neck, where it also lies under the serratus posticus superior z b, the elevator scapulae Z, and part of the longissimus dorsi X, splenius colli T, and splenius capitis P; and what there appears naked in Tab. V. lies under the cucullaris B in the neck and back. Anteriorly it appears in Tab. III. *g* in the left side of the neck, where it lies behind the middle scalenus E, and complexus E'. And what there appears naked is in Tab. II. seated behind the sternomastoideus *I* in the neck, and biventer of the lower jaw y.

FIGURE XXIII.

The biventer cervicalis and complexus, posteriorly.

a b c d e f g h i k l m n o p p The *biventer cervicalis*.

a b The tendinous beginning of the first head, arising at b from the posterior and upper part of the tubercle, in which the transverse process of the first dorsal vertebra terminates.

c d The tendinous beginning of the second head, arising, like the former, from the seventh dorsal vertebra.

e f The beginning of the third head, arising in like manner at f from the eighth dorsal vertebra.

g h The beginning of the fourth head, arising in like manner at h from the ninth vertebra.

i k The beginning of the fifth head, arising in like manner at k from the tenth vertebra.

l The portion, or head that joins the biventer cervicalis, arising from the side of the spine of the twelfth dorsal vertebra. It joins to the middle tendon and belly.

m The middle tendon betwixt the bellies.

n The tendinous portion of the second belly.

o The extremity that is outwardly tendinous, and inserted at p p into the back part of the occipital bone, at the side of its middle, a little lower than where the cucullaris begins.

Add here Fig. 24. a b c d e f g g.

The *sphenomatic connection* appears in Tab. VII. f—n in the neck and trunk, where below it is covered by the longissimus dorsi *T*, and transversalis colli. Then in Tab. VI. M N in the neck, and y in the back, where it is covered by the splenius capitis P, the splenius colli T U V, and serratus posticus superior z b; and what there appears naked in the lower part of the left side at y, the same is in the right side covered by the rhomboides major p p q. Then in Tab. V. y in the neck, where the rest of it is covered by the splenius capitis z, the cucullaris C, and sternocleidomastoideus z.

q r s t u v w x The *complexus cervicalis*.

q r The tendinous beginning of the first head, arising at r from the posterior and upper part of the transverse process of the tenth dorsal vertebra, near its end.

s t The tendinous beginning of the second head, arising in like manner at t from the eleventh vertebra of the back.

u v The tendinous beginning of the third head, arising in like manner at v from the twelfth, or uppermost dorsal vertebra.

w The tendinous portion, which enters at

x The biventer, and is conjoined and inserted therewith.

Add here Fig. 24. h—x.

The *sphenomatic connection* of the complexus appears in Tab. VII. u v in the neck and trunk, where, as here, a great part of it lies behind the biventer f—n, and trachelomastoideus z A, with the transversalis cervicalis, and longissimus dorsi *T*. Those parts of it which appear naked in the said Tab. VII. lie behind the splenius capitis P, and splenius colli T. Tab. VI. in the neck. Anteriorly it appears in Tab. III. E' in the left side of the neck, where it is covered by the obliquus superior capitis Æ; and what is there uncovered is in Tab. II. seated behind the biventer of the lower jaw y in the neck.

FIGURE XXIV.

The biventer cervicalis and complexus, laterally.

a b c d e f g g The *biventer cervicalis*.

a The lower part, to be observed in Fig. 23.

b c The portion, or head that joins the biventer, arising at c from the side of the spine of the twelfth dorsal vertebra, near the tip, or end of the said spine.

d The middle tendon betwixt the bellies.

e The tendinous portion of the second belly.

f The extremity that is outwardly tendinous, and inserted at g g into the back part of the occipital bone, at the side of its middle, a little lower than where the cucullaris begins.

Add here Fig. 23. z—p.

The *sphenomatic connection* appears in Tab. IX. *t* in the head and neck, where it is covered by the splenius capitis *u*, the splenius colli *w*, the cucullaris *C x*, and sternocleidomastoideus *r f*.

h i k l m n o p q r s t u v w x x The *complexus*.

h i The tendinous beginning of the first head, arising at i from the posterior and upper part of the transverse process of the tenth dorsal vertebra, near its extremity.

k l The tendinous beginning of the second head, arising in like manner at l from the eleventh dorsal vertebra.

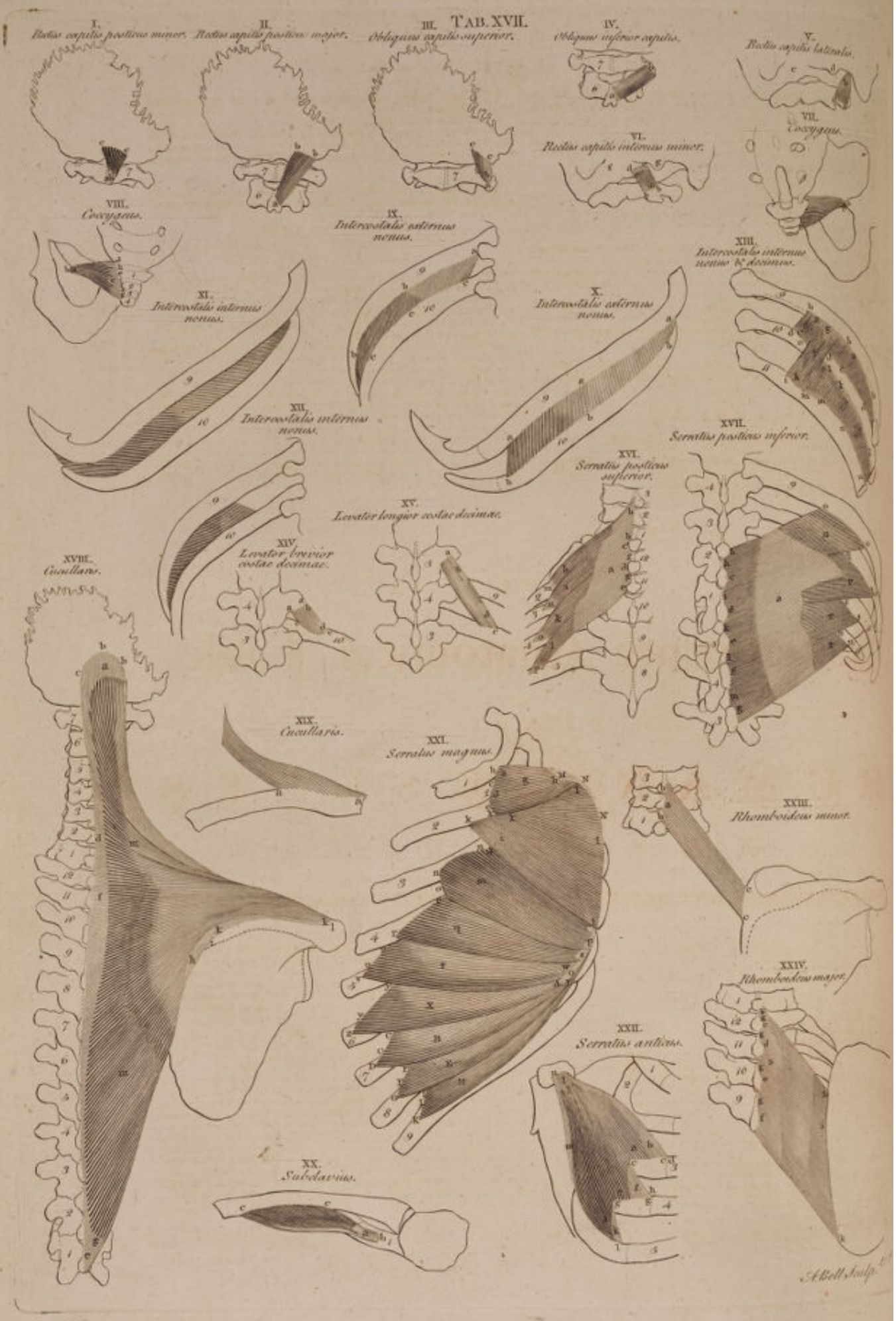
m n The tendinous beginning of the third head, arising in like manner at n from the twelfth, or uppermost vertebra of the back

o p The tendinous beginning of the fourth head, arising at p from the posterior and upper part of the transverse process of the first, or lowermost vertebra of the neck, near its oblique ascending process.

q r The tendinous beginning of the fifth head, arising at r from the outer and back part of the root of the oblique ascending process of the second vertebra of the neck, whence it is continued as far as the root of the transverse process.

s t The tendinous beginning of the sixth head, arising in like manner at t from the oblique ascending process of the third cervical vertebra.

u v The tendinous beginning of the seventh head, arising at v in the same manner from the oblique ascending process of the fourth cervical vertebra.


TAB. XVII.
I. Rectus capitis posticus minor.
II. Rectus capitis posticus major.
III. Obliquus capitis superior.
IV. Obliquus inferior capitis.
V. Rectus capitis lateralis.
VI. Rectus capitis internus minor.
VII. Coccygeus.
VIII. Coccygeus.
IX. Intercostalis externus nonus.
X. Intercostalis externus nonus.
XI. Intercostalis internus nonus.
XII. Intercostalis internus nonus.
XIII. Intercostalis internus nonus & decimus.
XIV. Levator brevior costae decimae.
XV. Levator longior costae decimae.
XVI. Serratus posticus superior.
XVII. Serratus posticus inferior.
XVIII. Cucullaris.
XIX. Cucullaris.
XX. Subclavius.
XXI. Serratus magnus.
XXII. Serratus anticus.
XXIII. Rhomboideus minor.
XXIV. Rhomboideus major.
A Bell Sculp.

The origin of the fifth, sixth, and seventh heads of this muscle, from the external lateral edge of the oblique descending processes of the third, fourth, and fifth cervical vertebræ, cannot be seen in this figure.

w The tendinous portion of the belly.

x x The place where the complexus passes under the biventer, and afterwards joins and inserts itself therewith just below it.

Add here Fig. 25. q—x.

FIGURE XXV.

The sternocleidomastoideus, anteriorly.

a The *sternomastoideus*.

b The tendinous beginning, by which it arises at c c from the anterior and upper part of the sternum, near the head of the clavicle.

d The tendinous end, inserted at e e into the outer part of the mastoide process, almost through its middle breadth from the top to the bottom.

f The *cleidomastoideus*.

g g Its origin, from the upper and fore part of the clavicle, near its head that is joined to the sternum.

h Thence it joins itself with the sternomastoideus, behind which the rest is seated.

Add here Fig. 26.

The *systematic connection* appears in Tab. II. *g h i k l n* in the neck. Then in Tab. I. *W n* in the neck, where the rest is covered by the latissimus colli *O*, and its extremity is hid behind the outer ear.

FIGURE XXVI.

The sternocleidomastoideus, posteriorly.

a b The inner and fore part of the sternomastoideus. b the tendinous beginning.

c The inner and fore part of the cleidomastoideus.

d The outer and back part of the sternomastoideus and cleidomastoideus conjoined together.

e The tendinous end, inserted in a crooked course at f g into the outer part of the mastoide process, from the top to the bottom, almost through the middle of its breadth, being continued backward to part of the temporal bone, and of the occipital bone g h, that are adjacent to the said mastoide process.

Add here Fig. 25.

The *systematic connection* appears in Tab. V. u, &c. in the neck. Laterally in Tab. IX. *r* in the neck, where it is partly covered by the latissimus colli *m*.

FIGURE XXVII.

The splenius capitis.

a The tendinous beginning of the first head, arising from the spinal process of the eleventh vertebra of the back.

b The tendinous beginning of the second head, arising from the spinal process of the twelfth vertebra of the back.

c The tendinous beginning of the third head, arising from the spinal process of the first vertebra of the neck.

d d The part which proceeds from the ligament of the neck, of which the beginning e is tendinous.

f The tendinous end, inserted at g g into the posterior lateral, and outer part of the mastoide process, through its whole length; and thence it is continued backward to an adjacent part of the temporal and occipital bone h h, almost to the part that is in the middle betwixt the root of the mastoide process and middle of the occiput.

The *systematic connection* appears in Tab. VI. P in the neck, where it is covered below by the serratus posticus superior æ b. Then in Tab. V. z. in the neck, naked in that part; but the rest is covered by the cucullaris B, and in the end by the sternocleidomastoideus u. Then laterally in Tab. IX. *u* in the neck, naked in that part; but in the rest covered by the cucullaris *z*, and the sternocleidomastoideus *r*.

THE

Seventeenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

Muscles of the Head.

FIGURE I.

The rectus capitis posticus minor.

a The origin of it from the eminence in the atlas, which is instead of a spinal process; from which origin it is outwardly tendinous at b.

c c The extremity inserted into the occipital bone; namely, into the excavation that is betwixt the great foramen and the end of the complexus, near the middle spine or ridge that is extended backward from the great foramen.

The *systematic connection* of it appears in Tab. VIII. a, &c. in the head and neck, where it is partly covered by the *rectus posticus major* d; and what appears there to be uncovered in Tab. VII, lies behind the complexus and biventer cervicalis, u l in the neck.

FIGURE II.

The rectus capitis posticus major.

a Its origin from that part of the upper edge of the spine of the sixth vertebra of the neck, that is near the root of the horn, and from the horn itself.

b b The end inserted into the occipital bone, near the middle betwixt that part of the appendix of the lambdoide suture, which is formed by the occipital and mammillary bone; and from the lateral part of the great foramen, that is behind the coronoide process; in the middle betwixt the end of the complexus, the upper obliquus, and the rectus posticus minor.

The *systematic connection* appears in Tab. VIII. d, &c. in the head and neck, where its end goes under the obliquus superior g. But, in the seventh table, it lies behind the complexus and biventer cervicalis, u l in the neck.

FIGURE III.

The obliquus capitis superior.

a The origin from the upper part of the end of the transverse process of the atlas; from which origin it is outwardly tendinous at b.

c c The extremity inserted into the occipital bone betwixt that part of the appendix of the lambdoide suture, which is formed by the os occipitis and mammillare, and the part into which is inserted the rectus posticus major.

The *systematic connection* appears in Tab. VIII. *g*, &c. in the head and neck. Then in Tab. VII. w x in the neck, where the rest of it is covered by the complexus u, the biventer cervicalis l, and the trachelomastoideus z B; and what appears there uncovered, is in Tab. VI. concealed behind the splenius capitis, P in the neck. Anteriorly it appears in Tab. IV. a in the head, and in Tab. III. Æ in the head.

FIGURE IV.

The obliquus capitis inferior.

a Its origin from the upper part of the side of the spine of the epistrophaeus, through the whole length of the spine, and a large part of its horn, by a tendinous beginning.

b The extremity, inserted into the posterior amplitude of the end of the transverse process of the atlas.

The *systematic connection* appears in Tab. VIII. k, &c. in the neck. Then in Tab. VII. y in the neck, where the rest of it is covered by the complexus v, and the trachelomastoideus z B; and what there appears uncovered, is in Tab. VI. concealed behind the splenius capitis P in the neck.

FIGURE V.

The rectus capitis lateralis.

a a Its origin from the anterior and upper part of the transverse process of the atlas.

b The extremity, which is outwardly tendinous, and inserted at c into the unequal surface of the occipital bone, that is near the mastoide process, and by the back part of that edge of the occipital bone which forms the posterior margin of the foramen, through which the internal jugular vein passes out.

The *systematic connection* could not be represented.

e Part of the occipital bone that is before the great foramen.

d The lunar edge of the occipital bone that belongs to the foramen, through which the internal jugular vein passes out.

FIGURE VI.

The rectus capitis internus minor.

a The tendinous beginning, by which it arises at b b from the anterior and upper part of the body of the atlas, near the root of the transverse process, and from the root itself.

c The tendinous end, by which it is inserted at d into the lower and back part of the edge of the occipital bone, which is slightly connected with the os petrosum; and particularly into the protuberance which stands out from the said edge before the coronoide process; and near the same at e, mixes itself likewise with a sort of cartilaginous substance, that fills the space at the bottom of the occipital bone and os petrosum, that is placed before the fissure, through which passes out the eighth nerve of the brain.

The *systematic connection* could not be represented. It lies partly behind the rectus internus major, Fig. 19. Tab. XVI. and lies partly naked on the outer side of the said rectus major internus.

f Part of the occipital bone that is before the great foramen.

g The lunar edge of the occipital bone that belongs to the foramen, through which passes out the internal jugular vein.

Muscles of the Coccyx.

FIGURE VII.

The coccygeus, in its back part.

a The tendinous beginning arising at b from the tip of the acute process of the ischium.

c Part of the tendinous beginning, which proceeds from the inner part of the acute process.

Betwixt a and c the tendinous beginning interweaves itself.

Add here Fig. 8.

The *systematic connection* appears in Tab. VI. d in the lower part of the trunk, where it lies behind a certain portion of the levator ani e. In Tab. V. it lies behind the gluteus magnus e in the buttock.

FIGURE VIII.

The coccygeus, in its fore part.

a The tendinous beginning, by which it springs at b from the inner part of the tip of the acute process of the ischium.

c The tendinous end, by which it is inserted at d into the inner part of the edge of the os sacrum near its coccyx, and into the first bone of the coccyx e, to the second f, to the third g; and is also continued to the ligament h, that is placed betwixt the os sacrum and first bone of the coccyx; and the ligament i, that is betwixt the first and second bone of the coccyx, and that k, which is betwixt the second and third.

Add here Fig. 7.

Muscles of the Thorax.

FIGURE IX.

The ninth outer intercostal, in its back part.

The example here given is only of the outer intercostals, to which add Tab. VIII. H I K L M N O P Q R S in the back.

a b b Its origin from the outer and lower part of the ninth rib, particularly from the part a, where the rib begins to project beyond the transverse process to which it is connected.

c c c The insertion into the outer and upper part of the tenth rib.

Add here Fig. 10.

The *systematic connection* appears in Tab. VIII. H I K L M N O P Q R S in the back, where they are in part covered by the short elevators of the ribs *I m n o p q r f s t u*; and the ninth, tenth, and eleventh of them are likewise in part covered by the longer elevators of the ribs A F G. Then in Tab. VII. N O P Q R R S S T U V W in the trunk, where they are covered by the sacrolumbalis *n—P*, with the cervicalis descendens D; and (except the first, with the second N, the third O, and the fourth P) they are covered by the shorter elevators K L M; but the first of them lies hid behind the longer elevator I, and the posterior scalenus F; and in part also are hid behind the longissimus dorsi *W S T*, the fifth, sixth, seventh, and eighth. Then in Tab. VI. *w x y z C D D H L* in the left side of the back, where what appears naked of them in Tab. VII. is for the most part covered by the the serratus posticus superior *x* b, by the serratus magnus *P—B*, and by the serratus posticus inferior C—L: The right side is also agreeable to this, except that the fourth part *w*, the fifth *x*, and the sixth *y*, which are naked in the left side, are in this covered by the rhomboides major *q*; and part of the seventh *z* is also covered. And what appears naked in the right side of Tab. VI. the same is covered by the latissimus dorsi Tab. V. P in the back.

Anteriorly it appears in Tab. IV. *f v t u w x y z* A in the trunk; and in Tab. III. G L M N O P Q R S in the trunk. Then in Tab. II. K K K K K K in the trunk, where they are covered by the serratus magnus *T—G*, and the serratus anticus *a* in the breast, and the first also lies hid behind the subclavius *f* in the breast. And the naked part of the first in Tab. II. is covered by the pectoralis *o* Tab. I. in the trunk; and of the rest by the obliquus externus of the abdomen d, &c.

Interiorly the first appears in Tab. IV *s*, the second *v*, the third *x* with the thorax, below the neck, where the second *v* is covered by the second inner intercostal C.

FIGURE X.

The ninth outer intercostal, laterally.

a a a Its origin from the outer and lower part of the ninth rib.

b b b Its insertion into the outer and upper part of the tenth rib.

Add here Fig. 9.

FIGURE XI.

The ninth inner intercostal, laterally.

We here give only one example of inner intercostals, to which Add Fig. 12. and 13.

FIGURE XII.

The ninth inner intercostal, anteriorly.

We here give only one instance among the inner intercostals, to which add Tab. VIII. T U V W X Y Z a *w* b c in the back.

Add here Fig 11. and 13.

The *systematic connection* appears in Tab. VIII. T U V W X Y Z a *w* b c in the back. But in the right side they lie concealed behind the outer intercostals H I K L M N O P Q R S in the back, except part of the eleventh internal intercostal marked c, which also appears in Tab VII. X. in the trunk, and in Tab. VI. *X* in the back, partly covered by the obliquus internus of the abdomen R S; and what part there remains uncovered, is in Tab. V. covered by the obliquus externus of the abdomen, W in the trunk, and latissimus dorsi P in the back.

Anteriorly the systematic connection appears in Tab. IV. B C D E F G H I K in the left side of the trunk. Then in the right side B C D, where they are covered by the external intercostales *s v x*; but more fully in Tab. III. T Y Z a b c d e f g h i k in the trunk, covered by the external ones G L M N O P Q R S. Then in Tab. II. L L, &c. in the trunk, where they are likewise covered by the external ones K K, &c. also the second, third, and fourth are covered by the serratus anticus *a* in the breast; also the anterior separate portions of the fifth, sixth, and seventh, in part lie under the rectus of the abdomen Z, &c. And what parts appear naked in that last cited table, in Tab. I. lie behind the pectoralis *o* in the trunk, and obliquus externus of the abdomen d, &c.

FIGURE XIII.

The ninth and tenth internal intercostals, internally.

a a b b b c c d d d e The *ninth internal intercostal.*

a a The tendinous beginning, by which it arises at b b b from the lower edge of the inner side of the ninth rib, and from the upper edge of the groove in which are lodged the intercostal vessels.

c c The tendinous end, by which it inserts itself at d d d into the inner part of the upper edge of the tenth rib, and in the part e obliquely across the inner side, or breadth of the rib.

f The portion of the ninth internal intercostal muscle, that descends lower than the rest, and passing over the tenth rib, is inserted into the eleventh.

g Its beginning, that is for a good way tendinous.

h Its tendinous end, inserted at i i with the tenth intercostal, into the inner part of the upper edge of the eleventh rib.

k l l m n n n The *tenth internal intercostal.*

k The tendinous beginning, by which it arises at l l from the lower part of the inner side of the tenth rib, as the ninth does from the ninth rib.

m The tendinous end, by which it inserts itself at n n n into the inner part of the upper edge of the eleventh rib.

Add here Fig. 11. and 12.

The *systematic connection* of the second appears in Tab. IV. C C below the neck within the thorax. That of the eleventh appears in Tab IV. L L L in the trunk, where the diaphragm U *H P P* lies thereon, and upon the ninth at U *S S S O*. And in Tab. VIII. *x* in the right side of the back.

FIGURE XIV.

The elevator brevis of the tenth rib.

This is proposed as an example for the rest. See Tab. VIII. *klmnopqrs tu* in the back.

a a The origin from the transverse process of the fourth vertebra of the back, from the lower part almost of its whole length.

b The tendinous part of its beginning.

c c The extremity, inserted into the upper edge of the tenth rib, into the acute eminence which arises out from thence, where it begins to depart from the bodies of the vertebrae; and beyond that it goes on a little farther than where the rib is jointed with the transverse process, or near the extremity where there is an unequal excavation or groove extended through it; also into the outer part of the upper margin a little beyond the said process.

d The tendinous part of the extremity.

The *systematic connection* appears in Tab. VIII. *klmnopqrstu* in the back, where, except the three first, they are covered by the intertransversarii of the back f g h i k l m n o; the ninth, tenth, and eleventh, are covered by the longer elevators A F G; the three first are covered by the spinalis colli 6 7 8 1 and again the fourth, fifth, and sixth in the same manner; but the seventh, eighth, ninth, and tenth are covered by the semispinalis dorsi t s r q; and all of them by the multifidus. But in Tab. VII. they are likewise covered by the longissimus dorsi *m S T*, and sacrolumbalis *n—P*, with the cervicalis descendens D in the trunk; and some of the uppermost are also hid by the transversalis colli C C, and by the complexus cervicalis u; over the first and second is spread the scalenus posticus F: Those partly naked are the second I, the third K, the fourth L, the fifth M; and upon those parts in Tab. VI. is seated the serratus posticus superior x b in the left side of the back, where only a part of the fifth *w* lies naked, which in the right side is covered by the rhomboides major q.

Anteriorly the systematic connection of the first elevator brevis appears in Tab. IV. *f* in the neck; is in part covered by the middle scalenus, the tail *d* belonging to the transverse process of the first vertebra of the neck. And in Tab. III X. in the neck, it is likewise covered by the tail c of the said middle scalenus.

FIGURE XV.

The elevator longus of the tenth rib.

This is given as an example of the rest. *Add here* Tab. VIII. F G in the back.

a The origin from the lower edge of the back part of the transverse process of the fifth dorsal vertebra.

b The tendinous part of its beginning.

c The end, inserted into the back part of the upper edge of the tenth rib, near the outer side of the elevator brevis, where the rib more inclines itself downwards.

d The tendinous part of the extremity.

The *systematic connection* appears in Tab. VIII. A F G in the back, where they lie partly under the intertransversarii of the back i h g. Then again they are covered over by the longissimus dorsi with the sacrolumbalis Tab. VII. *m*, &c. in the trunk.

FIGURE XVI.

The serratus posticus superior.

a The tendinous part, by which it begins and arises at b b from the ligament of the neck, from whence it is cut off about the second and third spinal process of the neck from the back; from the spine of the first cervical vertebra c, from the twelfth of the back d, and from the eleventh e; and in the intervals betwixt those spines f g they cohere with the next muscles.

h i k l The four extremities into which this muscle divides itself, and which it inserts into the second, third, fourth, and fifth ribs, where they first begin to bend themselves forwards, and are inserted along the upper edge and outer side of the ribs.

m The tendinous end of the first, inserted into the second rib.

n The tendinous end of the second, inserted into the third rib.

o That of the third, inserted into the fourth rib.

p That of the fourth, inserted into the fifth rib.

The *systematic connection* appears in Tab. VI. *x*, &c. in the left side of the neck and back, where it covers part of the elevator scapulae Z, and passing with its extremities under the scapula, it lies under the serratus magnus. Then in the right side *w* b, where also it in part covers the elevator scapulae Z; but the rest is covered by the rhomboides minor m, and the rhomboides major p p q; and what part appears there naked, the same is in Tab. V. seated behind the cucullaris B in the neck and back.

FIGURE XVII.

The serratus posticus inferior.

a The tendinous part, which arises with the latissimus dorsi from the spine of the third dorsal vertebra b, from the spine of the second c, from the spine of the first d, from the fifth or uppermost of the loins e, from the fourth f, from the third g; and in the intervals betwixt the spines h i k l n, it cohores with the next muscles.

n The first extremity, which is broader than the rest, and inserted at o o into the ninth rib, into the outer part of its lower edge, almost where it bends itself in the side from the back forwards.

p The second end, inserted into the tenth rib q q. Much narrower than the last preceding head above it.

r The third extremity, inserted into the eleventh rib s s. Still narrower than that next above it.

t The fourth end or extremity, inserted into the twelfth rib u u, being still narrower than that next above it.

Add here Fig. 3. Tab. XIV.

The *systematic connection* appears in Tab. VI. C, &c. in the lower part of the trunk, where its origin is covered over by the tendon U, by which the latissimus dorsi begins. In Tab. V. it lies wholly concealed behind the latissimus dorsi P, &c. in the back.

Muscles of the Shoulder, composed of the Scapula and Clavicle.

FIGURE XVIII.

The cucullaris.

a b b c d e f g The tendinous beginning.

a The broader part of its beginning, arising at b b c from the middle and thick part of the occipital bone, and from its lateral edge.

From c to e it coheres with its fellow, and with that

From c to d goes off from the cervical ligament, from whence it is here cut.

From d to e it arises from the spines of the two lower vertebrae of the neck, and all those of the back, investing the back part of those spines. In the intervals of the spines it coheres with the left cucullaris.

f The tendinous part of its beginning, which is broader towards the bottom of the neck, and upper part of the back.

g The broad tendinous portion of the lower angle.

h The tendinous part of its extremity, which is inserted into the spine of the scapula at i, near its basis.

Afterwards by the continued tendinous end k k, it is inserted at i i into the outer part of the upper edge of the spine of the scapula, and of its upper process.

m m The flesh of the muscle, whose upper fibres descend obliquely forwards to the clavicle; the lower ascend to the spine of the scapula; the fibres even with the neck and back are transverse, but incline more or less to descend or ascend as they are higher or lower.

Add here Fig. 19.

The *systematic connection* appears in Tab. V. B, &c. in the head, neck, and back. Laterally it appears in Tab. IX. z, &c. in the head, neck, and back.

FIGURE XIX.

The anterior part of the cucullaris.

a a Its insertion into the upper and back part of the clavicle for that half of its length, which is next the processus acromion scapulae.

Add here Fig. 18.

The *systematic connection* of this part appears in Tab. I. *T* in the neck, where it is in part covered by the latissimus colli *O*, &c.

Muscles of the Clavicle.

FIGURE XX.

The subclavius.

a The tendon by which it begins, running through the lower part of its flesh, and arising at b from the outer part of the cartilaginous end of the first rib.

c c The end, inserted into the lower part of the clavicle, all the way from a part not far distant from its first, as far as that head which lies upon the coracoide process.

The *systematic connection* appears in Tab. II. *f s u v* in the breast, where part lies hid behind the coracoide process. In Tab. I. it lies behind the pectoralis *e* in the trunk, and the deltoides M in the shoulder; and betwixt them it lies hid behind the latissimus colli *h a* in the trunk. Posteriorly its connection appears in Tab. VI. *b* near the shoulder.

Muscles of the Scapula.

FIGURE XXI.

The serratus magnus.

a The first head, which arises at b from the outer and lower part of the first rib, and from its origin c adheres to the first external intercostal.

d The second head, which arises at e from the whole height or breadth of the second rib, and from its origin f adheres to the first outer intercostal muscle.

g The first and second head conjoined in one, the thick portion arising from which is inserted tendinous at h, principally into the inner side of the very short margin of the scapula, betwixt the basis and the upper rim.

i The third head, arising at k k k from the outer part of the lower edge of the second rib. It grows broad in the shape of a triangle, and is inserted into the greater part of the basis of the scapula, on its inner side.

m The fourth head, which arises at n n from the outer part of the third rib, and from its beginning adheres at o o to the third outer intercostal, and is inserted by its tendinous end p into the basis of the scapula, below the third head.

q The fifth head, which arises at r r from the outer part of the fourth rib, and is inserted by its tendinous end s into the lower angle of the scapula, just beneath the fourth head.

t The sixth head, adhering at u u from its beginning to the fourth outer intercostal, and arising at v from the outer part of the fifth rib. It is inserted at w into the lower angle of the scapula, just beneath the fifth head, by a tendinous extremity.

x The seventh head, which from its origin y y adheres to the fifth outer intercostal, and arises at z from the outer part of the sixth rib. It is inserted at A in the bottom of the lower angle of the scapula, by a tendinous extremity, just beneath the sixth head.

B The eighth head, adhering from its beginning C C to the sixth outer intercostal, and arising at D from the outer part of the seventh rib.

E The ninth head, adhering from its beginning F F to the seventh outer intercostal, and arising at G from the outer part of the eighth rib.

H The tenth head, adhering from its origin I I to the eighth outer intercostal, and arising at K from the outer part of the ninth rib.

L The common tail or insertion of the eighth, ninth, and tenth heads, ending tendinous in the lower angle of the scapula. With this insertion the seventh head is likewise conjoined in some bodies.

M N N O The place from whence the scapula is removed, that the subjacent part of the serratus may appear. A very small edge of the scapula is left at M, betwixt the basis and upper edge; and at N N is left part of the basis, and of the lower angle at O.

The *sistematic connection* appears in Tab. IX. K L M N O P Q in the trunk, where it is covered by the serratus anticus G, the pectoralis H, the latissimus dorsi *O*, and by the heads U V W of the obliquus externus of the abdomen.

Anteriorly its connection appears in Tab. II. *Y O* A B C D E F G. &c. in the trunk, where it is also covered by the serratus anticus *u*, &c. and lies hid behind the subclavius *f*, &c. Then in Tab. I. *x y* z a b in the trunk, where it is covered by the pectoralis *s* in the breast; and by the heads of the obliquus externus of the abdomen e f g in the trunk, and by the latissimus dorsi *t*.

Posteriorly its connection appears in Tab. VI. *P S W Y O* A B in the side of the thorax, and *f* at the shoulder, where the rest lies under the scapula and the subscapularis muscle that adheres to the inner side of the said bone, and under the adjacent muscles, as the teres major *y* in the scapula, the rhomboides major x in the back, the elevator scapulae Z in the neck, and the coracohyoideus *g* at the shoulder. And what appears naked in that table, is in Tab. V. placed under the latissimus dorsi P in the back, and the cucullaris B in the neck and back.

FIGURE XXII.

The serratus anticus.

a b The first head, by which it arises at c c from the outer part of the upper edge of the end of the bony part of the third rib, and at d from its adjacent cartilage. b the thin tendinous part.

e f The second head, by which it arises at g g from the outer part of the fourth rib, in an oblique course, at its upper part, near its cartilaginous end, and from the adjacent cartilaginous part itself at h, whence it inclines downward and backward. f the thin tendinous part.

i k The third head, by which it arises at l from the outer part of the upper edge of the fifth rib, not far from its cartilaginous end. k its thin tendinous part.

l m The tendinous end, which begins to appear tendinous before, at m in the margin of the muscle that lies towards the axilla. It is inserted at n into the upper and inner part of the coracoide process of the scapula, not far from the extreme tip of that process.

The *sistematic connection* appears in Tab. II. u, &c. in the breast. In Tab. I. it lies under the pectoralis *s* in the trunk, and the deltoides M in the shoulder. Laterally it appears in Tab. IX. G in the trunk, where, from the raised position of the arm, part of it appears uncovered by the pectoralis H.

FIGURE XXIII.

The rhomoideus minor.

a The tendinous beginning, by which it arises from the ligament of the neck, near the spines of the three lower cervical vertebrae, where it is cut off from the ligament b b.

c c The end inserted into the scapula, at that part of its basis which is near the rising spine, where the basis forms an angle with the upper margin.

The *sistematic connection* appears in Tab. VI. m in the back. In Tab. V. it lies under the cucullaris B in the neck and back.

FIGURE XXIV.

The rhomboideus major.

The tendinous origin, by which it springs at b from the side of the end of the tip of the spinal process of the first or lowest vertebra of the neck, the uppermost or twelfth of the back c, of the eleventh d, of the tenth e, and of the ninth f. And in the spaces betwixt those spines it coheres with the adjacent or nearest muscles, from whence it is here cut off at g g g g.

h i The part where the muscle bends itself in the direction of the basis of the scapula, but without inserting itself.

i From thence its extremity is inserted into the basis of the scapula, as far as its lower angle k.

The *sistematic connection* appears in Tab. VI. p, &c. in the back, where it lies partly under the rhomboideus minor m. In Tab. V. it lies under the cucullaris B in the back, and the latissimus dorsi P, a small part being naked at L.

THE

Eighteenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

Muscles of the Humerus.

FIGURE I.

The latissimus dorsi, laterally.

a a The broad tendon, by which it begins.

b The fleshy part.

c d The place where the broad tendon is cut off, where it coheres with the origin of the gluteus magnus.

d e The origin of the broad tendon, from the outer part of the margin of the middle of the spine of the ilium.

f g h The heads, which arise in the side of the body from the outer part of the ribs; f that from the eleventh rib, g that from the tenth, h from the ninth. That from the twelfth rib, lies under the part that springs from the os ilium, and therefore does not appear in the figure.

i The place where it bends itself to the teres major.

k l The inner portion, of which k denotes the fleshy part, l the tendon in which it ends.

Add here Fig. 2. and 3.

The *sistematic connection* appears in Tab. IX. *O*, &c. in the trunk, where at its origin it is covered by the cucullaris z, and with its end passes under the arm.

FIGURE II.

The latissimus dorsi, posteriorly.

a a The broad tendon, by which it begins.

b b Its origin from the ends of the spines of the six lower vertebrae of the back, from the spines of the lumbal vertebrae, and from those of the os sacrum.

c d Its origin from the oblique processes that are at the sides of the opening in the os sacrum, where the canal of the spina dorsi terminates.

d e The part that coheres with the beginning of the gluteus magnus, from whence it is cut off.

e f Its origin from the outer edge of the middle portion of the spine of the ilium.

g The fleshy portion.

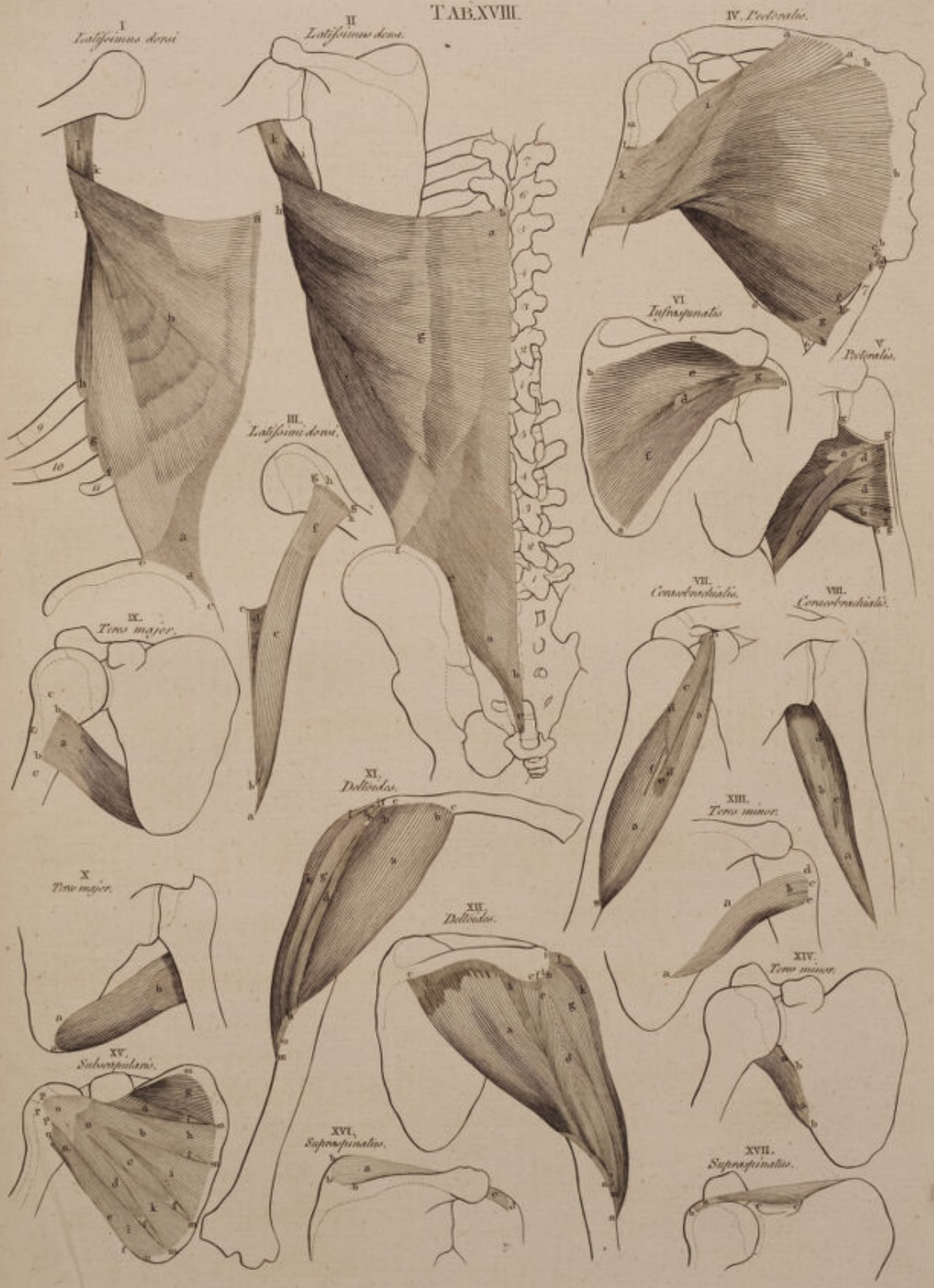
h The place where it bends itself to the teres major.

i k The inner portion; of which i denotes the fleshy part, k the tendon in which it ends.

Add here Fig. 1. and 3.

The *sistematic connection* appears in Tab. V. P, &c. in the back, where it is covered at its origin by the cucullaris B F, while its end passes under the teres major O.

TAB. XVIII.



A. Bell Sculp.t

FIGURE III.

The latissimus dorsi, anteriorly.

a b The heads which arise from the ribs, a that from the tenth rib, b that from the ninth.

c The anterior fleshy portion.

d The inner fleshy portion coming from the back, here cut off at e e.

f The tendon in which it ends, inserted at g g a little below the less unequal protuberance in the upper head of the os humeri, into the fore part of the eminence h h, that terminates the sinus or channel backward, through which descends the tendon of the biceps muscle of the arm; and then running lower than the said sinus, where it meets the tendon of the pectoralis, it in part joins and continues itself thereto.

Add here Fig. 1. and 2.

The *systematic connection* appears in Tab. I. *t v w* in the trunk, where in its upper part it lies behind the pectoralis *s*. In Tab. II. part of the end *W* in the humerus, is covered by the coracobrachialis and biceps of the arm u w y z, which in Tab. I. is covered by the pectoralis *s* in the trunk, and the deltoides M, &c. in the humerus.

FIGURE IV.

The pectoralis, anteriorly.

a a Its origin from almost all the fore side of that part of the clavicle which is incurvated towards the thorax.

b b b Its origin from the anterior part of the os pectoris, all the way from the root of that part which sustains the clavicle, as far as the insertion of the cartilage that sustains that sixth rib.

c Its origin from the outer part of the end of the cartilage of the sixth rib.

d e Its origin from the upper part of the outer side of the cartilage of the seventh rib, almost at its end, where the origination is for some way thin and tendinous; and of which the lower part e may be said to belong to the pectoralis, or to the aponeurosis of the obliquus externus of the abdomen.

f f The part where it cohores with the aponeurosis of the external obliquus of the abdomen, from whence it is cut off.

g The portion that joins this muscle from the aponeurosis of the external obliquus of the abdomen. h h the place where it is cut off from that aponeurosis.

The portion of this muscle that arises from the fore part of the whole cartilage, and often from the bony end itself of the fifth rib, lies here under the muscle; as also do the portions which it receives from the fore parts of the cartilages which the four upper ribs send to the os pectoris, and from the adjacent parts of the os pectoris itself.

i i The foot-steps, or marks imprissed on this muscle by the deltoides, under which it in part lies.

k The tendon in which the upper part ends, inserted at l l into the oblong eminence of the os humeri, that is seated in its inner side, a little below the large unequal protuberance of the upper head of the humerus, lying along the side of the sinus, and terminating the same before, through which the biceps detaches one of its heads. But the tendon ends in that part of the ridge or eminence that looks towards the sinus.

Add here Fig. 3.

The *systematic connection* appears in Tab. I. *s* in the trunk, where it is in part covered by the latissimus colli *a a a*, and by the deltoides M, &c. in the shoulder.

Laterally its connection appears in Tab. IX. H I in the trunk.

FIGURE V.

The end of the pectoralis, in its back part.

a b Portions of its anterior extremity, of which a is tendinous throughout, b is a thin tendinous surface. The rest is covered by the posterior extremity.

c The lower portion, that coming from the anterior part, bends itself round the upper.

d d The posterior tendinous end, which in its upper part crosses the first end applied to it, and in the end connected with it.

e e f Its insertion into the os humeri. See Fig. 4. l l.

g g g g A part of the os humeri cut out, in such a manner as to show the end of the muscle, as it is inserted.

Add here Fig. 4.

FIGURE VI.

The infraspinatus.

a b Its origin from the back of the scapula, along its basis; and from the lower part of the spine b—C. The rest continues to arise from beneath the said spine, as far as the root of its processus acromion, and below that also from the sinus, that is extended along the anterior and lower rim of the scapula.

d The tendon that first begins to appear externally.

e f The fleshy portions that join to that tendon. e the upper, that goes off from the spine. f the lower portion, that comes from the lower angle.

g The tendinous end, inserted at h into the upper and back part of the larger unequal protuberance in the upper head of the os humeri.

The *systematic connection* appears in Tab. VI. *m*, &c. in the scapula, where it in part lies under the teres minor *t*, and by its extremity passes in some measure under the processus acromion scapulae. Then in Tab. V. I K in the back, where it is partly covered by the latissimus dorsi P, and the cucullaris H G, and likewise the deltoides *f*, &c. in the shoulder.

Laterally its connection appears in Tab. IX. *P* in the trunk, where it is likewise covered in part by the latissimus dorsi *O*, and the cucullaris *X*, and in part by the deltoides A, &c. in the left arm.

FIGURE VII.

The coracobrachialis, in its fore part.

a a The coracobrachialis muscle.

b Its common origin together with the shorter head of the bicipital muscle of the arm, from the coracoide process of the scapula.

c Part of the shorter head of the biceps brachialis, externally tendinous, and conjoined with the coracobrachialis; d d the place where the said short head is cut off.

e The tendinous excursion, or aponeurosis that runs along the flesh of the coracobrachialis, where the short head of the biceps no longer cohores with it.

f The division or slit in this muscle through which a nerve passes.

g Its insertion into the back part of the inner side of the os humeri, beneath the middle longitudinal portion of that bone.

Add here Fig. 8.

The *systematic connection* appears in Tab. III. *f g h*, &c. in the humerus, where at its end it is in some measure covered by the brachialis internus *m*. Then in Tab. II. u in the arm, where it is in a great measure covered by the biceps brachialis w x. Then in Tab. I. R S in the arm, where it is likewise covered by the biceps brachialis X, the pectoralis *s* in the trunk, and the deltoides M in the shoulder.

FIGURE VIII.

The coracobrachialis, in its back part.

a The tendon, which here springs from two originations b c.

d The division or slit in its fleshy part, through which passes a nerve.

Add here Fig. 7.

The *systematic connection* appears in Tab. VII. *n* in the arm; where part lies under the teres major *m*, and the subscapularis *t*, in the scapula: part behind the brachialis externus *s p* in the arm; and part is hid by the os humeri. And what then appears naked is in Tab. VI. covered by the extensor longus C, and the extensor brevis z, in the humerus: a small portion appears naked betwixt them and the teres major *y* in the scapula; and which in Tab. V. is covered by the deltoides *f*, &c. in the shoulder.

FIGURE IX.

The teres major, in its fore part.

a The tendinous end, inserted at b b into the oblong eminence c c, that is a little below the less unequal protuberance in the upper head of the os humeri.

Add here Fig. 10.

The *systematic connection* appears in Tab. III. z *a* in the scapula, where it is in part covered by the subscapularis v, and in part by the coracobrachialis *g* in the arm. Then in Tab. II. *S* in the scapula, where it is likewise covered by the subscapularis *f*, in the scapula, and by the coracobrachialis u in the arm, and moreover by the extremity of the latissimus dorsi *W* in the scapula. Then in Tab. I. *f f* in the trunk, where it is covered by the latissimus dorsi *t*, and is hid behind the pectoralis *s*: but in the right arm which hangs down, that part which appears uncovered in the left arm from its elevated position, is obscured or hid from the view.

FIGURE X.

The teres major, in its back part

a a Its origin, from the outer part of the lower angle of the scapula, and from the extreme part of its anterior edge.

b The tendinous part of its end.

Add here Fig. 9.

The *systematic connection* appears in Tab. VII. *k l m* in the scapula, where its extremity passes under the os humeri. Then in Tab. VI. *y y* near the shoulder, where part lies under the infraspinatus *u f*, part under the teres minor *t*, and part behind the extensor longus C D in the arm; and in the left arm behind the extensor brevis A. Then in Tab. V. O in the back, where likewise part of it lies behind the infraspinatus I, the teres minor N, and the extensor longus *p* in the arm; also behind the latissimus dorsi P, and the deltoides *f* in the shoulder.

Laterally its connection appears in Tab. IX. *Y* in the trunk, where part of it lies under the infraspinatus *P*, part under the latissimus dorsi *O*, and part under the deltoides A, &c. in the left arm.

FIGURE XI.

The deltoides, in its fore part.

a The first portion of the first order, of which this muscle is composed, arising tendinous at b b from the fore part of the clavicle c c, where that part is concave: and sometimes also from the tip of the processus acromion scapulae.

d The anterior portion of the second order, arising tendinous at e from the tip of the processus acromion scapulae f, betwixt the origins of the portions a and g, betwixt which it is placed and connected.

g The third portion of the first order, arising with a tendinous beginning h, from the extremity of the processus acromion scapulae, being from its origin conjoined with the tendinous beginnings of the portions, betwixt which it is placed.

k The middle portion of the second order, which arises by a tendinous part l, conjoined with the tendinous beginning of the next portion g, from the processus acromion scapulae, betwixt the origin of the portion g, and that marked g in Fig. 12. It is inserted into the middle part m, betwixt the two oblong protuberances that are fixed in the os humeri, just above its middle; and it cohores in its extremity with the brachialis internus.

n The tendinous end, formed by the portions a d, and inserted at o into the anterior of the forefaid protuberances of the os humeri.

Add here Fig. 12.

The *sysomatic connection* appears in Tab. I. M, &c. in the humerus: where at its beginning it is covered by the fasciculus colli *a a a*, and at its insertion is covered by the biceps muscle of the arm W.

FIGURE XII.

The deltoides, in its back part.

a The second and posterior of the first order of portions, of which this muscle is composed, arising with a tendinous origin b b, (running for some way on its external surface) from the lower edge of the spine, and from a large part of the processus acromion scapulae.

d The posterior portion of the second order, arising with a tendinous beginning c, from the lower edge of the processus acromion scapulae f, betwixt the portions a and g, and from its origin conjoined together with the tendinous beginnings of the portions, betwixt which it is placed.

g The fourth portion of the second order, arising with a tendinous beginning h, from the processus acromion, bending itself into an arch i i, and conjoined with the tendinous beginnings of the portions, betwixt which it is placed.

k The middle portion of the second order, which arises by a tendinous beginning l, from the edge of the processus acromion, and is conjoined into one with the tendinous beginning of the next portion g.

m m The tendinous end, formed by the portions a d, and inserted at n n into the hindermost of the oblong protuberances in the os humeri, that are fixed just above its middle part: into which also the portion g inserts itself.

o o The place where the flesh is cut off, from its cohesion with the brachialis internus.

Add here Fig. 11.

The *sysomatic connection* appears in Tab. V. *f*, &c. in the shoulder; where at its beginning it lies under the cucullaris G in the back; at its end under the extensor brevis *e* in the arm.

Laterally its connection appears in Tab. IX. A, &c. in the left arm; where its end lies behind the brachialis internus S.

FIGURE XIII.

The teres minor, in its back part.

a a Its origin, from the anterior and lower margin of the scapula, and from the whole outer part of the said margin, from the lower angle of the scapula as far as its neck.

b The tendon, inserted into the os humeri at c.

d e Fleshy portions that are inserted together with the tendon, the one above at d, the other below at e.

They are inserted into the lower and back part of the larger unequal protuberance in the upper head of the os humeri, and into the extremity of the lower part of its neck.

Add here Fig. 14.

The *sysomatic connection* appears in Tab. VI. *t* in the scapula; where at its beginning it is partly covered by the infraspinatus *f*, and the teres major *y*. Then in Tab. V. N in the back; where it is also covered by the infraspinatus I, the teres major O, and likewise by the deltoides *f* in the shoulder.

Laterally its connection appears in Tab. IX. *W* in the trunk; where also at its beginning it is partly covered by the infraspinatus *P*, the teres major *Y*, and after that by the deltoides *A*, &c. in the left arm.

FIGURE XIV.

The teres minor, in its fore part.

a a The tendinous part of its beginning.

b b Its origin from the anterior and lower margin of the scapula.

Add here Fig. 13.

FIGURE XV.

The subscapularis.

a b c d e Five of the first order of the fasciculi or portions of which it is composed, and which arise from eminences in the hollow part of the scapula near its basis: the first (a) from a little below the upper angle: the five e from the root of the lower angle: the three others b c d arise with tendinous portions f f f f f in the middle betwixt the former.

g h i k l Five of the second order of the bundles of which it is composed; the four lower of which h i k l are placed betwixt the five of the first order; the uppermost g above the superior of the former. m m m m m m the originations of them from the inner part of the scapula.

The third order of portions lie under the first in the intervals betwixt the fasciculi of the second order. These three orders in their origination take up the whole internal surface of the scapula, from its back part almost to its neck; and likewise occupy almost the whole lower part of the round margin of its anterior and lower rim of the colla inferior.

n n The common end of the muscular portions.

o The tendinous end which it forms; inserted at p p into the less unequal protuberance of the upper head of the os humeri, from top to bottom.

q The fleshy part of the extremity, inserted beneath the foresaid tendinous part into the os humeri, below the said less protuberance.

r The less unequal protuberance in the upper head of the os humeri.

The *sysomatic connection* appears in Tab. IV. *W*, &c. in the scapula. Then in Tab. III. v v, &c. in the scapula; where it is partly covered by the coracobrachialis, with the shorter head of the biceps muscle of the arm *h*, &c. in the arm. Then in Tab. II. *L L P X* in the scapula; where it is likewise covered by the coracobrachialis with the shorter head of the biceps brachialis w in the arm; and it is also hid behind the serratus anticus n n, and the subclavius *f* in the breast. And what part of it appears naked in Tab. II. is in Tab. I. covered by the deltoides M, &c. in the shoulder, and the rest is hid behind the pectoralis *e* in the trunk.

FIGURE XVI.

The supraspinatus, in its back part.

a The fleshy part lodged in the cavity, that is above the spine of the scapula.

b b b Its first origin from the back part of the cavity, that is above the spine: from thence continuing to arise as far as the lesser notch, that is at the root of the coracoide process.

c The tendinous end, inserted at d into the tip of the larger unequal protuberance in the upper head of the os humeri.

Add here Fig. 17.

The *sysomatic connection* appears in Tab VI. *t* in the scapula. In Tab V. it is covered by the cucullaris B H H in the neck and back.

FIGURE XVII.

The supraspinatus, in its fore part.

a The tendon in which it ends, inserted at b into the tip of the larger unequal protuberance in the upper head of the os humeri.

c c The coracoide process cut off.

Add here Fig. 16.

The *sysomatic connection* appears in Tab. II. *r s* in the arm, where it lies partly under the juncture of the scapula, with the clavicle in the top of the shoulder: the rest of it lies behind the coracobyoideus, where that arises from the scapula, and is concealed behind the subclavius *f* in the breast. And what appears naked of it in that table, is in Tab. I. seated under the deltoides M, &c. in the shoulder.

THE

Nineteenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

Muscles moving the Cubit or Fore-arm.

FIGURE I.

The brachialis internus.

a b The bifurcated origination of it, from the os humeri, surrounding the lower part of the protuberances into which the deltoides is inserted; below which protuberances, it likewise arises all the way from the whole extent or breadth of that bone, almost as low as the condyles, and along its fore part.

c c c The origin of the posterior horn from the os humeri.

d The lower part of this muscle, which lies near the supinator longus.

e The tendinous surface of its extremity.

f Its insertion into the inner part of the upper head of the ulna.

Add here Fig. 2.

The *sysomatic connection* appears in Tab. III. *k*, &c. in the arm, where it lies under the portion that joins the long flexor of the thumb, *W* in the cubit.

TAB. XIX.
XVIII.
Supinator brevis.
I.
Brachialis internus.
III.
Biceps brachii.
V.
Triceps brachii.
IX.
Radialis internus.
X.
Ulnaris internus.
XIX.
Pronator teres.
XXI.
Pronator quadratus.
IV.
Biceps brachii.
XVI.
Supinator longus.
XII.
Radialis externus brevior.
XVII.
Supinator brevis.
VI.
Triceps brachii.
II.
Brachialis internus.
VII.
Triceps brachii.
XIV.
Radialis externus longior.
XI.
Ulnaris internus.
Radialis externus brevior.
XIII.
Radialis externus longior.
XV.
Ulnaris externus.
VIII.
Anconæus.
XX.
Pronator teres.
XXII.
Pronator quadratus.
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Then in Tab. II. *h—h* in the arm, where the rest lies under the biceps brachialis *a b c*, and under the sublimis D in the cubit. Then in Tab. I. *L L L* in the arm; where also it lies under the biceps brachialis Y Z *G*, the pronator teres *W*, and the supinator longus *P*.

FIGURE II.

The brachialis internus, in its outer part.

a The first horn of its beginning. b b its origination from the bone of the humerus.

c c Its inferior and hollow part; on which lies the supinator longus.

Add here Fig. 1.

The *systematic connection* appears in Tab. VII. *z* A *n* the arm; where it in part lies under the longer radialis externus C C. Then in Tab. VI. P in the arm; where it is likewise covered by the longer radialis externus R, and also by the triceps brachialis *z* F. Then in Tab. V. *y* in the humerus, in like manner covered by the triceps brachialis *e r*, and by the longer radialis externus B in the fore arm, also by the supinator longus *z*.

Laterally it appears in Tab. IX. S in the left arm, and *f* in the right arm.

FIGURE III.

The biceps brachialis.

a b c The shorter head. a the origination of that head outwardly tendinous, springing at b from the upper part of the end of the coracoide process of the scapula. c its fleshy belly.

d e f g The longer head. d e f the tendon by which it begins; arising at d from the same outer and upper edge of the sinus in the scapula, into which the head of the os humeri is articulated; where also the tendon is continuous with the ligament that enlarges the rim of the said sinus scapulae. From thence it runs down over the head of the os humeri d—e; and then thro' the groove or channel that is betwixt the two unequal protuberances at the head of that bone e—f, to form the fleshy belly g.

h The common belly of this muscle.

i The tendon by which it is inserted into the radius.

k The aponeurosis, (which it sends to the tendinous fascia or covering of the cubit) cut off at l l.

Add here Fig. 4.

The *systematic connection* of it appears in Tab. II. *w—c* in the arm. Then in Tab. I. W—*G* in the arm; where at its beginning it lies under the pectoralis *e* in the breast, and the deltoides M, &c. in the arm; at its end, under the pronator teres of the radius, *W* in the right arm.

In its back part it appears in Tab. VI. O in the arm. Laterally in Tab. IX. P Q R in the left arm, and *g h i* in the right arm.

FIGURE IV.

The end of the tendon of the biceps, on the external part of the radius.

Because the hand is here in a prone posture, the end of the tendon which is smooth, appears bent forwards to the anterior part of the tubercle, that stands out from the radius below its neck.

a a Its insertion into the back part of the said tubercle, thro' its whole length.

Add here Fig. 3.

The *systematic connection* of this part does not appear; but it follows after the supinator brevis *D* in the arm of Tab. VI.

FIGURE V.

The triceps brachialis, in its inner part.

a b The head which is called *extensor-longus*. b the tendinous beginning.

c d The head called *brachialis externus*. d the tendinous beginning of its posterior margin, which arises at e e from the posterior edge of the os humeri, and then from the tendon f f.

f f g g h A certain tendon that stands out from the os humeri, along which it arises at g g, and is inserted at h into the posterior condyle of that bone.

i The tendon, which arising from the surface of the brachialis externus, belongs to the posterior condyle of the humerus k, and is conjoined with the tendon f f.

l m The caput or *extensor brevis* as it is called; m the tendinous part of its beginning.

n The space betwixt that head and the os humeri, through which a considerable nerve, artery, and vein, pass along to the cubit.

Add here Fig. 6. and 7.

The *systematic connection* appears in Tab. II. *d e f g* in the arm; where it in part lies hid behind the coracobrachialis *u*, and the biceps brachialis *x x a i* and the longus *e* in its upper part goes under the teres major *S* in the scapula: the brevis *d* is covered by the brachialis internus *b* in the arm. Then in Tab. I. T V *D H* in the arm; where in the same manner it lies concealed behind the coracobrachialis R S, and the biceps brachialis W X Y; and the longus T goes under the teres major *f* in the trunk; and the brevis V is covered by the brachialis internus *L*. But separately, the part called brachialis externus Tab. III. *b i* in the arm, is there partly covered by the coracobrachialis *f*. Then in Tab. II. *f g* in the arm; and in Tab. I. *D H* in the arm; as we said before.

FIGURE VI.

The triceps brachialis, in its outer part.

a b c c c d The *caput brevis* as it is called. b the tendinous part of it, arising at c c c from the outer part of the os humeri, at the root which sustains the upper head of that bone, thence descending in its origination, at first a little obliquely as far as the back part of the end of the deltoides, then according to the length of the bone by the back part of the anterior horn of the brachialis internus, and then behind the said inner brachialis itself, to the anterior margin of the os humeri; and having left a space (n Fig. 5.) at about the middle of the arm, it is then again continued on for some way in the direction of the said margin. d the sinuosity impressed on this muscle by the deltoides.

e f g h The *caput longus* of this muscle. f the tendinous beginning, by which it springs from the bottom of the neck of the scapula at g, and from the extreme part of the margin that is beneath its neck. h a sinuosity impressed by the deltoides.

i The head called *brachialis externus*.

k The common tendon of these three heads. In the outer part of which the caput brevis terminates here very suddenly and sooner than usual, close by the caput longus; and the fleshy fibres of the same join themselves in a continued straight course all the way to those of the longus, and in their lower part externally to the tendinous portion l, that is formed by the longus.

m The tendinous portion, that is formed by the brachialis externus, and joins the common tendon.

But the manner in which the longus forms a broad tendon internally, towards the brevis, and how the fibres of the brevis join the same, as the fibres of the longus join the brevis outwardly, could not be expressed in the figure.

n The tendinous portion, which arising from the surface of the brachialis externus, belongs to the larger and interior condyle of the humerus.

p q The common tendon, inserted chiefly into the outer part of the tip of the oleeranum or elbow.

r The smaller point of the common tendon, inserted at q f into the anterior part of the elbow, and the ridge that stands out from thence along the ulna.

Add here Fig. 5. and 7.

The *systematic connection* appears in Tab. VI. *z*—N in the arm; where the beginning of the longus D is covered by the teres minor *t* in the scapula. Then in Tab. V. *e—z* E in the arm; where the originations of the longus *p*, and of the brevis *o*, are covered by the deltoides *f*, &c.

Laterally its connection appears in Tab. IX. T—X in the left arm, and *e—e* in the right arm.

FIGURE VII.

The lower head of the triceps brachialis, commonly called the brachialis externus, represented in its outer part.

That this may appear, the longus and brevis, with part of the common tendon belonging to the three heads are cut off; under which tendon it is fixed in its outer part. Particularly the flesh of the longus is cut off at a—b; that of the brevis with the common tendon from b—c i and the part of the brevis cut off is outwardly tendinous, inwardly fleshy.

d e The brachialis externus, in which are impressed the marks of the longus at d, and of the brevis at e.

f f f Its origin from the outer part of the os humeri, taking its beginning first near the bottom of the place into which the teres major is inserted, and from thence with its anterior side or edge it takes an oblique course to the anterior margin of the os humeri, and thence to the root of the anterior condyle of that bone; and from the outer part of that root at g through the whole extent or height of the same.

And from its origin it occupies the whole breadth of the bone, that is contained betwixt its anterior and posterior margin e e f f Fig. 5.

h A part that is tendinous.

i The tendinous portion, arising from the surface of the brachialis externus, and belonging to the larger condyle of the humerus k.

l The tendon common to the triceps.

m The tendinous part, that is formed by the longus, and joined to the common tendon.

Here then appears the manner in which the flesh of the outer brachialis joins partly with the flesh of the brevis and longus, partly with the tendons of those two, and in part with the interior common tendon.

n The tendinous part, which the external brachialis forms and joins to the common tendon.

o o The common tendon, inserted into the outer part of the tip of the oleeranum or elbow.

p Here the brachialis externus extends its fleshy part with the common tendon to the elbow.

Add here Fig. 5. and 6.

The *systematic connection* appears in Tab. VII. *e—y* in the arm.

FIGURE VIII.

The anconaeus.

a The tendon, by which it begins, and arises at b from the outer and lower part of the lesser condyle of the humerus.

c c Its extremity, inserted into the fore part of the elbow, just below the brachialis externus; also into the outer edge of the ulna below the said part of the elbow.

The *systematic connection* appears in Tab. VI. Y, &c. in the arm. Then in Tab. V. F in the cubit or fore-arm; where it is partly covered by the tendon of the triceps brachialis *x*, and the outer ulnaris W.

Muscles moving the Hand.

Add here the *biceps brachialis* Fig. 3. and 4.

FIGURE IX.

The radialis internus carpi.

a The tendinous beginning, by which it springs at b from the end of the posterior condyle of the os humeri.

But it is to be observed that the radialis internus, palmaris longus, ulnaris internus and sublimis, arise with one common tendinous head from the said posterior condyle of the humerus; with which head also the beginning of the

pronator teres cohetes; and that the said head detaches a sort of branches or partitions to which at their originations those muscles adhere, or the parts of which tendinous head belong to each of those muscles, in the manner represented in the shorter radialis externus Fig. 11. l. But we have here represented each of those muscles separated from one another according to the course of their fibres, in the same manner with the last mentioned. The forementioned muscles likewise in part arise from, or rather cohere with, the tendinous covering of the cubit.

c The tendon in which this muscle ends, and which at d being increased in thickness, passes through the oblong sinus that is seated on the inner part of the larger multangular bone, and is at last inserted at e into the middle of the internal and upper part of the head of the first metacarpal bone that sustains the index.

The manner in which the tendon enters the membranous canal, that is at the fore part of the ligament, which covers the tendons running from the cubit to the hand or the inner side of the wrist, see in Tab. I. O W in the right hand. The channel itself see in Tab. II. p in the right hand, and in Tab. III. S in the right hand.

The *fistomatic connection* appears in Tab. I. T O in the arm; where at its origin it lies under the pronator teres W, and the palmaris longus a; then under the supinator longus P; in the end the tendon passes into the middle of the palm.

Laterally its connection appears in Tab. IX. m in the right arm, and c d in the left arm.

FIGURE X.

The ulnaris internus, in its interior part.

a The tendinous beginning, arising at b from the greater condyle of the humerus, and cohering with the common tendinous head of the muscles which arise from the said condyle; from which head it is separated in the manner mentioned in the radialis internus Fig. 9. Part of this common tendinous head runs a long way through the fore part of the muscle at c.

d The origin of it from the elbow.

e e The thin and broad portion, that is a sort of continuation of the said origin d; and which here at f f goes off from the tendinous vagina or covering of the cubit g. Unless we should rather say that this part arises tendinous from the ulna, together with the said vagina, being strictly conjoined with that into one.

h The tendon, in which it ends, inserted at i into the prominent part of the pisiform bone of the wrist, where that bone is most pronuberant towards the palm. We have sometimes seen this tendon, after inserting itself into the pisiform bone, continue itself farther on, to the crooked process of the cuneiform bone of the carpus, and to be there inserted.

Add here Fig. 11. a—h.

The *fistomatic connection* appears in Tab. II. A A B in the arm; where it is in part covered by the sublimis C D H, and beneath that, also under the profundus. Then in Tab. I. n o p in the arm; where it is also covered by the sublimis *f*, &c.

k The ligament, that is extended from the pisiform bone of the wrist l, to the inner and upper part of the superior head of the fourth metacarpal bone of the hand at m.

FIGURE XI.

The ulnaris internus, and shorter radialis externus, externally.

a—k The *ulnaris internus*.

a Its beginning, arising at b from the lower and back part of the greater condyle of the humerus, and cohering with the common tendinous head of the muscles, which arise from the said condyle.

c The beginning of it from the posterior edge of the olecranum, but little below the end of the tendon of the triceps brachialis.

d d The thin and broad portion, which is a sort of continuation of the said beginning c, and which in this part e e goes off from the tendinous vagina of the cubit; if it does not rather arise with a thin tendinous beginning i, conjoined into one with the said vagina, from the spine of the ulna k k, and which continuation stands out from the back part of the olecranum. In the part f g it arises below from the same spina ulnae.

h The tendon, inserted into the pisiform bone.

Add here Fig. 10.

The *fistomatic connection* appears in Tab. VI. I—q in the arm. Then in Tab. V. R—V in the cubit.

Laterally it appears in Tab. IX. *q r f* in the right arm, and Y in the left arm.

l—r The shorter *radialis externus*.

l Its origin from the anterior and left condyle of the humerus, with a tendinous head common to the extensor digitorum communis, the extensor auricularis proprius and the ulnaris externus. But these muscles cohere so together in their origin, that they may be either said to spring from the os humeri by a common tendon, that sends out branches or partitions dividing them into so many portions, from which partitions their fibres also continue to arise, and by which they cohere together; or else these partitions may be esteemed as a tendinous excursion of the beginning of any two of the muscles betwixt which they are placed, and from which the fibres of each proceed. Altho' more properly a portion of the common tendinous origin, and of the partition, belongs to each apart; but the parts thereof so strictly cohere, and are conjoined one with the other, that they resemble and may be accounted a tendinous origin common to them all, and branches or partitions common to each two next continuous muscles. But here we have represented this radialis separated according to the course of its fibres from the extensor digitorum communis; because whether we think to say they have one common origin and partition, or refer the partition to one muscle from whence the other may proceed, or rather ascribe a part of the partition to each particular muscle; in all these cases the origin is still from the anterior condyle of the humerus.

m The tendinous beginning, separated from the said common head. The tendinous part runs along for a considerable way at n n o: where a sinus is impressed by the common extensor of the fingers.

o The inner portion, which is tendinous.

p The tendon, in which it ends: inserted chiefly at q into the anterior and outer part of the root of the upper head of the metacarpal bone, that belongs to the middle finger: and likewise into the next adjacent upper head of the metacarpal bone of the index.

r The course of the tendon through the back part of the sinus, which is the first or most anterior of those in the outer or back part of the lower head of the radius; and it is retained or tied down by the outer armillary ligament of the carpus Tab. V. 16. in the right hand; and in Tab. IX. *f* in the left hand.

Add here Fig. 12.

The *fistomatic connection* appears in Tab. VII. G H I in the cubit: it partly lies under the longer radialis externus B E, and the supinator brevis K. Then in Tab. VI. V W X. in the arm: where it also lies under the longer radialis externus Q T, and the supinator brevis *D*, with the long abductor of the thumb *L*, the less extensor of it *T*, and the larger extensor a c, with the indicator f h. Then in Tab. V. H I I I in the cubit; placed also under the longer radialis externus A D, the long abductor of the thumb 21, the less extensor of it 24, and the larger 13; and also under the common extensor of the fingers d r.

Laterally its connection appears in Tab. IX. l m m m in the left arm.

FIGURE XII.

The shorter radialis externus, in its fore part.

a The tendinous beginning.

b The tendon, in which it ends; inserted chiefly at c into the upper and outer part of the root of the upper head of the metacarpal bone, that belongs to the middle finger; also into the next adjacent upper head of the metacarpal bone of the index.

d Its course through the posterior part of the sinus, which is the most anterior of those in the outer or back part of the lower head of the radius: and it is there tied down by the outer armillary ligament e in the left arm of Tab. I.

Add here Fig. 11. l, &c.

The *fistomatic connection* appears in Tab. III. *w w x x y* in the left fore-arm, and *w x* in the right; where it in part lies under the longer radialis externus *f—t* in the left, and *q r* in the right cubit or fore-arm. Then in Tab. II. *f f e e e* in the left cubit, and *f e* in the right; where in like manner it lies under the longer radialis externus *n o p* in the left, and *l m* in the right fore arm; also under the long abductor of the thumb Z, the left extensor c, and the larger extensor g, with the indicator *T* in the left hand. Then in Tab. I. k k l l l in the left arm, placed likewise under the longer radialis externus f g i, the long abductor of the thumb *w*, with the less extensor of it e, and the larger y in the hand; also under the tendon of the common extensor of the fingers, belonging to the index o, and that to the supinator longus *P S* in the arm.

FIGURE XIII.

The longer radialis externus, in its outer and back part.

a a Its origin from the anterior edge of the os humeri, and continued along at b from the anterior or left condyle of that bone.

c The place where it joins and has a common origin with the extensor digitorum communis of the hand, and with the ulnaris externus. See Tab. V. C in the cubit or fore-arm.

d The tendinous part of its beginning.

e The tendon in which it ends, inserted at f into the outer and fore part of the root of the upper head of the metacarpal bone of the index.

g The course of the tendon through the fore part of the second sinus, that is the most anterior of those in the back part of the lower head of the radius; and it is tied down or confined by the outer armillary ligament 16, in the right hand of Tab. V. and which in Tab. IX. is marked *f* in the left hand.

g The interior part of this muscle.

Add here Fig. 14.

The *fistomatic connection* appears in Tab. VII. B—F in the cubit, where its fore part is covered by the shorter radialis externus G H. Then in Tab. VI. Q—U in the arm, where at its origin it lies under the triceps brachialis L; but its tendon under the long abductor of the thumb *L*, the less extensor of it *T*, and the larger a c; also its fore part is covered by the shorter radialis externus V. Then in Tab. V. A—D in the cubit, where in like manner it lies under the triceps brachialis *r* in the arm, the long abductor of the thumb 21, in the cubit, its less extensor 24, and the larger 13, with the shorter radialis externus H, and the supinator longus n.

Laterally its connection appears in Tab. IX. g h i i i k in the left arm.

FIGURE XIV.

The longer radialis externus, in its fore part.

a The tendinous beginning.

b c The division of it into two parts, of which b is the principal.

d The tendon in which the chief portion ends, and which is larger than the other.

e The tendon in which the less portion ends, and which conjoins itself with the other tendon d, and forms therewith,

f The common tendon, inserted at g into the outer and fore part of the root of the upper head of the metacarpal bone that sustains the index.

h The course of the tendon through the fore part of the second sinus, which is the most anterior of those in the back part of the lower head of the radius; and it is tied down by the outer armillary ligament, Tab. I. e in the left wrist.

Add here Fig. 13.

The *fistomatic connection* appears in Tab. III. *f—w* in the left cubit, and *q r* in the right cubit, where at its origination it lies behind the brachialis internus *s*. Then in Tab. II. *e—r* in the left cubit, and *f e* in the right cubit, where, as before, it lies behind the brachialis internus *i*, and is also covered by the long abductor of the thumb Z, (and a b d in the right cubit) with the less extensor of the thumb c, and the larger extensor g. Then in Tab. I. f g h i in the left arm, and g h in the right; there likewise seated under the long abductor of the thumb *w* (z b in the right arm) the less extensor c, and the larger extensor y in the left hand, and also under the long supinator *P* in the arm.

FIGURE XV.

The ulnaris externus.

a The tendinous beginning arising at b from the outer part of the anterior condyle of the os humeri, where it is separated from the origin of the common extenſor of the fingers, and proper extenſor of the little finger, as alſo from the common head of the ſhorter radialis externus, Fig. XI. See it conjoined in Tab. V. X in the cubit.

Alſo a pretty broad and thin portion is ſent off by this tendinous origin, from below the end of the anconaeus, at the outer part of the anterior edge in the middle of the ulna, to this muſcle.

c Part of the tendinous vagina or covering, ſeated next under the common integuments, and binding together the muſcles that lie on the outer part of the cubit, ariſing together with the tendinous beginning a from the condyle b. From the inner ſide of this portion the ulnaris externus ariſes, and conjoins the beginnings of its fibres therewith.

d d The place where the vagina is cut off a little below the origin of the ulnaris from it.

e The tendon in which it ends. f the courſe of it through the anterior and outer ſinus or groove in the lower end of the ulna, where it is retained or tied down by a ligament 14. 15. 17. in the right hand of Tab. V. and in the left hand *c a*, and in Tab. IX. *f* in the left hand.

g Its inſertion into the upper part of the eminence that is in the back part of the upper head of the fourth metacarpal bone of the hand.

The *ſyſtematic connection* of it appears in Tab. V. W—Z in the cubit, where at its end it goes a little way under the abductor of the little finger *b* in the right hand.

Laterally its connection appears in Tab. IX. n o in the left arm, and *t* in the right.

FIGURE XVI.

The ſupinator longus.

a b The tendinous beginning which has here a diviſion, and ariſes at c d d from the lower part of the anterior edge of the os humeri, juſt above the origin of the longer radialis externus.

a b e The ſinuoſity that is impreſſed by the brachialis internus.

f The tendon in which it ends, and is inſerted at g into the fore part of the lower head of the radius, at the beginning of that ſinus through which the tendons of the long abductor and leſs extenſor of the thumb paſs from the cubit to the hand.

The *ſyſtematic connection* appears in Tab. I. *P S* in the arm, where at its beginning it lies under the brachialis internus *L*, and towards its inſertion under the long abductor of the thumb x b, and the leſs extenſor c.

Poſteriorly its connection appears in Tab. V. z in the cubit or fore arm, where at its origin it is covered by the triceps brachialis *e r* in the arm, and then by the longer radialis externus, A in the cubit.

Laterally its connection appears in Tab. IX. z in the left arm, and *k* in the right.

FIGURE XVII.

The ſupinator brevis in its outer part.

a The tendon, ariſing at b from the lower part of the end of the anterior condyle of the os humeri.

c c The part that is outwardly tendinous, ariſing all the way tendinous at d e from the outer part of the capſular ligament, that inveſteth the juncture of the radius with the humerus and ulna, from which ligament it is cut off; e f its origin from the fore part below the ſinus of the ulna, by which its head is articulated with the radius, from whence it is continued for ſome way downwards.

g Its extremity inſerted into the radius.

Add here Fig. 18.

The *ſyſtematic connection* appears in Tab. VIII. *H*, &c. in the arm. Then in Tab. VII. K, &c. in the cubit, where it is partly covered by the ſhorter radialis externus G. Then in Tab. VI. *D* in the arm, where it is partly covered by the ſaid radialis externus V, and in part by the anconaeus Y; and what is there naked, in Tab. V. lies under the ulnaris externus W, the common extenſor of the fingers d, and the proper extenſor of the little finger a b, in the cubit.

FIGURE XVIII.

The ſupinator brevis in its interior part.

a The tendon by which it begins.

b The place where it inſerts itſelf near the upper eminence of the radius, into which the biceps brachialis is inſerted. It is alſo inſerted at c c c round the margin of the tubercle that is next above the ſaid eminence, from the upper part of it forward and downward. After this it is continued obliquely forward along the inner part of the radius almoſt to the middle of its length, and from thence outward, on the back of the cubit. Add here Fig. 17.

e The back part of this muſcle is ſeen betwixt the radius and ulna.

Add here Fig. 17.

The *ſyſtematic connection* appears in Tab. IV. b—f in the cubit. Then in Tab. III. z—*H* in the cubit, where it is in part covered by the brachialis internus *o p*, by the longer radialis externus *q* (and *f* in the left arm) and by the ſhorter ditto *w*, the pronator teres *L*, the long flexor of the thumb *P S*, and the profundus C. Then in Tab. II. *t*—*w* in the cubit, covered likewiſe, as in Tab. III. by the brachialis internus *i k*, the longer radialis externus *l*, (and *u* in the left arm) the ſhorter ditto *f*, the pronator teres *y*, and the profundus *x*; and moreover, by the tendon of the biceps brachialis *r*, and the ſublimis G. Then in Tab. I. *X* in the arm, covered by the tendon of the biceps brachialis *G*, the brachialis internus *L*, the ſupinator longus *P*, and the pronator teres *W*.

FIGURE XIX.

The pronator teres, in its inner part.

a a Its originatien from the inner and upper part of the poſterior condyle of the os humeri.

b The part that is outwardly tendinous.

c The tendon in which it ends.

Add here Fig. 20.

The *ſyſtematic connection* appears in Tab. I. *W* in the arm, where its end goes under the ſupinator longus *P*. Then in Tab. II. where its extremity *y* in the cubit goes under the ſhorter radialis externus *f r*. So in Tab. III. the extremity of it *L* in the cubit goes under the ſame radialis *w x*.

Laterally its connection appears in Tab. IX. *l* in the right, and b in the left.

FIGURE XX.

The extremity of the pronator teres, in its outer part.

a The tendinous end, inſerted at b b into the unequal ſurface that is formed for that purpoſe in the gibbous part of the radius.

Add here Fig. 19.

The *ſyſtematic connection* appears in Tab. VI. lying under the ſhorter radialis externus V, and the long abductor of the thumb *L*, in the arm.

FIGURE XXI.

The pronator quadratus, in its inner part.

a a The tendinous ſurface.

b b Its origin, from the oblong eminence in the inner and back part of the ulna, not much above the lower head of that bone.

c c Its inſertion into the lower part of the radius, as well into the flat interior ſurface of it, as into the ſide that is next the ulna, and which cannot be ſeen in the figure.

Add here Fig. 22.

The *ſyſtematic connection* appears in Tab. IV. g—k in the cubit. Then in Tab. II. *XX* in the cubit, where the greater part is covered by the long flexor of the thumb *P S*, and the profundus E F G. Then in Tab. II. Y in the cubit, covered as before by the long flexor of the thumb S T, alſo by the long abductor of the thumb a b d, and ulnaris internus A B. Then likewiſe in Tab. I. *t* in the arm, where it is covered by the long flexor of the thumb *g*, and by its long abductor *x z* b, and ulnaris internus *n*.

Poſteriorly its connection appears in Tab. VIII. *W* in the right arm. Then in Tab. VII. P in the right cubit. But in Tab. VI. it lies under the indicator f h, the larger extenſor of the thumb a c, and the leſs extenſor of ditto, *T* with the long abductor *L* in the arm.

Add to theſe Tab. VIII. *W* in the left arm. Then in Tab. VII. P in the left cubit, where it is in part covered by the profundus S T, &c. Then in Tab. VI. *t* in the left arm, where it is covered by the ulnaris internus l q. So likewiſe in Tab. V. *s* in the extremity of the left cubit, where it is alſo covered by the ulnaris internus R V.

FIGURE XXII.

The pronator quadratus laterally.

a a Its tendinous ſurface.

b b Its origination from the oblong eminence in the inner and back part of the ulna, not much above its lower head.

Add here Fig. 21.

THE

Twentieth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

Muscles of the Fingers.

FIGURE I.

The common extensor of the fingers, with the proper extensor of the little finger.

a—a The *extensor communis digitorum manus.*

b The tendinous beginning, arising at c from the end of the anterior condyle of the os humeri. But it is a part of the common tendinous head of which we spoke in describing the shorter radialis externus I Fig. 11. Tab. XIX. And as there the said radialis is separated according to the course of its fibres from this extensor, so this extensor, with the proper extensor of the little finger, is on one side separated in like manner from the said radialis, and on the other side from the ulnaris externus.

d Part of the tendinous vagina or case, that binds together the muscles that lie on the outer part of the cubit, immediately after the common integuments; and springing with a tendinous origin b from the condyle c. But this part of the said vagina or case, is that from under which the present common extensor of the fingers arises, or with which the beginnings of its fibres are conjoined.

e e The edge from whence the rest of the said tendinous swath or vagina is cut off, where the fibres of the muscle no longer arise from it.

f The portion belonging to the index. g the tendon in which it ends, and which is afterwards conjoined with the tendon of the indicator V, whence is formed the common tendon h.

i The tendon belonging to the middle finger, and in which tendon is formed the slit k, as it descends over the back of the hand. The fleshy portion that forms this tendon, lies under the two other portions f l.

l The portion belonging to the ring finger. m the tendon in which it ends, and which in its descent over the back of the hand has the slit n. o the branch of it that joins the tendon of the middle finger, and is not always to be found. p the branch of the same tendon that afterwards divides into two, one of which q joins the tendon *e* of the little finger, but is not constantly found: The other r again divides into two, and sends one portion s to join the tendon of the little finger *e f*, or rather to the tendon q, that is conjoined with the tendon belonging to the little finger.

v The tendinous portion by which the trunk of the tendon m n belonging to the ring finger is conjoined with the tendon *e f* of the little finger, near its beginning; which portion is formed of the two parts s and u, going off from the aponeurosis w, of the tendon m n conjoined together below into one.

x The tendinous portion by which the trunk of the tendon m n belonging to the ring finger, is conjoined with the tendon i of the middle finger. And this portion is formed of the tendon o conjoined with the aponeurosis y, that goes off from the trunk of the tendon m n of the ring finger, near the root of the said finger.

z The aponeurosis, which arising from the tendon i of the middle finger, goes to the tendon g of the index, and conjoins together near the roots of the fingers.

This figure shews the manner in which the tendons pass through the third sinus in the lower head of the radius, and which is the most posterior of those in the outer side of the wrist; but for the manner in which they are tied down therein by the outer armillary ligament, see Tab. V. 16 in the right hand, and Tab. I. e in the left arm; also Tab. IX. *f* in the left hand.

The *ligamentic connection* appears in Tab. V. d, &c. in the cubit. Also in Tab. I. m n o p q in the left arm. And in Tab. IX. p q r s t in the left arm and hand.

a—f The extensor proper to the little finger.

b Its beginning, conjoined with the beginning of the common extensor of the fingers.

c Part of the tendinous swath of the cubit before mentioned at d. From beneath which the fibres of this muscle arise.

d d The edge from whence the rest of the swath is cut off, where the fibres no longer proceed from it.

e The tendon in which it ends, having a small slit at *f* in its descent over the back of the hand.

For the manner in which it is retained by the outer armillary ligament, see Tab. V. 16 in the right hand, and in Tab. I. e in the left arm, and in Tab. IX. *f* in the left hand.

The *ligamentic connection* appears in Tab. V. a, &c. in the cubit.

Also in Tab. I. r s in the left arm. And in Tab. VII. 5 in the left hand. Also in Tab. IX. v w in the left arm and hand, and in the right hand.

g h i k The extensor tendons, conjoined on the backs of the fingers with the aponeuroses and tendons of the musculi interossei, lumbricales, &c. of which *g*, belonging to the little finger, is formed by the tendon *e* of the proper extensor of the little finger, conjoined with the portions q s u w from the common extensor. *h* that of the ring finger, and *i* that of the middle finger, are from the common extensor. *k* That of the index is formed by the tendon of the indicator V, conjoined with the tendon g from the common extensor.

l l l l The ends of those tendons, inserted each of them at *n* into the transverse oblong protuberance in the outer part of the upper head of each bone of the second phalanx or order.

n n The conjunction of the tendon of the index with the tendon of the first lumbricalis *w*; and with the tendon *s* of the posterior interosseus of the index.

p q The conjunction of the tendon of the middle finger with the tendon *p*, that is common to the anterior interosseus of the middle finger and second lumbricalis; and with the tendon of the posterior interosseus of the middle finger.

r f The conjunction of the tendon of the ring finger with the tendon *r*, that is common to the anterior interosseus and third lumbricalis of the ring finger.

t u The conjunction of the tendon of the little finger with the tendon *t*, that is common to the anterior interosseus and fourth lumbricalis of the little finger; and with the tendon *u* that is common to the abductor and small flexor of the little finger.

w The tendon of the first lumbricalis here cut off; which tendon conjoins itself with the tendon of the index *n*, and being increased by a portion received from thence, runs to the third bone *z*. Add here q r s t Fig. 3.

y The tendon of the posterior interosseus of the index, here cut off; which tendon conjoins itself with the tendon *s* of the index, and being increased by a portion received from thence, it runs to the third bone *z*. See t, &c. Fig. 6.

A The common end, in which the tendons *n z* conjoin themselves, inserted at B into the middle protuberance in the outer part of the upper head of the third bone.

C The tendon common to the anterior interosseus and second lumbricalis of the middle finger, here cut off; which tendon conjoins itself at *p* with the tendon of the middle finger, and being increased by a portion received from thence, it runs to the third bone D. Add here v, &c. Fig. 9.

E The posterior interosseus of the middle finger, here cut off; which tendon conjoins itself with the tendon *q* of the middle finger, and being increased by a portion received from thence, it runs to the third bone F. Add here m, &c. Fig. 9.

G The common end, in which the tendons D and F conjoin themselves, inserted at H into the middle protuberance in the outer part of the upper head of the third bone.

I The tendon common to the anterior interosseus and third lumbricalis of the ring finger, here cut off; which tendon conjoins itself with the tendon *r* of the ring finger, and being increased by a portion received from thence, it runs to the third bone K. Add here k, &c. Fig. 6.

L The tendon of the posterior interosseus of the ring finger, here cut off; which tendon conjoins itself with the tendon *f* of the ring finger, and being increased by a portion received from thence, it runs to the third bone M. Add here a, &c. Fig. 9.

N The common end, in which the tendons K M conjoin themselves, inserted at O into the middle protuberance in the outer part of the upper head of the third bone.

P The tendon common to the anterior interosseus and fourth lumbricalis of the little finger, here cut off; which tendon conjoins itself with the tendon *t* of the little finger, and being increased by a portion received from thence, it runs to the third bone Q. Add here a, &c. Fig. 6.

R The tendon common to the abductor and short flexor of the little finger, here cut off; which tendon conjoins itself with the tendon *u* of the little finger, and being increased by a portion received from thence, it runs to the third bone S. See Fig. 10. and 11.

T The common end, in which the tendons Q S conjoin themselves, inserted at U into the middle protuberance in the outer part of the upper head of the third bone.

The *ligamentic connection* appears in Tab. V. *y z c d e g h i k. x z n o p r s t u. w x y z G X P S W.* v z 2 3 4 7 8 9 10 in the right hand. Also in Tab. VI. *a e g h i l m n. b e f s v a w z y. c e c f g l m n o. d e r z t v w x y* in the right hand. Likewise in Tab. VII. b f g h i k n o p q. c f u v w z a b c. d f *g h i n o p q. c f i v t w x y z* in the right hand.

See also Tab. I. K L I M N O. P R. P. Q in the left hand. And in Tab. II. 8 9 11 12 13 14. 6 15. 6 3 in the left hand. In Tab. III. m n r s t u. v y z. w. x in the left hand. Then in Tab. V. *y z G D D* in the left hand. Also in Tab. VI. *l m n o o* in the left hand. Then in Tab. VII. 5 6 7 8 9 10 in the left hand. Also in Tab. VIII. q r. p in the left hand. Then in Tab. IX. *r s t w w x y z* in the left hand, and in the right hand.

Concerning the aponeuroses which join the extensor tendons from the interossei, lumbricales, &c. see those muscles.

V The tendon of the indicator cut off. See Fig. 12. d.

FIGURE II.

The profundus, in its outer part.

a a Its origination from the back part of the ulna, beginning below the root of the olecranum or elbow.

Add here Fig. 3.

The *ligamentic connection* appears in Tab. VII. R S S in the right cubit. Then in Tab. VI. i k k in the right arm, where it is partly covered by the ulnaris internus I. Then in Tab. V. K in the right cubit, where it is also in part covered by the ulnaris internus R, and is likewise hid behind the ulnaris externus W.

TAB XX.
I. Extensor communis digitorum manus cum Extensore proprio auricularis
II. Profundus.
III. Profundus cum Lumbricalibus.
IV. Sublimis.
V. Sublimis
VI. Interossei manus Interni
VII. Interossei manus Interni.
VIII. Interossei manus bipalmi seu externi
IX. Interossei manus bipalmi seu externi
X. Flexor parvus digiti minimi manus.
XI. Abductor digiti minimi manus.
XII. Indicator.
XIII. Abductor indicis manus.
XIV. Abductor indicis manus.
XV. Opponens pollicis manus.
XVI. Abductor brevis pollicis manus.
XVII. Abductor brevis alter pollicis manus.
XVIII. Abductor longus pollicis manus.
XIX. Abductor longus pollicis manus.
XX. Flexor brevis pollicis manus.
XXI. Flexor longus pollicis manus.
XXII. Extensor major pollicis manus.
XXIII. Extensor minor pollicis manus.
XXIV. Abductor pollicis manus.
XXV. Abductor metacarpi digiti minimi manus.
XXVI. Palmaris longus et brevis.
A. Bell sculp.

FIGURE III.

The profundus, in its inner part, with the lumbricales.

a—p The *profundus flexor* of the fingers.

b b b, Its origin from the ulna, below the unequal surface into which the brachialis internus is fixed. Below which also its origin occupies more than half the upper part of the inner side of the ulna; arising also from the adjacent part of the ligament that is placed betwixt the radius and ulna. And its origination is here figured, separated from its cohesion with the sublimis and ulnaris internus.

c Part of the tendinous beginning.

d. e. f Three tendons arising from the flesh. The first of which d goes into the tendon g h of the index. The second e ends in the tendon i k of the middle finger. The third f divides into two, one of which l m goes to the ring finger, the other n o to the little finger. As those tendons run along the palm and fingers, they are in a manner split longitudinally, and appear as if formed of two conjoined together h. k. m. o: at last they are inserted at p. p. p. p into rough surfaces, that are in the inner sides of the bones of the third phalanx or order, at the root of the upper head of each of them.

q. i. l. n The passage of the tendons through the inner carpal sinus, and under the inner carpal ligament; for which see Tab. III. N in the right hand.

The vagina or sheaths by which these tendons, and those of the sublimis, are covered as they pass along the joints of the fingers with the metacarpus, see in Tab. I. 4 4 4 &c. in the right hand. Also the ligamentary sheath, by which these and the tendons of the sublimis are tied down at the joints of the bones of the first phalanx, may be seen at 3. &c. in the right hand of the same Table; in which also may be seen those at 5. &c. in the same hand, that cover the tendons as they pass over the bones of the second phalanx.

Add here Fig. 2.

The *sesamoidal connexion* appears in Tab. III. C C &c. in the cubit; where part of it lies under the long flexor of thumb *P W*, and the tendons K L lie partly under the abductor of the fourth metacarpal bone of the hand U, and all of them H. I. K. L under the lumbricales c. g. k. n. Then in Tab. II. *x x* R *i i k*, &c. in the cubit and right hand (*v* in the left cubit, and hand for the tendons); where it lies under the sublimis C &c. in the cubit, and the tendons of the sublimis L. I. N. P; the tendon belonging to the little finger, also lies under the abductor of the fourth metacarpal bone *x* in the hand, and the small flexor of the little finger *t*. Then in Tab. I. *f* in the arm, and *y z*, &c. in the right hand (V. &c. in the left hand) where the rest of it lies under the sublimis *f f*, &c. in the arm, and the pronator teres *W*; its tendons lie under the aponeurosis of the palmaris longus *c*, with the tendons of the sublimis x &c. in the hand.

Then again in Tab. VII. R—W in the left cubit and hand. Also in Tab. VI. *i* the left arm, and *p. p* in the hand. Also in Tab. V. K in the left cubit, and *X P S*, &c. in the hand. And laterally in Tab. IX. in the fingers of the left hand.

q—t The *first lumbricalis*; r r its origination, the thicker portion of those two parts into which the tendon of the profundus belonging to the index, is in a manner split longitudinally. And it arises from that side of the tendon, that is over-against the aponeurosis of the palmaris longus.

s The tendon, that joins the common tendon of the extensor of the index, and then ends in the third bone of the index.

t The aponeurosis, that it joins with the aponeurosis of the abductor indicis, and together with that joins the common tendon of the extensor indicis.

Add here Fig. 1. *w* &c. and Fig. 6. *h*.

u—y The *second lumbricalis*; its most considerable part w arising from the thicker portion of those two into which the tendon of the profundus belonging to the middle finger, is in a manner split longitudinally; and from that side of the tendon that is opposed to the aponeurosis of the palmaris longus: then again by a less considerable and slenderer portion w, it arises from the tendon belonging to the index; and principally from that part of the said tendon, which is next the bottom of the palm.

x The tendon of it, that is afterwards conjoined with the tendon of the anterior interosseus of the middle finger, and with that forms the common tendon y conjoining itself with the tendon of the extensor communis, and ending in the third bone of the middle finger.

Add here Fig. 8. *e*, and Fig. 1. C.

z—*d* The *third lumbricalis*; arising like the second with its most considerable part *a a* from the thicker of those portions, in which the tendon of the profundus belonging to the ring finger, is in a manner split longitudinally; and its less considerable part *b*, from the tendon belonging to the middle finger, but from the slenderer portion thereof.

e Its tendon, which being conjoined with the tendon of the anterior interosseus of the ring finger, therewith forms the common tendon *d*, conjoining itself with the tendon of the extensor communis, and belonging to the third bone of the ring finger.

Add here Fig. 7. l, and Fig. 1. I.

a—*d* The *fourth lumbricalis*; arising like the second with its most considerable part *f f* from the thicker of those portions, into which the tendon of the profundus belonging to the little finger, is in a manner split longitudinally; and its less considerable part *g* arises from the slenderer portion of the tendon belonging to the ring finger.

h Its tendon, which being afterwards conjoined with the tendon of the anterior interosseus of the little finger, forms therewith the common tendon *i*, that joins the tendon of the extensor of the little finger, and ends in the third bone of the said finger.

Add here Fig. 7. q, and Fig. 1. P.

The *sesamoidal connexion* appears in Tab. III. e f e. g w. k z n p in the right hand; where the fourth in part lies under the abductor of the fourth metacarpal bone of the hand U; but at its origin it lies hid behind the inner annular ligament of the wrist N. Then in Tab. II. *z z. f x. g q. h z* in the right hand; where it is partly covered by the tendons of the sublimis P. N. I. L; the first being hid by the second short abductor of the thumb u, the fourth by the short flexor of the little finger *t*: and they are also hid behind the inner annular ligament of the wrist I. Then in Tab. I. *O* w. I u. k z. *i* q in the right hand; where the greatest part of it is covered by the aponeurosis of the palmaris longus *c*; and the first is also covered by the second short abductor of the thumb *L*. Add here Tab. IV. *a l. g h o p* in the right hand.

Moreover in Tab. III. o p q in the left hand. In Tab. II. 11. 10 in the left hand. In Tab. I. I H in the left hand. In Tab. VII. *w t* in the right hand. In Tab. VI. v t in the right hand. In Tab. V. 7. 6 in the right hand. In Tab. VII. 1. 2. 3. 4 in the left hand. In Tab. VI. *k e d c* in the left hand. In Tab. V. *p* in the left hand. In Tab. IX. *v t f* in the left hand.

FIGURE IV.

The sublimis.

a The tendinous beginning, arising at b from the inner part of the greater condyle of the humerus. But it is separated from the common tendinous head, by which it arises with the other muscles from that condyle, in the manner we described in speaking of the radialis internus at a Fig. 9. Tab. XIX.

c The portion arising with a small tendon c from the fore part of the eminence of the ulna, into which the brachialis internus is inserted, near the end of the said brachialis.

e The broad and thin head from the radius.

f The tendinous part of the origin from the radius.

g g The origin of this head from the radius, from the inner side nearly of its middle, beginning the near end of the supinator brevis and pronator teres; and from thence also continuing to arise at g h.

i The portion belonging to the index. k the tendon in which it ends.

l The portion belonging to the middle finger. m the tendon in which it ends.

n The portion belonging to the ring finger. o the tendon in which it ends.

p The portion belonging to the little finger. q the tendon in which it ends.

k m o q The passage of the tendons thro' the inner concave part of the wrist, under the inner ligament of the wrist; for which see I in the right hand of Tab. II.

r The tendon split in a manner longitudinally; which is also in the rest.

s. t The two horns, into which the tendon splits itself; inserted at u. v into the inner part of the edge in the middle of the bone of the second phalanx; the one into the anterior, the other into the posterior edge. The rest are inserted after the same manner with this.

w The thin portion, by which those horns cohere together under the tendon of the profundus. The same also takes place in the other fingers as in this.

The ligamentary sheaths by which these, with the tendons of the profundus are tied down as they pass over the bones of the first phalanx, may be seen in Tab. I. 3. &c. in the right hand. As also the sheaths that cover them at the joints of the fingers with the metacarpus, there marked 4. 4 4. &c. with those which their extreme horns pass under, at 5. &c.

Add here Fig. 5.

The *sesamoidal connexion* appears in Tab. II. C—Q in the cubit; where part of it is covered by the pronator teres *y*; the tendons I and L in the hand lie partly under the small flexor of the little finger *t*; the tendon P, under the second abductor of the thumb u; and all of them at their extremities under the tendons of the profundus *i. i. i. i.* Then in Tab. I. *f*—*m* in the arm; where it in part lies under the palmaris longus *a b*, partly under the radialis internus *T O*, in part under the supinator longus *P S*, and pronator teres *W*: also in the right hand its tendons appear at x z. z. &c. where a great part of them are covered by the aponeurosis of the palmaris longus *c*, and at their extremities they lie partly under the tendons of the profundus y. &c.

Moreover in Tab. VI. *z*—*a* in the arm; where in the cubit it in part lies behind the ulnaris internus l, and the profundus i. And in Tab. V. M—Q in the cubit, placed also under the same muscles; and moreover the tendons *X P* &c. appear in the left hand. Laterally in Tab. IX. c c in the left arm, and the tendons in the hand; and in the right arm *p*. Also in Tab. II. the tendons appear in the fingers of the left hand. Also in Tab. I. S &c. in the left hand.

FIGURE V.

The sublimis.

a The ligament, that goes from the lower part of the posterior condyle of the humerus, to the back part of the upper head of the ulna, near the bottom of its lunar sinus.

b c c Part of the sublimis cut off, where it arises from the condyle b, and c c that from the ligament a, and from the upper and back part of the rough edge or ridge of the ulna, into which the brachialis internus is inserted.

Add here Fig. 4.

FIGURE VI.

The inner interossei of the hand, viewed in their outer surface.

a The *interosseus of the little finger*, arising at b b from that side of the metacarpal bone of the said finger, that lies next the metacarpal bone of the ring finger, and particularly from more than its upper half, just below the root of its upper head; except that part of its breadth that is near the back of the hand, and from whence the smaller head of the posterior interosseus of the ring finger arises at a Fig. 9.

c Its tendon, which having received a part from the inner side of the tendon of the fourth lumbricalis, conjoins itself with the tendon of the proper extensor of the little finger, and being increased by a portion received from thence, runs to the third bone of the little finger e.

f g The aponeurosis, that joins the tendon of the extensor; and is produced in its lower part f from the tendon c; in its upper part g coming from the capsular ligament of the joint of this finger with its metacarpal bone.

Add here Fig. 1. P &c, and Fig. 7. n &c.

The *sesamoidal connexion* appears in Tab. VII. m n o p r in the right hand; where it is partly covered by the posterior interosseus of the ring finger s. Then in Tab. VI. *l* in the right hand, where almost the whole of it lies behind the posterior annularis *q r*. The like appears in Tab. V. *g f* in the right hand.

h The tendon of the proper extensor of the little finger. *i* the tendon common to the abductor and small flexor of the little finger. See Fig. 1. *g* R &c.

k The *anterior interosseus of the ring finger*, arising at l l from that side of the metacarpal bone of the said finger, that lies next the metacarpal bone of the

middle finger, and particularly from more than its upper half, below the root of its upper head; except that part of its breath which is next the back of the hand, and from whence the smaller head of the posterior interosseus of the middle finger arises, m Fig. 9.

m Its tendon, which having received on its inner side the tendon of the third lumbricalis, conjoins itself with the tendon of the common extensor belonging to this finger, and being increased by a portion received from thence, runs to the third bone o of the said finger.

p q The aponeurosis, that joins the tendon of the extensor; produced in its lower part p from the tendon m; and springing in its upper part from the capsule of the joint of this finger with its metacarpal bone.

Add here Fig 1. I &c. and Fig. 7. h &c.

The *fesmoatic connexion* appears in Tab. VII. y z *a b d* in the right hand; where it is partly covered by the posterior interosseus of the middle finger *c*. Then in Tab. VI. *u* in the right hand; where almost the whole lies under the posterior interosseus of the middle finger a b. The like appears in Tab. V. *r q* in the right hand.

r The tendon of the common extensor belonging to this finger. s the tendon of the posterior interosseus of the ring finger. See Fig. 1. *h* L. &c.

t The *posterior interosseus of the index*, arising at u u from that side of the metacarpal bone of the index, that lies next the metacarpal bone of the middle finger; and particularly from more than half its length, just below the root of the upper head of that bone; except the margin of that side which is next the back of the hand, from whence arises the smaller head of the anterior interosseus of the middle finger, z Fig. 9.

v Its tendon, that conjoins itself with the tendon of the extensor of the index, and being increased by a portion received from thence, runs to the third bone x of the index.

y z The aponeurosis, that joins the tendon of the extensor indicis; produced in its lower part y by the tendon v; and coming in its upper part from the capsule of the joint of this finger with its metacarpal bone.

Add here Fig. 1. *y* &c. and Fig. 7. e &c.

The *fesmoatic connexion* appears in Tab. VII. *f r v t u* in the right hand; where it is partly covered by the anterior interosseus of the middle finger *L*. Then in Tab. VI. *q r* in the right hand; where the rest of it is under the anterior interosseus of the middle finger i k. The like also appears in Tab. V. 1. 2. F in the right hand.

u The tendon of the extensor indicis. *b* the tendon of the first lumbricalis. See Fig. 1. h. m. &c.

x The *anterior interosseus of the index*, arising at *d d* from the anterior side of the metacarpal bone of the index; and particularly from more than its upper half, from the root of the upper head of the said metacarpal bone.

v The end of its tendon, inserted at *f* into the fore part of the upper head of the first bone of the index.

Add here Fig. 7. a &c.

The *fesmoatic connexion* appears in Tab. VII. 2. 3 in the right hand. Then in Tab. VI. 2 in the right hand; where it is partly covered by the abductor indicis 3 2. Likewise in Tab. V. 11. in the right hand.

Moreover it appears in Tab. III. e f in the left hand. Then in Tab. II. *W* in the left hand. And in Tab. I. w in the left hand; laterally in Tab. IX. *p* in the left hand.

FIGURE VII.

The internal interossei of the hand, viewed on their inner side.

a The *anterior interosseus of the index*, arising at b b b from the fore side of the metacarpal bone of the index; and particularly from more than the upper half of its length, just below the root of its upper head.

c The tendinous end, inserted at d into the fore part of the upper head of the first bone of the index.

Add here Fig. 6. *c* &c.

The *fesmoatic connexion* appears in Tab. IV. v w in the right hand; where the greater part of it is covered by the adductor of the thumb a, and the short flexor of it l. Then in Tab. III. z in the right hand; covered also by the abductor of the thumb b, and by the short flexor Z, also by the first lumbricalis c. Then in Tab. II. z in the right hand, where it likewise lies under the abductor of thumb y, and the first lumbricalis *c*, with the abductor indicis *a b*: and just in that manner it appears in Tab. I. a in the right hand.

e The *posterior interosseus of the index*, arising at f f from that side of the metacarpal bone of the index, that lies next the metacarpal bone of the middle finger; and particularly from more than half of its length, just below the root of its upper head.

g Its tendon, which being increased by a portion received from the extensor indicis, runs to the third bone of the index.

The said tendon also adheres by thin fibres to the capsule of the joint of this finger with its metacarpal bone, as it passes over the same towards the palm of the hand. In the same manner likewise are disposed the anterior interosseus of the ring finger, and the anterior interosseus of the little finger.

Add here Fig. 6. t &c.

The *fesmoatic connexion* appears in Tab. IV. x y in the right hand, where the greater part of it is covered by the adductor of the thumb a, and the short flexor l. Then in Tab. III. x y in the right hand; covered also by the adductor of the thumb b, and that tendon of the profundus which belongs to the index H. Then in Tab. II. *l* in the right hand, covered also by the tendon of the sublimis P that belongs to the index. Then in Tab. I. v in the right hand, covered by the aponeurosis of the palmaris longus *c e*.

Moreover in Tab. VIII. i in the left hand.

h The *anterior interosseus of the ring finger*, arising at i i from that side of the metacarpal bone of that finger, which lies next the metacarpal bone of the middle finger; and particularly from more than half its length, just below the root of its upper head.

k Its tendon, to which the tendon of the third lumbricalis (*x c d* Fig. 3.) l joins itself: and the common tendon formed by them m, being increased by a portion received from the tendon of the common extensor of this finger, runs to its third bone.

Add here Fig. 6. k &c.

The *fesmoatic connexion* appears in Tab. IV. *e f* in the right hand, partly covered by the third lumbricalis *g*. Then in Tab. III. r in the right hand; where the rest of it is covered by the third lumbricalis k, and the tendon of the profundus belonging to the middle finger I. Then in Tab. II. *p* in the right hand; where also it is covered by the third lumbricalis *g*, and the tendon of the sublimis N belonging to the index. Then in Tab. I. n in the right hand, covered by the third lumbricalis k, and the aponeurosis of the palmaris longus *c e*.

Moreover in Tab. VIII. it appears at m in the left hand.

n The *interosseus of the little finger*, arising at o o from that side of the metacarpal bone of the said finger, that lies next the metacarpal bone of the ring finger; and particularly from more than half its length, just below the root of its upper head.

p The tendon of this interosseus, which joins the tendon of the fourth lumbricalis (*e b i* Fig. 3.) cut off at q: and the common tendon r, which is formed of it, being increased by a portion received from the extensor proper to the little finger, runs to the third bone of the said finger.

Add here Fig. 6. a &c.

The *fesmoatic connexion* appears in Tab. IV. *m n* in the right hand; where it is partly covered by the fourth lumbricalis *e*. Then in Tab. III. above p in the right hand, where the rest of it is covered by the fourth lumbricalis n, and tendon of the profundus L, belonging to the adductor of the fourth metacarpal bone U. Then in like manner in Tab. II. *f* in the right hand; and in Tab. I. o in the right hand.

Moreover in Tab. VIII. at o it appears in the left hand.

FIGURE VIII.

The bicipital or external interossei of the hand, viewed on their inner side.

a—f *The anterior interossei of the middle finger.*

a The smaller head, which arises from the metacarpal bone of the index.

b The thicker head, arising at c c from a little more than the upper half of that side of the metacarpal bone of the middle finger, that lies next the metacarpal bone of the index.

d The tendon of it that joins the tendon of the second lumbricalis (u x y Fig. 5.) cut off here at e: and the common tendon formed thence f, being increased by a portion received from the tendon of the common extensor belonging to this finger, runs to the third bone of the said finger.

The extremity also that lies under the former, usually inserts itself into the eminence that is just beneath the first head of the first bone. After the same manner are disposed the posterior external interosseus of the middle finger, and of the ring finger.

Add here Fig. 9. v x, &c.

The *fesmoatic connexion* appears in Tab. IV. z in the right hand; where the greater part lies under the posterior interosseus of the index x, the adductor of the thumb a, and the short flexor l, with the second lumbricalis *e*. Then in Tab. III. v in the right hand, placed likewise under the posterior interosseus of the index x, the adductor of the thumb b, and the second lumbricalis g. Then in Tab. II. *m* in the right hand; placed under the posterior interosseus indicis *d*, the second lumbricalis *f*, and the tendon of the sublimis P belonging to the index. Then in Tab. I. m in the right hand; placed under the posterior interosseus of the index v, the second lumbricalis l, and the aponeurosis of the palmaris longus *c e*.

Moreover in Tab. VIII. near k in the left hand.

g—k The *posterior interossei of the middle finger.*

g The smaller head, which arises from the metacarpal bone of the ring finger.

h The thicker head, arising at i i from a little more than the upper half of that side of the metacarpal bone of the middle finger, that lies next the metacarpal bone of the ring finger.

k The tendon of it, which being increased by a portion received from the tendon of the common extensor belonging to the middle finger, runs to the third bone of the said finger.

Add here Fig. 9. m o &c.

The *fesmoatic connexion* appears in Tab. IV. *c d* in the right hand; where a great part is covered by the anterior interosseus of the ring finger *e*. Then in Tab. III. t u in the right hand; where it is covered by the anterior interosseus of the ring finger r, and the tendon of the profundus belonging to the middle finger I. Then in Tab. II. *o* in the right hand; covered by the anterior interosseus of the ring finger *p*, and tendon of the sublimis belonging to the middle finger N. Then in Tab. I. t in the right hand; covered by the anterior interosseus of the ring finger n, and the aponeurosis of the palmaris longus *e*.

Likewise in Tab. VIII. l l in the left hand.

l—o The *posterior interossei of the ring finger.*

l The thinner head, that arises from the metacarpal bone of the little finger.

m The thicker head, arising from a little more than the upper half of that side of the metacarpal bone of the ring finger, that lies next the metacarpal bone of the little finger.

o The tendon of it, which being increased by a portion received from the tendon of the common extensor belonging to the ring finger, runs to the third bone of the said finger.

Add here Fig. 9. a c &c.

The *fesmoatic connexion* appears in Tab. IV. *i k* in the right hand; where a great part of it is covered by the interosseus of the little finger m. Then in Tab. III. q in the right hand; covered by the fourth lumbricalis n, and tendon of the profundus K. Then in Tab. II. *r* in the right hand; in like manner covered by the fourth lumbricalis *h*, and tendon of the profundus belonging to the ring finger. Then in Tab. I. r in the right hand; covered also by the fourth lumbricalis i.

Also in Tab. VIII. n n in the left hand.

FIGURE IX.

The bicipital or external interossei of the hand, viewed in their outer side.

a—h The *posterior interossei of the ring finger.*

a The thinner head, arising at b b from the outer edge of that side of the metacarpal bone of the little finger, that lies next the metacarpal bone of the ring finger, from the root of its upper head almost to its lower head.

c The thicker head, arising at d d from a little more than the upper half of that side of the metacarpal bone belonging to the ring finger; which lies next the metacarpal bone of the little finger.

e Its tendon, that joins itself with the tendon f of the common extensor belonging to the ring finger, and being increased by a portion received from thence, runs to the third bone g of the said finger.

h i The aponeurosis, that joins to the tendon of the common extensor belonging to the ring finger; produced in its lower part h from the tendon e; in its upper part i springing from the capsule of the joint of this finger with its metacarpal bone.

Add here Fig. 1. L &c. and Fig. 8. l m &c.

The *sesamoid connexion* appears in Tab. VI. *q r s v t* in the right hand. Then in Tab. V. *m m n n p l* in the right hand; where the rest of it lies under the tendons of the common extensor of the fingers f f, &c. and under the tendon of the extensor proper to the little finger c.

Moreover in Tab. VII. s t &c. in the right hand. Also in Tab. III. i in the left hand: and in Tab. II. z in the left hand.

k The tendon, belonging to the ring finger from the common extensor. l the tendon common to the anterior interosseus of the ring finger and third lumbricalis. See Fig. 1. *b* I. &c.

m—t The *posterior interosseus of the middle finger.*

m The thinner head, arising from the outer edge of that side of the metacarpal bone of the ring finger, that lies next the metacarpal bone of the middle finger; from the root of its upper head almost to the lower head of the said bone.

o The thicker head arising at p p from a little more than the upper half of that side of the metacarpal bone of the middle finger, that lies next the metacarpal bone of the ring finger.

q The tendon of it that joins with the tendon r of the common extensor r belonging to the middle finger, and being increased by a portion received from thence, runs to the third bone s of the middle finger.

t u The aponeurosis that joins the tendon of the common extensor belonging to the middle finger, produced in its lower part t from the tendon q; coming its upper part at u from the capsule of the joint of this finger, with its metacarpal bone.

Add here Fig. 1. E, &c. and Fig. 8. g h, &c.

The *sesamoid connexion* appears in Tab. VI. a b c f g h in the right hand. Then in Tab. V. *x y z C w* in the right hand, where the rest lies under the tendon of the common extensor of the fingers f a o p.

Likewise in Tab. VII. *e f*, &c. in the right hand. Also in Tab. III. h in the left hand. And in Tab. II. 1 in the left hand.

v—z The *exterior interosseus of the middle finger.*

v The thicker head, arising at w w from a little more than the upper half of that side of the metacarpal bone of the middle finger, that lies next the metacarpal bone of the index.

z The thinner head, arising at y y from the outer edge of that side of the metacarpal bone of the index, that lies next the metacarpal bone of the middle finger; from the root of its upper head almost to its lower head.

x Its tendon, which being received by the inner part of the tendon of the second lumbricalis, joins itself at *a* with the tendon of the common extensor belonging to the middle finger; and being increased by a portion received from thence, it runs to the third bone *b* of the middle finger.

a The common end, in which the tendons *x*, *b* are conjoined, inserted at *d* into the third bone.

e f The aponeurosis, that joins the tendon of the common extensor belonging to the middle finger; produced in its lower part *e* from the tendon *z*, in its upper part *f* from the capsule of the joint of this finger with its metacarpal bone.

Add here Fig. 1. C &c. and Fig. 8. a b &c.

The *sesamoid connexion* appears in Tab. VI. i i k k l m n p in the right hand; where it lies partly under the tendon of the indicator muscle. Then in Tab. V. *H H H L X P S D* in the right hand; where in part also it lies under the tendon t of the indicator, and likewise under the tendon r of the common extensor, and its aponeurosis *s*.

Moreover in Tab. VII. at *l m* &c. in the right hand. And in Tab. III. g in the left hand: and Tab. II. *O* in the left hand.

g The tendon of the common extensor belonging to the middle finger. See Fig. 1. *i l.*

Muscles of the little finger.

Add here the *extensor proper to the little finger*, Fig. 1. *a* &c.

FIGURE X.

The small flexor of the little finger.

a Its origin from the outer part of the carpal ligament, and at b from the middle of the extremity of the crooked process of the cuneiform bone of the wrist.

c The tendon, in which it ends; and by which, joining the tendon of the abductor, it forms the common tendon d: and that conjoins itself with the tendon of the extensor proper to the little finger; and being increased by a portion received from thence, it runs to the third bone of this finger. See Fig. 1. R *u* S T U. Add here Fig. 1. R &c. and Fig. 6. i.

The *sesamoid connexion* appears in Tab. II. *t u w* in the right hand. Then in Tab. I. f h p in the right hand; where it is partly covered by the palmaris brevis g g, and partly by the aponeurosis of the palmaris longus *c*.

Moreover in Tab. VI. *f* in the left hand. Also in Tab. V. *x* in the left hand. And in Tab. IX. i in the right hand.

FIGURE XI.

The abductor of the little finger.

a Its origin from the inner and back part of the round protuberance in the pisiform bone; and from the adjacent inner ligament of the wrist at b.

c One of the tendons, in which it ends; inserted at d into the back part of the upper head of the first bone of the little finger, just beneath its upper edge.

e The other tendon, that joins itself to the tendon of the small flexor, here cut off at f: and the common tendon thence produced, immediately inserts itself beneath the said tendinous end d, into the same head of the bone where it is unequally protuberant: then at g (which is d Fig. 10.) it joins the tendon of the extensor proper to the little finger.

The aponeurosis, which this tendon gives to the extensor tendon of the little finger, see in Tab. V. *a* in the right hand: and in Tab. VI. *i* in the right hand: and Tab. VII. l in the right hand.

Add here Fig. 1. R &c. and Fig. 6. l.

The *sesamoid connexion* appears in Tab. II. *y z* in the right hand; partly covered by the small flexor *t u w*. Then in Tab. I. c in the right hand; in part also covered by the small flexor h p, and in part by the palmaris brevis g g.

Moreover in Tab. VI. *b* in the left hand: and *f* in the right hand. Also in Tab. V. *t* in the left hand: and *b* in the right. And in Tab. IX. k in the right hand.

Muscles of the index or fore-finger.

FIGURE XII.

The indicator.

a The tendinous beginning, arising at b b near the back part of the extensor major of the thumb, from the outer spine of the ulna, beginning near the middle of that bone; afterwards, below the origin of the said extensor major of the thumb from the ulna, it arises from the interosseus ligament of the cubit near the ulna.

c The tendon in which it ends, and which runs together with the common extensor of the fingers under the outer annullary ligament of the wrist (16 Tab. V. in the right hand) through the common sinus.

d The conjunction of this tendon, with the tendon of the common extensor of the fingers belonging to the index *e*, here cut off; and with that it forms the common tendon f.

Add here Fig. 1. V h *l l m n n*, &c.

The *sesamoid connexion* appears in Tab. VI. f g h in the arm. Then in Tab. V. t in the right hand, where part of it is covered by the tendon r of the common extensor of the fingers: and in the cubit it lies under the said common extensor d, &c. and under the extensor proper to the little finger *z*, with the ulnaris externus w.

Moreover in Tab. II. *Y Y* in the left hand: and in Tab. I. it appears at u u in the left hand. Also in Tab. IX. n in the left hand.

g The tendon of the posterior interosseus of the index. See *y* Fig. 1.

h The tendon of the first lumbricalis. See *w* Fig. 1.

FIGURE XIII.

The abductor indicis, externally.

a The tendinous beginning, by which it arises at b from the back of the larger multangular bone.

c Its origin from the upper part of the edge of the metacarpal bone of the thumb, that lies next to the index.

d The portion that arises from the inner and upper part of the metacarpal bone of the index.

e The aponeurosis which it conjoins with the tendon of the first lumbricalis, and with the common tendon of the extensors of the index, h Fig. 11 from whence it is here cut off at f.

Add here Fig. 14.

The *sesamoid connexion* appears in Tab. VI. 3 z in the right hand, where it lies partly under the tendon c of the extensor major of the thumb. And in Tab. V. 12. 5 in the right hand; covered in like manner by the tendon 13 of the extensor major of the thumb.

Moreover in Tab. II. it appears at *S* in the left hand: and in Tab. I. at x in the left hand: also at Tab. IX. at *y* in the left hand.

FIGURE XIV.

The abductor of the index, in its inner side.

a Part of its tendinous beginning.

b The tendinous end, by which it is inserted at c into the upper head of the first bone of the index.

Add here Fig. 13.

The *sesamoid connexion* appears in Tab. II. *a b* in the right hand; where the greater part of it is covered by the adductor of the thumb y, and the short flexor x, with the first lumbricalis *c*. And in Tab. I. b in the right hand; covered in the same manner by the adductor of the thumb *Y*, and the short flexor *W*, with the first lumbricalis *O* w.

Muscles of the thumb.

FIGURE XV.

The opponent of the thumb.

a Its origin from the anterior of those eminences in the larger multangular bone, that help to form the sinus, through which the tendon of the radialis internus passes to the hand; and at b b b from the carpal ligament, with a tendinous beginning.

c The tendinous portion of its extremity.

d d Its insertion at the inner side of the metacarpal bone of the thumb, at its lower head. It is also inserted along the whole anterior edge of that side of the bone.

e The impression formed by the short abductor of the thumb, and by its second short abductor.

The *systematic connexion* appears in Tab. II. q &c. in the right hand; is part covered by the second short abductor of the thumb u, and the tendon f of the less extensor of the thumb. Then in Tab. I. X in the right hand; is a great measure covered by the short abductor of the thumb Y; and a small part by the tendon d of the less extensor of the thumb.

Moreover in Tab. VI. *r* in the left hand. And in Tab. II. *C* in the left hand. Also in Tab. I. z in the left hand. And in Tab. IX. *l* in the left hand.

FIGURE XVI.

The abductor brevis of the thumb.

a a Its origin from the inner carpal ligament.

b Its tendinous end, of which the part c is inserted into the inner and fore part of the upper head of the first bone of the thumb.

d A thin tendinous portion, that climbs on the back of the thumb, and joins with the fore part of the tendons of the extensors of the thumb, and is continued over the surface of those tendons to a like aponeurosis of the short flexor of the thumb.

e The portion, which the tendon of the upper part of the long abductor of the thumb sends to the short abductor. See Fig. 19. e: from whence it is here cut off.

The *systematic connexion* appears in Tab. I. Y Z *C* in the right hand. And in Tab. II. k in the right hand.

Moreover in Tab. V. *l l* in the left hand. And in Tab. IX. *i k* in the left hand; and a b in the right hand.

f The tendon of the less extensor of the thumb here cut off.

g The common tendon of the extensors of the thumb.

FIGURE XVII.

The second short abductor of the thumb.

a Its origin, from the lower and outer part of the inner carpal ligament.

b Its tendinous end, inserted at c into the inner and fore part of the upper head of the first bone of the thumb.

The *systematic connexion* appears in Tab. II. u &c. in the right hand; at its end covered by the aponeurosis of the short abductor of the thumb k. Then in Tab. I. *L* in the right hand; where it is also covered by the short abductor Y *G*, and the aponeurosis of the palmaris longus *e*.

Moreover in Tab. VI. it appears at *r* in the left hand. And in Tab. V. *l* in the left hand. Also in Tab. IX. c in the right hand.

FIGURE XVIII.

The long abductor of the thumb, in its outer part.

a a The tendinous beginning, arising at b b from the spine of the ulna, just above the middle of that bone, from its outer part, near the lower portion of the supinator brevis.

d The part that arises at e e from the outer side of the radius, near the lower part of the supinator brevis, opposite its origin from the ulna.

Also beneath it arises from the outer part of the interosseus ligament, that is seated betwixt the radius and ulna, and between the two foregoing originations of it from the radius and ulna.

f The tendinous portion of the said intermediate part.

g The tendon of its upper part.

h The tendon of its lower part, here cut off at i.

The tendons slide down thro' the anterior sinus that is in the lower head of the radius, under the ligament, 20 in the right hand of Tab. V. and in Tab. IX. *g* is the left hand.

Add here Fig. 19.

The *systematic connexion* appears in Tab. VI. *L—W* in the arm; where it is covered by the shorter radialis externus V, the supinator brevis *D*, the extensor major of the thumb *a*, and less extensor *Y O*. Then in Tab. V. 21—23 in the cubit; covered by the shorter radialis externus H, the common extensor of the fingers d, the proper extensor of the little finger *a*, and the less extensor of the thumb 24, 25.

Moreover in Tab. II. it appears in the left cubit at Z a b. And in Tab. I. *w x y z* b b in the left arm. And in Tab. IX. x y y z x in the left arm and hand.

FIGURE XIX.

The long abductor of the thumb, in its inner part.

a Its inner part, that lies next the supinator longus and radialis externus.

b Its upper part. c the tendon, in which it ends; of which the part d is inserted into the inner side of the larger multangular bone, near the thumb; and the portion e joins the short abductor of the thumb, here cut off, V. e Fig. 16.

f Its lower part. g the tendon, in which it ends; inserted at h into the tubercle, that is in the inner and fore-part of the upper head of the metacarpal bone of the thumb, above its internal edge.

The tendons slide down thro' the anterior sinus in the lower head of the radius, under the ligament to be seen at *a* in Tab. I. in the arm.

Add here Fig. 18.

The *systematic connexion* appears in Tab. II. a b c d in the right cubit; where its end is covered by the opponent of the thumb q in the hand. Then in Tab. I. *w x z* a b b in the right arm; where likewise its end lies under the opponent X, in hand.

Moreover it appears in Tab. V. *g* in the left hand.

FIGURE XX.

The short flexor of the thumb.

a Its origin, from the inner and lower part of the less multangular bone, from the os magnum vel capitatum b, and from the cuneiform bone c. It arises also from the inner eminence of the larger multangular bone. And below its origination from those bones, it likewise springs from the adjacent heads of the metacarpal bones, belonging to the index and middle finger, and often from those of the ring finger and thumb.

d One of its tails, inserted by the tendinous end e into the upper part of that sesamoide bone f, which is placed outermost or farthest from the index, at the joint of the thumb with its metacarpal bone.

g The other tail, inserted by the tendinous end h into the sesamoide bone i, that is nearest the index; into the upper part of it, and that side which is nearest the index; and a little below that, it is inserted at k into the nearest lateral part of the upper head of the first bone of the thumb.

The aponeurosis, produced from the tail which is nearest the index, and which joins the aponeurosis investing the capsule of the joint of the thumb with its metacarpal bone, and with that adheres to the common end of the extensor tendons of the thumb, may be seen in Tab. IV. r in the left hand.

The *systematic connexion* appears in Tab. IV. l—q in the right hand; where a small part is covered by the adductor of the thumb s. Then in Tab. III. Z Z in the right hand; where it is covered by the adductor of the thumb b, and by the tendon A of the long flexor of the thumb, and by the first lumbricalis r; and at its origin it lies hid behind the inner armillary ligament of the wrist N. Then in Tab. II. x in the right hand; covered by the adductor of the thumb y, by the tendon of the long flexor of the thumb V, with the first lumbricalis *c*, the short abductor of the thumb u, and the opponent q. So also in Tab. I. at *W* in the right hand, it appears covered with the same muscles.

Moreover it appears in Tab. VIII. *Y—e* in the left hand. Also in Tab. VII. *W Y* in the left hand. Tab. VI. z in the left hand. Tab. V. *s* in the left hand. And Tab. IX. d in the right hand.

In its outer part it appears in Tab. VIII. *Y f* in the right hand. In Tab. VII. 4. 5 in the right hand. In Tab. VI. 6. 5 in the right hand. Tab. V. between 27 and 29 in the right hand. Then in Tab. IV. l r in the left hand. Tab. III. a b in the left hand. Tab. II. *H L* in the left hand. Also in Tab. I. D in the left hand. And in Tab. IX. *w* in the left hand.

FIGURE XXI.

The long flexor of the thumb.

a a The first origin of it from the radius; whose inner side it occupies, from near the tubercle into which the biceps of the arm is inserted, almost down to the pronator quadratus. And it also arises from the interosseus ligament that is betwixt the radius and ulna.

b The tendinous part of its origin.

c The portion that joins this muscle, arising by a slender tendon d, from the greater condyle of the humerus e, and is not often to be met with. f the tendon in which the said portion ends; joins the fleshy part of the flexor, and forms the first beginning of its tendon g.

The tendon passes thro' the inner sinus of the carpus under the inner ligament, which see in Tab. III. N in the right hand.

h The tendon passing betwixt the sesamoide bones of the thumb.

i Its course along the thumb and its metacarpal bone, where it is in a manner split longitudinally.

k Its insertion nearly into the middle of the rough eminence, that is in the posterior side of the last bone of the thumb.

The ligament, that confines it in passing along the first bone of the thumb. See in Tab. I. *S* in the right hand.

The *systematic connexion* appears in Tab. III. *P*—B in the fore-arm and hand, where a small part lies hid behind the pronator teres *L*, and the shorter radialis externus *x*; but the accessory portion at its beginning lies behind the brachialis internus *n p*. Then in Tab. II. S T V W in the cubit, &c; where it lies behind the sublimis C O, the supinator longus X, and the short abductor of the thumb *s* in the right hand. Then in Tab. I. *y r* in the arm, and *X X P* is the right hand; where it lies under the sublimis *f l*, the supinator longus *S*, the radialis internus *O* in the arm, and the short abductor of the thumb *L* in the right hand.

Moreover it appears in the left cubit and hand of Tab. VII. at X X Y. In Tab. VI. *C D* is the left hand. And in Tab. V. *n n* in the left hand. Also in Tab IX. f *l* is the left arm, and f f is the right hand.

FIGURE XXII.

The larger extensor of the thumb.

a a Its origin from the outer part of the ulna, almost in the middle of it longitudinally. And at b it arises beneath from the ligament that is extended betwixt the radius and ulna.

c The tendinous part of its beginning.

d The tendon, in which it ends; and which runs down thro' the small sinus of the radius, that is just behind the sinus, thro' which pass the tendons of the radiales externi; and it runs under the outer armillary ligament of the wrist, which see in Tab. V. 16 in the right hand.

e The tendon of the less extensor of the thumb, here cut off, see Fig. 25. o.

f The common end, in which the tendons of the larger and less extensor of the thumb unite; inserted at g into the oblong transverse protuberance, that stands out from the upper and fore part of the last bone of the thumb.

The *systematic connexion* appears in Tab. VI. a b c d e in the arm; where it lies under the anconæus Y, and the indicator f g h. Then in Tab. V. 13. 26 in the right hand, where it lies under the common extensor of the fingers d in the cubit, under the proper extensor of the little finger *a*, and the ulnaris externus W.

Moreover in Tab. II. g g h in the left cubit. And in Tab. I. y A in the left hand. And in Tab. IX. *e c d* in the left arm and hand.

h The aponeurosis, that joins itself to the tendon of the common extensors of the thumb, here cut off. Part of it incompasses the capsule of the joint of this thumb with its metacarpal bone, connected to the said capsule: part of it springs from the posterior tail of the short flexor of the thumb. See 4 and 5 in the left hand of Tab. VI.

The aponeurosis, which the common tendon receives on the other side from the short abductor of the hand, see in Fig. 16. d.

FIGURE XXIII.

The less extensor of the thumb.

a The tendinous part of its beginning, arising at b from the outer part of the spine of the ulna, to which is connected the ligament that lies betwixt the bones of the cubit. And below that origin it arises from the foresaid ligament.

c The tendon, in which it ends; and which here passes thro' the anterior sinus that is in the lower head of the radius, and under the ligament 20 in Tab. V. in the right hand, and Tab. I. *n* in the arm, and Tab. IX. *g* in the left hand.

d The tendon of the larger extensor of the thumb, here cut off; d Fig. 22.

e The common end, in which the tendons of the larger and less extensor of the thumb unite; inserted at f into the oblong transverse protuberance, that stands out in the upper and fore part of the last bone of the thumb.

The *sesamoid connexion* appears in Tab. VI. *Y O* d in the arm; where at its origin it lies under the extensor major of the thumb a c. Then in Tab. V. 24. 25. 26; is part covered by the common extensor of the fingers d, and the extensor proper to the little finger a.

Moreover in Tab. II. c f in the cubit. And in Tab. I. c d in the arms. And in Tab. IX. *a b* in the left arm and hand.

g The same aponeurosis, that is marked h, Fig. 22.

FIGURE XXIV.

The adductor of the thumb.

a Its origin from the fore part of the upper head of the metacarpal bone of the ring finger, near the metacarpal bone of the middle finger; and afterwards at b b from the inner side of the metacarpal bone of that middle finger.

c The tendinous end, inserted at d into that part of the upper head of the first bone of the thumb that lies next the index.

The *sesamoid connexion* appears in Tab. IV. *s* &c. in the right hand; in some measure covered by the short flexor of the thumb l, and posterior interosseus of the middle finger *c*. Then in Tab. III. b b in the right hand; covered by the short flexor of the thumb Z, the 1st and 2d lumbricalis c, g, with the tendon of the profundus H and I. Then in Tab. II. y in the right hand, where as before it is covered by the short flexor of the thumb x, the first lumbricalis *e*, the second lumbricalis *f*, and the tendons of the profundus that belong to the index and middle finger, and the tendon of the sublimis P that belongs to the index. Also in Tab. I. *Y* in the right hand, covered by the same muscles.

Moreover it appears in Tab. VIII. g h in the left hand. Tab. VII. *O* in the left hand: and in Tab. VI. *z* in the left hand. Tab. V. *q* in the left hand. And in Tab. IX. c in the right hand.

In its fore part it appears in Tab. VIII. g g h in the right hand. Tab. VII. 6. 7 in the right hand. Tab. VI. 7. 8 in the right hand. Tab. V. 29. 30 in the right hand. Then in Tab. IV. s u in the left hand. In Tab. III. c d in the left hand. In Tab. II. *X P* in the left hand. In Tab. I. F G in the left hand. And in Tab. IX. *n e* in the left hand.

Muscles of the metacarpus.

FIGURE XXV.

The adductor of the metacarpal bone of the little finger.

a Its origin from the posterior and almost extreme part of the crooked process of the cuneiform bone of the wrist, a little below its middle: and at b from the adjacent outer part of the inner carpal ligament, below the said process.

c c In these parts it is inserted into the metacarpal bone of the little finger, near its head: and betwixt them through its whole length, namely, into the posterior and inner part of that bone.

The *sesamoid connexion* appears in Tab. III. U &c. in the right hand. Then in Tab. II. *s s* in the right hand, covered by the abductor of the little finger *y*, and the small flexor *z*. Then in Tab I. f in the right hand, covered by the abductor of the little finger c, by the small flexor h, the palmaris brevis g g, and the aponeurosis of the palmaris longus *c*.

Moreover in Tab. VII. it appears at *X P S* in the left hand; and a in the right hand. Also in Tab. IX. I in the right hand.

Muscles of the palm.

FIGURE XXVI.

The palmaris longus and brevis.

a—o The *palmaris longus*.

b The tendinous beginning, arising from the end of the inner part of the posterior condyle of the os humeri; which beginning afterwards runs thro' it at c: but belongs to the common tendinous head, by which it arises with the other muscles from this condyle; and from which it is separated in the same manner with that of the radialis internus Tab. XIX. Fig. 9. a.

d The tendon, in which it ends.

e The aponeurosis, in which the said tendon expands; and which partly arises from the inner ligament of the wrist. The said aponeurosis is first slightly distinguished into the four portions f. g. h. i, going to the fingers; which are afterwards so far divided, that they only cohere by the transverse tendinous threads k k k.

l. l : l. l : l. l : l. l The bifurcated extremity, in which each portion ends upon the finger to which it belongs; and which are inserted into the transverse ligament that is at the roots of the fingers, as well into the parts m m m m that lie betwixt the two horns of each portion, as into the parts n. n. n that are immediately covered by the portions themselves betwixt those horns. And at the upper part of the said ligament, they are inserted by a small portion into the middle of the inner side of the metacarpal bones.

o The portion cut off, which it gives to the short abductor of the thumb.

The *sesamoid connexion* appears in Tab. I. *a—r* in the arm; where at its origin it lies under the pronator teres *W*. Also in Tab. V. L. in the cubit, and *r* in the left hand. And in Tab. IX. *n e* in the right arm.

p p The *palmaris brevis*, unequally divided into portions.

q q Its detachment from the beginning of the aponeurosis of the palmaris longus. It also goes off from the outer part of the inner carpal ligament near the thumb.

r r The extremities, which are inserted into the tendinous covering of the hand that lies next to the common integuments, and belonging to the fourth metacarpal bone.

The *sesamoid connexion* appears in Tab. I. g g in the right hand; where (as here) part of its origin lies under the aponeurosis of the palmaris longus *c*.

Moreover in Tab. V. it appears at *f f* in the left hand. And in Tab. IX. h in the right hand.

THE

Twenty-first Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

Muscles of the thigh.

Add here Tab. XXII. Fig. 1. 2. 3. 4. 5. 6. 7. 8. And the *abductor facialis femoris*, Fig. 8. Tab. XXIII.

FIGURE I.

The gluteus magnus.

The flesh of this muscle is outwardly collected into small bundles loosely cohering together.

a a Its origin from the os ilium at the outer edge of the back part of its spine, by which that bone is extended backwards over the os sacrum. It arises with a tendinous beginning.

It also adheres so firmly to the ligamentum sacro-ischiaticum, and to the ligament that goes from the os sacrum, to the spine or crista of the os ilium, as also to the tendinous vagina that covers it outwardly, that it seems to arise from each of them. Its said origin (a a) is also continued to the tendinous origin of the latissimus dorsi, and common heads of the longissimus dorsi and sacrolumbalis. See Tab. V. *d d* in the buttock.

b The place where it arises from the outer edge of the os sacrum.

c Its origin from the first protuberance, at the side of the opening in which the canal of the spina dorsi, including the spinal medulla, terminates.

d Its origin from the juncture of the oblique processes of the os sacrum and coccygis.

e Its origin from the side of the os coccygis.

f The tendon, in which it ends; and which is inserted into the protuberance of the thigh-bone, that is extended along its back part downwards from the root of the great trochanter; and it principally inserts itself into the upper part of this eminence, where it is generally the most rough and protuberant. It also coheres with the tendinous fascia or covering that binds together the adjacent muscles of the thigh.

g The place where it coheres to the vastus externus.

The *systematic connexion* appears in Tab. V. *c* in the buttock. Also in Tab. IX. w x y in the hip. And in Tab. I. A in the thigh.

FIGURE II.

The middle gluteus, in its back part.

a a a Its origin from the whole extent of the back of the os ilium, from near its spine.

b Its tendinous extremity, inserted obliquely at c c into the trochanter major, from the tip to its root.

d d The insertion made in it by the gluteus magnus.

Add here Fig. 3.

The *systematic connexion* appears in Tab. VI. i &c. in the lower part of the trunk. Then in Tab. V. Y in the buttock, where the remaining part of it is covered by the gluteus magnus w.

FIGURE III.

The middle gluteus, in its fore part.

a Its outer part. b Its inner part.

c c Its origin from the spine of the ilium.

d The tendinous portion, by which the tendinous end begins internally.

Add here Fig. 2.

The *systematic connexion* appears in Tab. II. s in the trunk; where the rest of it is covered by the gluteus minor u. Then in Tab. I. K in the thigh; where it lies partly behind the tensor or abductor fascialis femoris M.

FIGURE IV.

The gluteus minor, in its back part.

a a a The first of its origination from the back of the os ilium, from all that part of it which lies betwixt the origins of the middle gluteus and beginning of the ischium, and from the posterior edge of the upper part of the ischium itself.

b The tendinous portion, that begins outwardly from its tendinous insertion.

Add here Fig. 5.

The *systematic connexion* appears in Tab. VII. z &c. in the hip. In Tab. VI. i lies under the gluteus medius i in the lower part of the trunk, and the pyriformis n.

FIGURE V.

The gluteus minor, in its fore part.

a a Its origin from the os ilium.

b Its outer part. c Its inner part.

d Its tendinous end that terminates in that fore part of the trochanter major that is near its outer side from the root to its tip. See Tab. III. *e* in the trunk.

Add here Fig. 4.

The *systematic connexion* appears in Tab. III. *o—f* in the trunk, where it lies under the iliacus internus *r*. Then in Tab. II. u in the trunk; placed under the iliacus internus y in the thigh, and the rectus z. In Tab. I. it lies under the abductor fascialis femoris M in the thigh.

FIGURE VI.

The pyriformis, in its back part.

a Its origin from the outer part of the posterior and lower edge of the os ilium, near the os sacrum.

b The tendon, in which it ends: for it is inserted into the inner and middle part of the mount of the trochanter major.

Add here Fig. 7.

The *systematic connexion* appears in Tab. VI. n in the lower part of the trunk; where it is partly covered by the gluteus medius i, in part by the upper of the gemini q, and in part lies behind the os sacrum. In Tab. V. it lies under the gluteus magnus *c* in the buttock.

FIGURE VII.

The pyriformis, in its fore part.

a b. c d. e f Three portions, by which it arises from the fore part of the os sacrum; being tendinous at their beginning b d f.

g The uppermost of them, arising from the fore part of the body of the second vertebra of the os sacrum, just above its second foramen.

h The middle portion, from the fore part of the process that lies betwixt the second and third foramen.

i The lower portion, from the fore part of the process that is betwixt the third and fourth foramen.

k The place where the muscle is cut off.

Add here Fig. 6.

FIGURE VIII.

The quadratus femoris, in its back part.

a The tendinous part of its beginning.

b b The extremity, inserted into the oblong eminence of the thigh-bone, that stands out partly from the posterior side of the root of the trochanter major, and partly below the same.

Add here Fig. 9.

The *systematic connexion* appears in Tab. VI. x in the lower part of the trunk; in part seated under the lower of the gemini s, and hid behind the biceps of the thigh *i h*, with the semimembranosus. And what there appears naked, in Tab. V. lies under the gluteus magnus *c* in the buttock.

FIGURE IX.

The quadratus femoris, anteriorly.

a a Its origin from the outer edge of the tuberculum ischii.

Add here Fig. 8.

TAB. XXI.
I. Glutæus Magnus.
II. Glutæus medius.
III. Glutæus medius.
IV. Glutæus minor.
V. Glutæus minor.
VI. Pyriformis.
VII. Pyriformis.
VIII. Quadratus femoris.
IX. Quadratus femoris.
X. Obturator internus.
XI. Gemini.
XII. Psoas magnus.
XIII. Psoas magni.
XIV. Iliacus internus.
XV. Psoas magni & Iliaci interni.
XVI. Adductor magnus femoris.
XVII. Adductor magnus femoris.
A. Bell Sculp.t

FIGURE X.

The obturator internus.

a a a Its tendinous origin from the fore part, and more than half the circumference of the great foramen in the os pubis; whence it first proceeds backwards through the side of the pelvis, and then bends round the margin of the ischium at b, goes through the sinus or notch that is betwixt the acute process and the tuberculum ischii; and afterwards it runs along the back of the ischium.

c The tendon, in which it ends; inserted at the inner and fore part of the mount of the trochanter major.

The *sympathetic connexion* appears in Tab. VII. *H—P* in the hip; where, as in this figure, the extremity lies hid behind the trochanter major. Then in Tab. VI. w x x y in the lower part of the trunk; where at its origin it lies hid behind the levator ani e, and the coccygeus d; the extremity being under the gemini q. s. And what there appears naked, is in Tab. V. covered by the gluteus magnus c in the buttock.

FIGURE XI.

The gemini or gemelli.

a The uppermost of the gemini, arising at b from the outer part of the end of the acute process of the ischium, near the sinus or notch through which the obturator internus bends itself.

c The tendinous extremity.

d The lower of the gemini, arising at e e from the outer part of the tuberculum ischii, near the lower part of the sinus through which the obturator internus bends itself.

f The inner part of its beginning, arising outwardly at g g from the ischium, and from the lunar edge of the sinus through which the obturator internus bends itself.

h The tendinous ending.

The extremities being conjoined with the tendon of the obturator internus, are inserted therewith into the inner and fore part of the mount of the trochanter major.

The *sympathetic connexion* appears in Tab. VI. q. s in the lower part of the trunk; where part of it is covered by the obturator internus w y; and the extremities themselves lie hid behind the trochanter major, as in the present figure. In Tab. V. it lies under the gluteus magnus c in the buttock.

FIGURE XII.

The psoas magnus.

a The tendinous beginning of its first head, arising at b from the lower edge of the body of the first dorsal vertebra, and at c from the ligament that is placed betwixt the body of that and the uppermost lumbal vertebra. And in some it arises from the next upper part of the body of that vertebra.

d e The tendinous beginning of the second head, arising at d from the lower edge of the body of the fifth or uppermost lumbal vertebra, and at e from the ligament that is placed betwixt the body of that and the body of the next or fourth vertebra: and in others it arises even from the upper part of the body of the same fourth vertebra.

f g The tendinous beginning of the third head, arising at f from the lower margin of the body of the fourth lumbal vertebra, and from the ligament g that is betwixt the body of that and the body of the third vertebra: and in others also from the next adjacent upper part of the body of the third vertebra.

h i The tendinous beginning of the fourth head, arising at h from the lower edge of the body of the third lumbal vertebra, and at i from the ligament that is betwixt the body of that and of the second vertebra: and in others also from the next adjacent upper part of the body of the second vertebra.

k l The tendinous beginning of the fifth head, arising at k from the lower edge of the body of the second lumbal vertebra, and from the ligament l that is betwixt the body of that and the body of the first vertebra: and in others also it arises from the next adjacent upper part of the body of the first lumbal vertebra.

m The tendon, in which it ends.

n n The place from whence the flesh of the iliacus internus is cut off, at its conjunction with the tendon of that muscle.

Add here Fig. 13. and 15.

The *sympathetic connexion* appears in Tab. IV. t &c. in the trunk; where it is in part covered by the psoas parvus r s, and the diafragm Q R. Then in Tab. III. *t u* in the thigh; where only that part which is in the thigh appears. Then in Tab. II. z in the thigh; in part covered by the internal obliquus of the abdomen O in the trunk, and also by the pectineus *C* in the thigh. Then in Tab. I. F. in the thigh, covered by the obliquus externus of the abdomen u v in the trunk, and by the pectineus E in the thigh, and by the sartorius H.

FIGURE XIII.

The heads of the great psoas.

These are all cut off from the psoas, under which they that arise from the bodies of the vertebræ are partly seated; but those heads from the transverse processes are entirely seated under the muscle.

a. d. g. k. n The five heads, which arise from the bodies of the vertebræ and their intermediate ligaments.

a The tendinous beginning of the first head, arising at b from the lower margin of the body of the lowest dorsal vertebra, and at c from the ligament that is betwixt the body of that and the body of the uppermost lumbal vertebra.

d The second head, which arises with a tendinous origin e f, at e from the lower margin of the body of the fifth lumbal vertebra, and at f from the ligament that is betwixt the body of that and of the fourth or next lumbal vertebra.

g The third head, which arises with a tendinous beginning h i, at h from the lower margin of the body of the fourth lumbal vertebra, and at i from the ligament that is betwixt the body of that and the third lumbal vertebra.

k The fourth head, arising with a tendinous origin l m; at l from the lower margin of the body of the third lumbal vertebra, and at m from the ligament that is betwixt the body of that and of the second vertebra of the loins.

n The fifth head, which arises with a tendinous origin o p; at o from the lower margin of the body of the second lumbal vertebra, and at p from the ligament betwixt the body of that and of the first lumbal vertebra.

q. s. u. w. y The five heads, which arise from the fore and lower part of the transverse processes of the lumbal vertebræ.

q The first head, arising with a tendinous beginning at r from the transverse process of the fifth vertebra.

s The second head, arising with a tendinous origin t from the transverse process of the fourth vertebra.

u The third head, arising with a tendinous origin v from the transverse process of the third vertebra.

w The fourth head, arising with a tendinous origin x from the transverse process of the second lumbal vertebra.

y The fifth head, arising with a tendinous origin z from the transverse process of the first vertebra.

Add here Fig. 12. and 15.

FIGURE XIV.

The iliacus internus.

a The portion, by which it arises from the back part of the transverse process of the first or lowermost lumbal vertebra.

b The origin from the ligament k.

c c d The first of its origination from the inner surface of the os ilium, just below the spine of that bone; and its origin is continued from the whole upper surface of that bone.

Below d, where the crista or spine of the os ilium terminates before, it also arises from the anterior part of the os ilium, and then from its inner surface, and from the lower part of the root of the protuberance that stands out from its said margin; and likewise from the adjacent part of the capsule that contains the joint of the thigh-bone.

e The concave part of the muscle, next the cavity of the abdomen.

f f The joining of the flesh of this muscle with the tendon of the psoas; it also coheres beneath it.

g The insertion also of the fleshy part itself of this muscle, below the tendon of the said psoas magnus.

h The place where the psoas magnus is cut off.

i The tendon common to the psoas magnus and iliacus internus.

Add here Fig. 15.

The *sympathetic connexion* appears in Tab. IV. y in the trunk; where it lies partly under the psoas magnus t; then in Tab. III. *s* in the thigh, where only that portion of it can be seen which enters into the thigh; it is also in part covered by the transversus of the abdomen p p in the trunk, and partly by the psoas magnus *t u* in the thigh. Then in Tab. II. y in the thigh; covered by the obliquus internus of the abdomen O O in the trunk, the psoas magnus z in the thigh, the pectineus *C*, and the rectus x. Then in Tab. I. G in the thigh; covered by the obliquus externus of the abdomen u in the trunk, the psoas magnus F in the thigh, and the sartorius H.

k The ligament, that is extended from the transverse process of the lowest lumbal vertebra, to the nearest part of the spine of the ilium.

FIGURE XV.

The insertion of the psoas magnus and iliacus internus, in its back part.

a The iliacus internus.

Add here Fig. 14.

The *sympathetic connexion* appears in Tab. VIII. *p* (and the rest of the iliacus internus *s*) in the hip and thigh, where the external obturator *r* covers it in part. Then in Tab. VII. *P* in the hip and thigh; covered also in part by the obturator externus *S*. And what is there naked, in Tab. VI. lies behind the quadratus femoris z in the lower part of the trunk.

b The tendon, common to the psoas magnus and iliacus internus, inserted at c c into the less trochanter, which it in a manner encompasseth.

Add here Fig. 12. and 13.

The *sympathetic connexion* appears in Tab. VIII. *q* in the hip and thigh, where part of the end is covered by the obturator externus *r*, with the adductor of the thigh *z*. Then in Tab. VII. *Q* in the hip and thigh, where part of the end is in the same manner covered by the obturator externus *S*, and the adductor magnus femoris O. And what is there uncovered, in Tab. VI. lies behind the quadratus femoris z is the lower part of the trunk.

The remaining part is behind the psoas magnus Tab. VIII. *w* in the hip. Then in Tab. VII. y in the hip. In Tab. VI. m in the lower part of the trunk; and the rest lies behind the pyriformis n, and the gluteus medius i.

FIGURE XVI.

The adductor magnus of the thigh, in its fore part.

a a Its origin from the outer part of the anterior edge of the os pubis, near its synchondrosis; from whence it continues to arise as far as the tubercle of the ischium.

b. c. d Portions which are in some degree distinguished one from the other, chiefly by the different course of the fibres; and which together make the upper extremity of this muscle, inserted along the rough line on the back part of the thigh-bone.

e f A portion that is more distinct from the rest, ending in the lower extremity, inserted at the lower condyle of the femur. f The tendon that arises from the fleshy part.

Add here Fig. 17.

The *systematic connexion* appears in Tab. IV. *k l m n o p* in the thigh; where part of it is covered by the common end of the psoas magnus and iliacus internus z. Then in Tab. III. *D D H L X* in the thigh, where the rest of it is covered by the same common end of the psoas magnus and iliacus internus *w v*, and by the adductor brevis of the thigh *y*, with the gracilis *Y*. Then in Tab. II. *P* in the thigh; where also the rest of it is covered by the common end of the psoas magnus and iliacus internus z y, the pectineus *C*, the long adductor of the thigh *D*, the gracilis *L*, and the vastus internus *S*. Then in Tab. I. C in the thigh; covered by the sartorius H, the adductor longus of the thigh D, the gracilis B, and the other muscles remarked in Tab. II.

FIGURE XVII.

The adductor magnus of the thigh, in its back part.

a b Its origin from the outer part of the tuberculum ischii, as far as its bottom a the tendinous portion. b the aponeurosis that runs thro' the fleshy part at c.

d The portion that springs from the fore part, where it arises along the height of the os pubis.

e e The broad extremity, which ends in some measure tendinous, at its insertion along the femur at f f f into the linea aspera, that runs along the whole back part of that bone.

g The lower end, that forms the tendon h, inserted at i into the middle of the upper part of the side of the inner condyle of the thigh-bone.

k The impression made in this muscle by the gluteus magnus.

l l All that part which is made concave, by the impression of the semimembranosus and semitendinosus.

Add here Fig. 16.

The *systematic connexion* appears in Tab. VIII. *β*—D in the thigh. Then in Tab. VII. K N in the thigh; placed also under the semimembranosus A C, and the shorter head of the biceps cruris P. Then in Tab. VI. *e e* in the thigh; covered also by the biceps cruris *b l*, by the semitendinosus *p q*, the semimembranosus *w*; and at its origin hid behind the transversus of the perinæum h, and the second transversalis g in the lower part of the trunk. Then in Tab. V. *i* in the thigh; placed under the semimembranosus *n*, and the semitendinosus *p*, as in Tab. VI.; also under the gluteus magnus *c* in the buttock.

THE

Twenty-second Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

Remaining muscles of the thigh.

Add here Tab. XXI.

FIGURE I.

The adductor longus of the thigh, in its fore part.

a The tendinous beginning, arising at b from the ligament by which the synchondrosis of the ossa pubis is tied together in its fore part, immediately above the protuberance that is in the anterior and upper part of the os pubis: and at c from the said protuberance itself.

d The tendinous part of its extremity.

Add here Fig. 2.

The *systematic connexion* appears in Tab. II. *D H* in the thigh; covered by the vastus internus *W S*, and the gracilis *L N*; and hid also behind the testicle and cremaster muscle p. Then in Tab. I. D in the thigh, covered by the sartorius H, the gracilis B; and likewise hid behind the testicle and cremaster z.

Laterally it appears in Tab. IX. m in the left hip and thigh.

FIGURE II.

The end of the long adductor of the thigh, in its back part.

a a The fleshy part cut off.

b The tendinous part of its end, inserted at c c along the middle of the thigh-bone, into the rough line that appears along the posterior side of that bone.

Add here Fig. 1.

FIGURE III.

The end of the adductor brevis femoris, in its back part.

a a The fleshy part cut off.

b. c. d The extremity divided into three portions, of which portions the part e is tendinous.

f g h h Their insertion into the rough eminence or line that runs along or divides the back part of the femur; and particularly into the upper part of it that is next below the trochanter minor.

Add here Fig. 4.

FIGURE IV.

The adductor brevis of the thigh, in its fore part.

a The head which is outwardly tendinous, arising at b from the *fore* part of the os pubis at the synchondrosis or cartilaginous juncture, and below the origin of the adductor longus: arising also at c from the ligament that covers or confines the said synchondrosis.

d The tendinous end.

In the middle is an impression or cavity made in this muscle, by the pectineus and long adductor of the thigh.

Add here Fig. 3.

The *systematic connexion* appears in Tab. III. *y z C* in the thigh; covered by the gracilis *O*, and the iliacus internus with the psoas magnus *x w*, and hid with its extremity behind the thigh-bone. And what there appears naked, is in Tab. II. placed behind the long abductor of the thigh *D H*, with the pectineus *C*, and vastus internus *W S*.

FIGURE V.

The pectineus, in its fore part.

a a b Its origin at a a from the oblong eminence which runs all along the upper part of the os pubis, as far as the protuberance that stands out from its fore part near the synchondrosis; and at b from the said protuberance itself.

c The tendinous end.

Add here Fig. 6.

The *systematic connexion* appears in Tab. II. *C* in the thigh, covered by the long abductor of the thigh *D*, the vastus internus *W S*, the psoas magnus z, with the iliacus internus y, and the internal obliquus of the abdomen O in the trunk; and hid also behind the cremaster p q in the trunk. Then in Tab. I. E in the thigh; covered likewise by the long abductor of the thigh D, and by the sartorius H, and the external obliquus of the abdomen v in the trunk; hid also behind the cremaster z in the trunk.

Laterally its connexion appears in Tab. IX. n in the left hip and thigh.

FIGURE VI.

The end of the pectineus, in its back part.

a a The fleshy part here cut off.

b The tendinous end, inserted at c c into the linea aspera of the thigh-bone, where it is continued downward a little below the less trochanter.

Add here Fig. 5.

TAB: XXII.

I. Adductor longus femoris.

II. Adductor longus femoris.

III. Adductor brevis femoris.

IV. Adductor brevis femoris.

V. Pectineus.

VI. Pectineus.

VII. Obturator externus

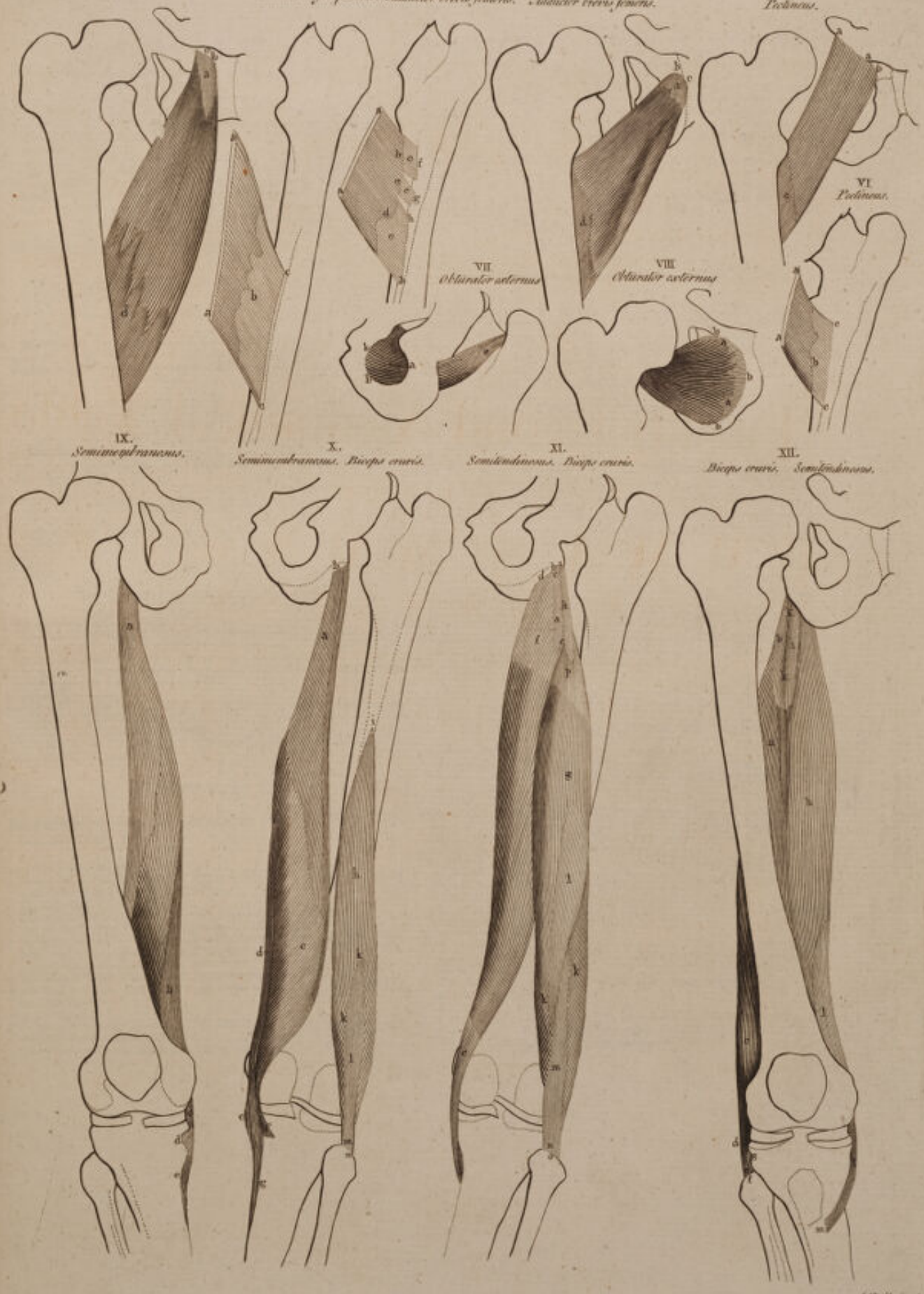
VIII. Obturator externus

IX. Semimembranosus.

X. Semimembranosus. Biceps cruris.

XI. Semitendinosus. Biceps cruris.

XII. Biceps cruris. Semitendinosus.



A Weill Sculp.

FIGURE VII.

The obturator externus, in its back part.

a The part that flops up the great foramen in the os pubis.
b b Part of its origin from the inner edge of the great foramen in the os pubis.
c The tendinous part of its extremity; the tendinous end of which is inserted into the back part of the inner side of the root of the great trochanter.
Add here Fig. 8.
The *systematic connexion* appears in Tab. VIII. *r r f t* in the ischium, partly hid behind the great abductor of the thigh z. Then in Tab. VII. *S S W* in the ischium, covered by the obturator internus *H—P*, and partly hid behind the adductor magnus of the thigh O, and the semimembranosus B in the thigh. Then in Tab. VI. *u u* in the lower part of the trunk; covered by the obturator internus w y, and the lower of the gemini s, and the quadratus femoris z; partly hid also behind the coccygeus d: and what is there uncovered, in Tab. V. lies behind the gluteus magnus *e* in the buttock.

FIGURE VIII.

The obturator externus, in its fore part.

a a The tendinous beginning, arising at b b b from the fore part of the os pubis and ischium, and from the anterior half part of the circumference of the great foramen in the os pubis, continuing to arise from the top of the foramen to its bottom.
Add here Fig. 7.
The *systematic connexion* appears in Tab. IV. *a b* in the trunk; covered by the great abductor of the thigh *k l*, in the thigh, and the psoas magnus, with the iliacus internus x. Then in Tab. III. *w x* in the trunk and thigh, covered in like manner by the adductor magnus of the thigh *D*, and the psoas magnus with the iliacus internus *u*, and also by the short abductor of the thigh *y z*. And what is there (in Tab. III.) naked, in Tab. II. lies behind the pectineus *C* in the thigh.

Muscles of the leg.

Add here Tab. XXIII. Fig. 1. 2. 3. 4. 5. 6. 7.

FIGURE IX.

The semimembranosus, in its fore part.

a The tendon, by which it begins.
b The origin of the tendinous tail from its fleshy part, which is afterwards wholly tendon at c, and inserted chiefly at d into the upper head of the tibia, just below its upper round edge that is near the back part of its inner side.
e The anterior aponeurosis, inserted into the edge of the tibia, on that side where the principal part of the tendon inserts itself.
Add here Fig. 10. a—g.
The *systematic connexion* appears in Tab. III. *P S W* in the thigh; covered by the gracilis *Y* A B, the adductor magnus of the thigh *D H L*, and above the quadratus. And what appears naked in Tab. III. is in Tab. II. covered by the vastus internus *S* in the thigh. And in the first table it appears behind the inner head of the gemellus.

FIGURE X.

The semimembranosus, and short head of the biceps of the thigh, in their back part.

a—g The *semimembranosus*.
a The tendon, by which it begins, arising at b from the upper part of the back of the tuberculum ischii, near its outer side.
c The fleshy belly.
d The origin of its tendinous tail from the fleshy belly of the muscle.
e The principal part of the said tail, inserted into the upper head of the tibia.
f The posterior aponeurosis of the said tail, inserted into the rough oblique eminence that is below the back part of the root of the upper head of the tibia, where it sustains the inner condyle of the femur.
g The anterior aponeurosis, which it inserts into the inner edge of the tibia.
In the head and upper part of the belly of this muscle, is a cavity impressed by the semitendinosus.
Add here Fig. 9.
The *systematic connexion* appears in Tab. VII. A—G in the thigh; covered by the gracilis H I. Then in Tab. VI. *w—C* in the thigh; covered in like manner by the gracilis *v t*, and by the semitendinosus *p—s*, and the biceps of the leg *k l*. Then in Tab. V. *u n n p* in the thigh, covered by the same muscles as in Tab. VI. and moreover by the gemellus *P S* in the leg.
Laterally its connexion appears in Tab. IX. P Q R S in the right leg.
h—m *The short head of the biceps muscle of the leg.*
i Its origin near the middle of the thigh-bone, from the lower part of the rough line that is extended along the back part of that bone. It also arises from the tendinous partition, that is placed betwixt itself and the vastus internus muscle.
k k Part of the tendon cut off, which arises from the longer head of this muscle.
l Part of the tendon, that is increased by the accession of the flesh of the shorter head.
m The tendinous end, inserted at n into the outer part of the upper head of the fibula.
Add here Fig. 11. g—p. and Fig. 12. a—g.
The *systematic connexion* appears in Tab. VII. P, &c. in the thigh. Then in Tab. VI. *l l*, &c. in the thigh; covered by the longer head *f x*.

FIGURE XI.

The semitendinosus and biceps of the leg, posteriorly.

a—f The *semitendinosus*.
a The tendinous part of its origin, arising at b from the back of the tuberculum ischii, together with the longer head of the biceps; and then joining the tendinous beginning of that head at c c; from whence its beginning goes off.
d The fleshy part of its origin, which in some other subjects is tendinous, arising from the back of the tuberculum ischii.
e The tendon, in which it ends.
f The impression made by the gluteus magnus.
Add here Fig. 12. h—m.
The *systematic connexion* appears in Tab. VI. *p—s* in the thigh; covered by the longer head of the biceps *b*, and in the end placed behind the semimembranosus *C*. Then in Tab. V. *q r* in the thigh; covered also by the longer head of the biceps *f*, the semimembranosus *p*, and the gluteus magnus *e* in the buttock.
Laterally its connexion appears in Tab. IX. T U in the right leg, and z in the left thigh.
g—p The *biceps of the leg*.
g The longer head of the biceps.
h The tendon, by which it begins, and arises at i from almost the middle of the upper part of the back of the tuberculum ischii, conjoined at its origin with the beginning of the semitendinosus.
k k The shorter head of this muscle.
l The common tendon, in which the two heads terminate; arising first at l from the surface of the flesh of the longer head, then increased by the accession of the flesh of the shorter head, and afterwards inserted by the short end n, into the outer part of the upper head of the fibula at o.
p The impression made in this muscle by the gluteus magnus.
Add here Fig. 10. h—n, and Fig. 12. a—g.
The *systematic connexion* appears in Tab. VI. *b—e* in the thigh. Then in Tab. V. *f—x* in the thigh, covered by the gluteus magnus *e* in the buttock.
Laterally its connexion appears in Tab. IX. *a—f* in the left leg.

FIGURE XII.

The biceps and semitendinosus, in their fore part.

a—g The *biceps of the leg*.
a The longer head of the biceps. b the tendon, by which it begins, and which runs a considerable way through its origination, from that part where it joins the semitendinosus.
e The shorter head of this muscle.
d The tendon, in which it ends; and of which principal part e is inserted into the outer part of the upper head of the fibula: g the part belonging to the tibia, at its outer part before the head of the fibula.
Add here Fig. 11. g—p, and Fig. 10. h—n.
The *systematic connexion* appears in Tab. III. C D E F in the thigh; where the rest lies behind the thigh-bone and the large adductor of the thigh *D D H*. Then in Tab. II. *f v t* in the leg and thigh; placed in like manner behind the vastus externus *d*. Then in Tab. I. *X P S* in the thigh and leg; covered in like manner by the vastus externus P, and placed behind the outer head of the gemellus, and beginning of the plantaris.
h—m The *semitendinosus*.
i The tendinous part of its beginning; which at k k is conjoined with the tendinous origin of the longer head of the biceps; from whence the beginning of this muscle goes off.
l l The tendon, in which it ends; inserted at m into the inner side of the tibia, just below the gracilis.
Add here Fig. 11. a—f.
The *systematic connexion* appears in Tab. II. *r* in the leg; where the rest of it is placed behind the gracilis *q p*, and the adductor magnus of the thigh. Then in Tab. I. *a* in the thigh; placed under the sartorius *Y*.

THE

Twenty-third Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

Remaining muscles of the leg.

Add here Tab. XXII. 9. 10. 11. 12.

FIGURE I.

The popliteus.

a The tendon, by which it begins, and arises at b from a sinus that is in the middle of the lower part of the outer side of the external condyle of the femur, just above the margin of that part which rests on the tibia.

That part which usually arises either from the outer edge of the semilunar cartilage of the knee, or from the broad ligament of the joint of the knee, could not be here represented.

c The tendinous portion.

d d The extremity, by which it inserts itself into that part of the back side of the tibia, that is betwixt the root of its upper head and the oblique eminence, from whence the soleus arises: and the whole breadth by which it terminates, is inserted into the inner edge of the tibia, that is next the other leg.

The *sesamatic connexion* appears in Tab. VII. W X Y in the leg; covered by the biceps cruris R S in the thigh, and the outer head of the gemellus T in the leg, with the semimembranosus G. Then in Tab. VI. *L X P* in the leg; covered also by the biceps *a* in the thigh, and the outer head of the gemellus *H* in the leg, and the semimembranosus *C*, with the plantaris *S*, and the soleus A *Y*. Then in Tab. V. *D* is the leg; covered by the biceps *w x* in the thigh, and the gemellus A *P* in the leg.

FIGURE II.

The rectus of the leg, laterally.

a The principal tendon, by which it arises at b b from the upper part of the protuberance, that is in the fore edge of the os ilium.

c Another tendinous beginning, arising at d d from the upper and posterior part of the edge of the acetabulum, and from the adjacent part of the capsule of the joint or upper head of the femur.

e The surface of the fleshy belly, which continues for some way outwardly tendinous, from those originations.

f The tendon, in which it ends, beginning its origination suddenly from the inner part of the muscle at g.

h The place where the tendon is cut off.

Add here Fig. 3.

The *sesamatic connexion* appears in Tab. IX. *l—p* in the left leg; covered by the sartorius p, and the extensor vaginalis of the thigh q; and A B C in the right leg.

FIGURE III.

The rectus cruris, in its fore part.

a The principal tendon, by which it arises at b b from the inner part of the protuberance, that is in the anterior edge of the os ilium.

Near c is the other tendinous origination.

d That part of the fleshy belly, which is for some length outwardly tendinous, from an excursion of its tendinous originations.

e e The oblique declension of the fibres, in each side of the surface of the muscle, from the middle downwards.

f The tendon, in which it terminates; and which inserts itself at g g into the patella, and afterwards joins to the fore part of the ligament that belongs to the tibia and patella.

Add here Fig. 2.

The *sesamatic connexion* appears in Tab. I. T—X in the thigh; covered by the sartorius H, and the extensor vaginalis of the thigh M. Then in Tab. II. *x*, and *i k l* in the thigh; covered by the iliacus internus y, and the gluteus minor *u* in the trunk.

i The ligament that joins the tibia and patella.

k k The place where the said ligament arises below from the patella.

l l The place of its insertion into the tibia, and all the way under the part m.

The *sesamatic connexion* appears in Tab. I. *D H L* in the leg. And in Tab. II. *m n o* in the leg.

Laterally its connexion appears in Tab. IX. D E F G in the right leg; and *f t u* in the left leg.

FIGURE IV.

The sartorius.

a The origin, which is outwardly tendinous, springing at b from the anterior extremity of the spine of the os ilium, and from the next adjacent part of the anterior edge of that bone.

c The tendon, in which it ends; inserted at d d into the inner side of the tibia near the lower part of the protuberance, to which is fixed the ligament that joins the patella to the tibia.

The *sesamatic connexion* appears in Tab. I. H I *W Y O* in the leg and thigh; in part concealed behind the vastus internus Y.

Laterally its connection appears in Tab. IX. K L M in the right leg, and p in the left leg.

In its back it appears in Tab. V. *l* in the thigh.

FIGURE V.

The gracilis.

a The tendinous beginning, near the synchondrosis of the pubis, springing from the ligament at b that ties together the said synchondrosis. It also arises below the same from the edge of the os pubis.

c The impression made in this muscle by the adductor longus of the thigh.

d The tendon, in which it ends; inserted at e into the tibia, just below the insertion of the tendon of the sartorius.

The *sesamatic connexion* appears in Tab. III. *Y*—B in the thigh. Then in Tab. II. *L X p q* in the thigh and leg; where in the end it is a little covered by the sartorius *r*; and is partly hid behind the vastus internus *S*, and by the testicle with its cremaster muscle p in the trunk. Then in Tab. I. B in the thigh; covered by the sartorius H *W Y*, and hid behind the vastus internus Y, and by the testicle with its cremaster muscle *z* in the trunk.

In its back part the connexion appears in Tab. VII. H I in the thigh, along its inner side, by the semimembranosus C D E. Then in Tab. VI. *v t* is the thigh, below seated behind the semitendinosus *s*, and above concealed behind the transverse muscles of the perinæum h. g in the lower part of the trunk. Then in Tab. V. *i k* is the thigh; below seated behind the semitendinosus *r*, and the sartorius *l*; above, it lies behind the gluteus magnus *c* in the buttock.

Laterally its connexion appears in Tab. IX. N O in the right leg.

e The ligament, by which the synchondrosis of the pubis is tied together in its fore part.

FIGURE VI.

The vastus internus and externus, in their posterior part.

a a b The *vastus internus*.

a a Its origination from the oblique eminence, that stands out from below the lesser trochanter, from the bottom of the root of the neck of the femur, to the long rough line or posterior spine of the femur; and then continues to arise all the way from the inner side of the said linea aspera, through its whole extent.

b The portion that is tendinous from the whole beginning for a considerable way.

Add here Fig. 7. k—p.

The *sesamatic connexion* appears in Tab. VI. *u* in the thigh; covered by the gracilis *v t*, the semimembranosus *w w x*, and the adductor magnus of the thigh *c*. Then in Tab. V. *w* in the thigh, covered by the fore-mentioned muscles, and by the sartorius *l*.

c c d e The *vastus externus*.

e e Its origination from the outer part of the root of the trochanter major, and along the whole extent of the spine called *linea aspera*, which stands out from the great trochanter almost to the outer condyle of the thigh-bone.

It goes off partly likewise from the tendinous partition that divides it from the shorter head of the biceps; which partition is here taken away.

d e The tendinous part. e the impression made in this muscle by the gluteus magnus.

Add here Fig. 7. *a—i*.

The *sesamatic connexion* appears in Tab. VI. *b—d* in the thigh; where it is covered by the biceps muscle of the leg *b l m n*. Then in Tab. V. *y z* in the thigh; covered also by the biceps cruris *f t u w*, and it is also hid behind the gluteus magnus *c* in the buttock.

TAB. XXIII.

A. Bell Sculpt.

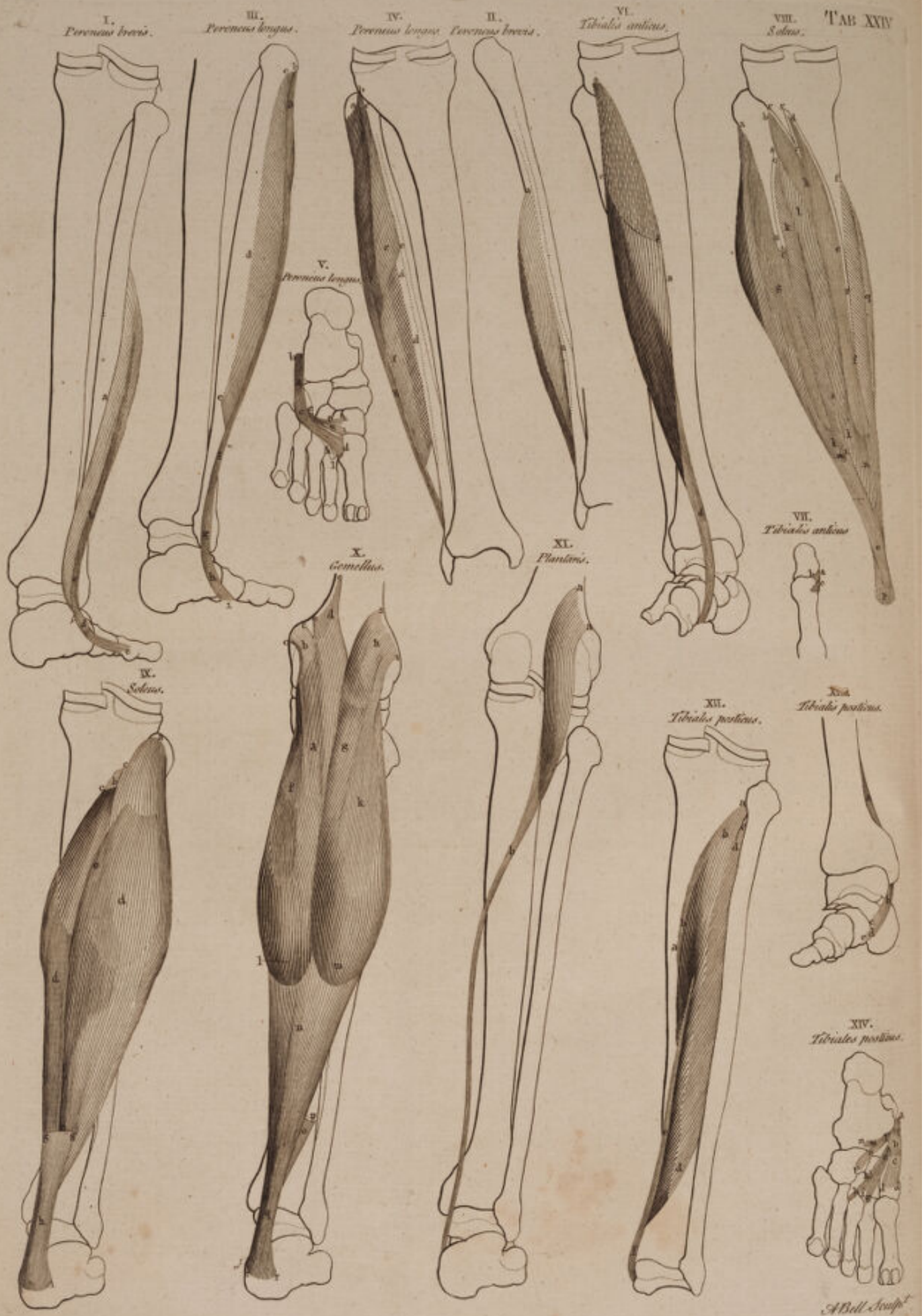

I. Peroneus brevis.
III. Peroneus longus.
IV. Peroneus longus.
II. Peroneus brevis.
VI. Tibialis anticus.
VIII. Soleus.
V. Peroneus longus.
VII. Tibialis anticus
X. Gemellus.
XI. Plantaris.
IX. Soleus.
XII. Tibialis posticus.
XIII. Tibialis posticus.
XIV. Tibialis posticus.
A Bell Sculpt.

FIGURE VII.

The vastus externus and internus, with the cruræus, in their fore part.

a b c d e f f f g h i i The *vastus externus*.
k c Its origin from the oblique eminence that is in the fore part of the femur at the root of its neck betwixt the trochanters, and at c d from the outer part of the root of the great trochanter itself.
e A tendinous portion of its origin.
f f f g The considerable impression that is made in this muscle by the rectus extensor of the leg.
g h The tendon, inserted at i i into the edge of the patella, on its external side, and upper margin.
Add here Fig. 6. c c d e.
The *sesamoidal connexion* appears in Tab. II. *d—b* in the thigh; covered by the rectus cruris *i k*. Then in Tab. I. P—S in the thigh; covered by the rectus cruris T V, and the extensor vaginalis of the thigh M O.
Laterally its connexion appears in Tab. IX. *g b i k* in the left leg.
k l m n o p p. The *vastus internus*.
l l The impression made in this muscle by the rectus cruris.
m Its origin from the oblique eminence, that is stretched out below the less trochanter at the root of the neck of the femur.
n n The part wherein the flesh of this muscle joins the tendon of the cruræus.
o The tendon, inserted at p p into the margin of the patella, on its inner side. But above it joins the tendon of the vastus externus; and being connected with that, proceeds to the edge of the patella.
Add here Fig. 6. s s b.
The *sesamoidal connexion* appears in Tab. II. *S—a* in the thigh; covered by the rectus cruris *i k*. Then in Tab. I. Y Z *C* in the thigh; covered by the rectus cruris T V, and the sartorius H.
Laterally its connexion appears in Tab. IX. H I in the right leg, and *q r* in the left.
q r s The *cruræus* or cruralis muscle.
r The tendon, arising from the fore part of the flesh. This tendon joins itself to the tendons of the vastus externus and internus, a little above the knee, and is then inserted behind them into the upper part of the patella.
s The highest part of the origin of the rectus from the oblique eminence, that is in the fore part of the femur at the root of its neck, betwixt the two trochanters. It also continues to arise from more than the upper half of the whole length of the thigh-bone, from its anterior and outer part.
The *sesamoidal connexion* appears in Tab. II. *b c* in the thigh; covered by the vastus externus *d—b*, and the vastus internus *S—a*; also by the rectus cruris *i k*. And what is there naked, in Tab. I. lies behind the rectus T in the thigh.

Muscles of the tendinous vagina, or sheath of the thigh.

FIGURE VIII.

The tensor vaginæ femoris.

a The tendinous beginning, arising at b from the outer part of the anterior extremity of the spine of the os ilium.
c The extremity, from whence the tendinous part that joins it to the tendinous vagina or fascia of the thigh is cut off.
The *sesamoidal connexion* appears in Tab. I. M N O in the thigh; where it is covered by the sartorius H I.
Laterally its connexion appears in Tab. IX. q r s in the left hip and thigh.

THE

Twenty-fourth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

Muscles of the foot.

Add here the *peroneus tertius*, Tab. XXV. Fig. 1. a *b i k*.

FIGURE I.

The peroneus brevis, in its back part.

a Part of its origin from the fibula. Below the said part it continues to arise from the spine, which terminates the outer edge or side of the fibula in its back part; ceasing to arise from the said spine near the outer ancle.
b c d The tendon. c The broader and thicker portion of the said tendon, which bends itself round the ancle, where it is tied down by a ligament, which see in Tab. V. n in the leg: d the part which is also thicker and broader than the rest, where it passes thro' the second ligament, near the upper part of the protuberance of the calcaneum; which see in Tab. V. o in the foot, and Tab. IX. F in the left foot.
e Its insertion into the upper and back part of the root of the tubercle in the fifth metatarsal bone, at the outer part of its first head.
Add here Fig. 2.
The *sesamoidal connexion* appears in Tab. VIII. M—R in the leg and foot. Then in Tab. VII. u—x in the leg and foot, covered by the peroneus longus m p q &c. Then in Tab. VI. I—M in the leg and foot; covered in like manner by the peroneus longus N P Q &c. Then in like manner in Tab. V. g—k in the leg and foot; covered by the peroneus longus l m.

FIGURE II.

The peroneus brevis, in its fore part.

a a Its origin from the outer side of the fibula, and below from the spine which terminates the outer side of that bone in its back part.
It also arises in part from the tendinous vagina or covering of the leg, and from the continuation of that vagina that on one side lies betwixt the peroneus longus and brevis, and on the other side it has the long extensor of the toes and the peroneus tertius.
Add here Fig. 1.
The *sesamoidal connexion* appears in Tab. IV. *z C D* in the leg. Then in Tab. III. M O in the leg; covered by the peroneus longus G L. Then in Tab. II. *x* in the leg, covered by the peroneus longus *w y*, and the long extensor of the toes, with the peroneus tertius *t w v y*.
Laterally its connexion appears in Tab. IX. B B C C D D E in the left leg, placed behind the peroneus longus *S Y O*.
Also in Tab. X. Fig. 20. y, and 21. A, and 22. z.

FIGURE III.

The peroneus longus, in its back part.

a One of its originations, arising at b from the lateral outer and fore part of the root of the upper head of the fibula.
c d e The other head, arising at c d e from more than the upper half of that part of the spine of the fibula which is in its outer side, and begins to project or stand out a little below its upper head: but from d to e it arises beneath.
f The tendon, whose first knot g bends behind the outer ancle: and the second *h* is at the eminence in the outer side of the calcaneum: *i* the third, which is at the cubiform bone of the foot.
The ligaments, by which the tendon is tied down at the ancle, and at the protuberance of the calcaneum; see Tab. V. n and p in the leg and foot. Add A in the left foot of Tab. IX.
Add here Fig. 4. and 5.
The *sesamoidal connexion* appears in Tab. VII. m—t in the leg and foot. Then in Tab. VI. N O—T in the leg and foot; covered also by the soleus *O Y*. Then in Tab. V. *H* I m n in the leg and foot; covered likewise by the soleus s b.

FIGURE IV.

The peroneus longus, in its fore part.

a The origin of its upper part from the lateral outer side of the fore part of the root of the upper head of the fibula; and at b from the adjacent fore part of the tibia.

c c d d The origin of the lower portion, from more than the upper half of that spine of the fibula, which is in its external side, not much below where its upper head begins to protuberate.

It also in part goes off from the tendinous covering of the leg, and from that branch of the said covering which lies betwixt the peroneus longus and the long extensor of the toes.

e e The impression made in this muscle by the long extensor of the toes.

f The lower situated portion, in which the peroneus brevis is lodged.

g The tendon, arising from the outer part of the flesh.

Add here Fig. 3. and 5.

The *fasciematic connexion* appears in Tab. III. G—I. in the leg; where it is partly covered by the peroneus brevis M. Then in Tab. II. *x y* in the leg; covered by the peroneus brevis *z*, and the long extensor of the toes A. Then in Tab. I. *p q r* in the leg; covered in like manner by the short peroneus *f*, and the long extensor of the toes *t u*.

Laterally its connexion appears in Tab. IX. *S*—*Q* in the left leg; placed behind the soleus *z*.

FIGURE V.

The peroneus longus, in the sole of the foot.

a The tendon, in which b denotes a knot that is placed at the protuberance of the calcaneum, which is in its outer side: and c denotes a more considerable knot, where it bends round the eminence that is in the lower part of the cubiform bone of the tarsus, a little after the sinus of the said bone which is before its eminence.

d Its extremity, inserted into the bottom and back of the most protuberant part of the metatarsal bone belonging to the great toe.

e The portion that goes off from the tendon; and which, passing round the cubiform bone of the tarsus, divides into two parts f. g. inserted at h. i into the great cuneiform bone of the foot.

k Another portion going off from the tendon, inserted at l into the second metatarsal bone.

For the manner in which it is confined in the sinus of the cubiform bone by its ligament, see in Tab. X. Fig. 21. N O.

Add here Fig. 3. and 4.

The *fasciematic connexion* appears in Tab. X. Fig. 22. b—i. Then in Fig. 21. B C D, and betwixt r and l; where it lies under the ligament N O; and covered by the adductor of the great toe l m, and short flexor o p r. Then in Fig. 20. *x a b z* placed behind the same muscles as in Fig. 21. and behind the long flexor of the toes and lumbricales. And what appears naked in Fig. 20. the same is in Fig. 19. covered by the abductor of the little toe A B.

FIGURE VI.

The tibialis anticus.

a a Its origin from the tibia, in its uppermost end a little before the origin of the long extensor, whence its origination takes up the whole outer flat side of the tibia, extending in breadth from its head along its anterior spine as far as the middle of the tibia; and is also partly attached to the adjacent interosseus ligament of the leg. But from the said middle it arises for a long way according to the length of the leg from the said interosseus ligament, and especially from the tibia near the said ligament; and so it goes on for about two thirds of the length of the tibia.

b Part of the tendinous covering of the leg, from the inner surface of which the tibialis here arises: c c the place where the said covering is cut off, where the muscle no longer continues to arise from it.

It arises also from that branch of the said covering, that is placed betwixt this tibialis muscle and the long extensor of the toes.

d The tendon, in which it ends. The manner in which the said tendon goes under the horns of the ligament, by which the tendons are confined in the head of the foot as far as the end of the leg, see in Tab. I. r t in the leg and foot: and in Tab. IX. *i k* in the right foot, and y z in the left.

Add here Fig. 7.

The *fasciematic connexion* appears in Tab. I. n—p in the leg and foot; where in part it is covered at the bottom by the abductor of the great toe A.

Laterally its connexion appears in Tab. IX. U V W in the left foot: and *g h* in the right foot.

FIGURE VII.

The bifurcated end of the tibialis anticus, in the sole of the foot.

a One of the horns of the end, inserted at b into the round and smooth surface in the inner and lower part of the cuneiform bone, and into the edge of the first metatarsal bone.

d The other and smaller head, inserted at d, just before the preceding, into the eminence that is in the head of the first metatarsal bone of the great toe, at its inner side, and almost in the middle.

Add here Fig. 6.

The *fasciematic connexion* appears in Tab. X. Fig. 22. k. l. Then in Fig. 21. *f. g*; where in part it is covered by the short flexor of the great toe y. Then it appears in like manner at Fig. 20. i. k; in part covered by the short flexor of the great toe p. And what there appears naked, is in Fig. 19. covered by the abductor of the great toe F.

FIGURE VIII.

The soleus, in its fore part.

a a b c c Its origin from the upper head of the fibula, and from a large part of the spine, which stands out below its head in the back part of the bone.

d e f f Its origin, at d e from the eminence of the tibia which is in its back part, and stands out obliquely below from its upper head; and where that eminence ends, it continues to arise at e f f from the posterior margin of the inner spine of the tibia, beyond the middle of the said length of the bone.

g. h The tendinous surface running out a considerable way.

i i The tendinous portion, which, like a partition, divides the fleshy part. But it begins internally almost in the beginning of the muscle itself.

k k. l l Fleshy fibres, which, descending from each side, run together, and join the tendinous partition i i.

m. n The two points in which the flesh of each side terminates; and of which the inner, marked n, is thicker, larger, and runs out longer.

I have also seen these two fleshy parts joined in one at their ends; so as to form a single tip or point, but larger, in their end.

o The tendon, by which the soleus is inserted into the calcaneum at p, from whence it is cut off.

q The tendinous surface, from whence the tendon on that side begins.

Add here Fig. 9.

The *fasciematic connexion* appears in Tab. I. *o e g* in the leg; where the rest of it is covered by the peroneus longus *p q r*, and by the long flexor of the toes *b k*, with the tibialis posticus *l*: to these add *n* in the same figure. Also in Tab. II. *n* N P in the leg; covered in the same manner by the peroneus longus *w y*, and the long flexor of the toes Q S, with the tibialis posticus V: to which add Y.

r r r r The tibia or great bone of the leg cut off from before the muscle.

s s The fibula or less bone of the leg cut off in like manner.

FIGURE IX.

The soleus, in its back part.

a Its origin from the back part of the upper head of the fibula.

b A tendinous part of its beginning, which arises from the tibia c c. But it springs from that eminence of the tibia, which stands out obliquely from the back part of its upper head.

d d The tendinous surface, whence the tendon of its back part arises.

e e The mark which resembles an indentation, where the fleshy part is divided within by a tendinous partition.

f The tendon, in which it ends.

g g The tendon of the gemellus here cut off, where it first joins itself to the tendon of the soleus. It joins that tendon in an oblique course, sooner on the outer side of the leg.

h The tendo Achillis, inserted at i i into the posterior and lower protuberant part of the tubercle of the calcaneum, which forms the heel.

Add here Fig. 8.

The *fasciematic connexion* appears in Tab. VI. *O*—E in the leg; where it is partly covered by the plantaris *W*. Then in Tab. V. a a b in the leg; covered by the gemellus *L*—*W*.

Laterally its connexion appears in Tab. IX. *z D H* in the left leg; covered by the gemellus *w y*; and *C D* in the right leg; covered by the gemellus W X, and the plantaris *L*.

FIGURE X.

The gemellus.

a b c c d e e f The inner head, beginning by two tendinous origins b. d, of which b the lower tendon is thick, and arises at c c, just above the back part of the inner condyle of the femur, near its inner side.

d The upper thin head, which arises at e e from the edge of the back part of the femur, near its inner side, just above its lower origin.

f The tendinous surface, formed by an excursion of the tendinous surface.

g h i i k The outer head arising with a tendinous beginning h, from the oblong eminence i i that is in the outer side of the femur, near its back part, just above the sinus from whence the popliteus arises.

k The tendinous surface, which the tendinous origin forms by an excursion.

l m The two points or tips in which the flesh ends.

n The tendon, that joins the tendon of the soleus.

The *fasciematic connexion* appears in Tab. V. *L*—*W* in the leg; lying under the outer head of the bicipital muscle of the leg *t w* in the thigh; and within the feminoplantaneus *n o p*. Also in Tab. VI. *D* and *W* in the thigh: And in Tab. VII. T and U in the thigh.

Moreover, its connexion appears in its fore part in Tab. I. *b c d n n* in the leg. And laterally in Tab. IX. *w x y H* in the left leg, and V—Y in the right.

o The tendon of the soleus, here cut off at p.

q The tendo Achillis, inserted at r r into the posterior and most eminent part of the protuberance of the calcaneum, that forms the heel.

FIGURE XI.

The plantaris.

a a Its origin from the root of the outer condyle of the femur, near the inner part of the origin of the gemellus.

b The tendon, in which it ends; inserted into the inner side of the calcaneum, near the end of the tendo Achillis: which see in Tab. IX. *X* in the right foot.

The *fasciematic connexion* appears in Tab. VI. *S W* in the thigh and leg; at its origin seated behind the outer head of the gemellus *H*, and of the bicipital muscle of the leg *I*; in its end behind the tendo Achillis D. Then in Tab. V. *C c* in the thigh and leg; placed likewise behind the gemellus *L*—*W*, and the biceps of the leg *t z* in the end behind the tendo Achillis *T*. Moreover in Tab. VII. V in the thigh.

I.
Extensor longus digitorum pedis cum peroneo tertio.
II.
Interossei pedis externi seu bicipites.
V.
Flexor brevis digitorum pedis.
VI.
Flexor longus digitorum pedis.
VII.
Flexor longus digitorum pedis.
IX.
Extensor brevis digitorum pedis.
III.
Interossei pedis externi seu bicipites.
IV.
Interossei pedis interni.
VIII.
Flexor longus digitorum cum gemellis et Flexore longo pollicis pedis.
XVII.
Abductor digiti minimi pedis.
XVIII.
Abductor digiti minimi pedis.
X.
Flexor longus pollicis pedis.
XI.
Extensor proprius pollicis pedis.
XVI.
Flexor brevis digiti minimi pedis.
XV.
Flexor brevis digiti minimi pedis.
XII.
Abductor pollicis pedis cum Flexore brevi.
XIV.
Adductor pollicis pedis Transversalis.
XIII.
Abductor pollicis pedis cum Flexore brevi.

In the fore part its connexion appears in Tab. II. T in the leg. And in Tab. I. *m* in the leg. And laterally its connexion appears in Tab. IX. *L X* in the right foot, and *P* in the left.

FIGURE XII.

The tibialis posticus, in its back part.

a a Its origin from the tibia, from whence it arises outwardly tendinous at b b. It arises from the flat side of the tibia, at the root of that part to which the fibula is jointed, and is in some measure extended downwards over that part which lies next the fibula.

c The origin from the fibula, from whose whole flat surface it continues to arise for more than two thirds of its length, extending from beneath the upper head of that bone towards the tibia: See Tab. IV. *u u* in the leg. It arises partly also from the ligament that is fixed betwixt the bones of the leg, where they are most apart from each other.

d d The tendinous surface of that part which arises from the fibula.

e f The tendon, arising at e from the fleshy part, and passing behind the inner ancle at f, where it is thicker and harder. How it is retained there by the ligament, see in Tab. V. *e* in the leg, and in Tab. I. *u* in the leg and foot, and in Tab. IX. *d* in the right foot.

Add here Fig. 13. and 14.

The *systematic connexion* appears in Tab. VIII. E—L in the leg. Then in Tab. VII. Z—d e in the leg; behind the popliteus W Y. and the long flexor of the great toe h, and the long flexor of the toes f. Then in Tab. VI. G in the leg; where the rest is covered by the soleus *O* &c. See also in Tab. V. d in the leg.

FIGURE XIII.

The tibialis posticus, in its fore part.

a The tendon going to the inner ancle, behind which it bends and goes along the inner side of the foot, where it is confined by a ligament: See *x* in the foot of Tab. I. and *f* in the right foot of Tab. IX.

c The principal part of the tendon, inserted into the lower and most eminent part of the thick and rough protuberance, that stands out from the navicular bone, in the inner side of the foot.

d A thin portion running out from the tendon, and inserted at e into the lower part of the first cuneiform bone, near its posterior edge.

Add here Fig. 12. and 14.

The *systematic connexion* appears in Tab. IV. *q—t* in the leg and foot. And in Tab. III. P—R S—U in the leg and foot. Then in Tab. II. F V W X in the leg and foot; covered by the long extensor of the toes A, and the proper extensor of the great toe H I. Then in Tab. I. *f y* in the leg and foot; where what appears of it naked in Tab. II. lies behind the tibialis anticus *n* in the leg; the extremity being covered by the abductor of the great toe A in the foot.

Laterally its connection appears in Tab. IX. *b b c* in the right foot.

FIGURE XIV.

The tendon of the tibialis posticus, in the sole of the foot.

a The place where the tendon is cut off.

b The knot of this tendon, which lies close upon the head of the astragalus, and on the lower and back part of the protuberance in the navicular bone: only the ligament lying betwixt which sustains the head of the astragalus, and passes along the sole of the foot, from the calcaneum and navicular bone.

c The principal part of the tendon here inserted beneath the navicular bone, into the lower and most eminent part of the thick rough protuberance, that stands out from that bone on the inner side of the foot.

d d The thin expanded portion, inserted in the lower and back part of the first cuneiform bone.

e The thin portion, which is inserted at f into the bottom and back part of the protuberance in the third cuneiform bone: and it runs on at g to the second metatarsal bone, and at h to the third; and inserts itself into the lower part of the head of the former, so that side which is next the little toe. It also gives off the portion i to the short flexor of the great toe, which portion is cut off at k.

l Another portion going off from the tendon, and dividing into two m. o: of which m is inserted into the lower part of the calcaneum at n, near the cuboide bone, near the edge which is next the astragalus: the other part o is inserted at p into the lower part of the cuboide bone, near the posterior edge of the third cuneiform bone.

Add here Fig. 13. and 12.

The *systematic connexion* appears in Tab. X. Fig. 21. E F G H I; where it is in part covered by the short flexor of the great toe p, the abductor of the great toe I k, and by the tendons of the long peroneus. Then in Fig. 20. f g h i covered by the tendon of the long flexor of the toes A B, and by the head that joins it in the sole of the foot C D, with the tendon b of the long flexor of the great toe. Afterwards in Fig. 19, behind the abductor of the great toe.

THE

Twenty-fifth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

Muscles of the small toes.

FIGURE I.

The long extensor of the toes with the third peroneus, laterally.

a The *long extensor of the toes* conjoined *with the third peroneus* into one.

b b c c The first part of its origin, springing from the root of the upper head of the tibia at b b, just before the upper head of the fibula: and at c c from the anterior spine of that head of the fibula.

d Part of the tendinous vagina or swath of the leg, from the lower or inner surface of which the flesh of this part of the origin of the muscle springs; and is cut off at *e e*, where the flesh no longer goes off from it.

It arises also from the production which the said tendinous swath sends in betwixt this extensor and the tibialis anticus.

f g h h The other part of the beginning, which from its origin is tendinous at g, and arises from the anterior spine of the fibula h h, and from the margin of it that lies next the tibia.

i i The third portion of its origin, which for the most part is tendinous from its beginning at i i, and arises at k k from the anterior spine of the fibula, and from the flat side in which that spine terminates in its lower part. Part of this extensor belonging to the peroneus, arises also from the production of the tendinous swath of the leg.

l The tendon of the long extensor of the toes, which divides itself into four tendons m. n. o. p, running over the back of the foot to the four small toes.

The manner in which it runs under the transverse ligament at the extremity of the leg and foot, see in Tab. IX. X in the left foot; and in Tab. I. q in the foot.

q The tendon of the long extensor running over the back of the little toe. r The extremity of that tendon, inserted into the oblong transverse tubercle that is in the posterior head of the second bone or phalanx of this toe, in its upper side.

s t Portions of the tendon running to the third bone, and ending in the common extremity u, inserted at v into the upper part of the first.

w The aponeurosis, which goes from this side to the tendon q; and is produced from the abductor of the little toe, from whence it is here cut off at x.

The aponeurosis, that joins to the other side of this and the rest of the tendons, see in Tab. I. h in the foot, and in Tab. II. q in the foot, and Tab. III. u in the foot. And the said aponeurosis arises partly from the capsule of the joint of the toe with the metatarsus, in part from the first interosseus and the lumbricalis, and partly from the side of the bone of the first phalanx.

y. y. y The cut tendons of the short extensor of the toes.

z a The common tendon of the long and short extensor. z the portion that is produced by the short extensor; a that produced by the long extensor: and betwixt them y a mark of division. b the end inserted into the bone of the second order, as that of x into the little toe. c. d portions running to the third bone, of which the one c is from the short extensor; the other d from the long extensor. e the common end of them inserted at f into the upper part of the posterior head of the last bone.

g The aponeurosis, which from this side joins that part of the common tendon that is formed by the tendon of the short extensor. This goes off from the second interosseus of the same toe, and from the capsule of the joint.

The same is observable also in the second and third toe.

h i k The tendon of the third peroneus, here arising from the flesh at h, and inserted at k into the upper part of the root of the posterior head of the fifth metatarsal bone, near its juncture with the fourth, and thence is continued along the spine in the upper side of the said fifth metatarsal bone.

The manner how it runs under the ligament at the extremity of the leg and foot, see in Tab. IX. X in the left foot, and Tab. I. q in the foot.

The *sesamoidal connexion* appears in Tab. IX. G—R and f—m in the left extremity; partly covered by the long peroneus S, and the short peroneus B C.

In the fore part its connexion appears in Tab. II. A—E and m—q in the leg and foot; partly covered by the extensor proper to the great toe H I. Then in Tab. I. i—h in the leg and foot, placed in part behind the extensor proper to the great toe i, and the tibialis anticus a.

Moreover, in Tab. III. n. o. p. q r s t u in the feet. And in Tab. V. r z s in the foot. In Tab. VI. U V in the foot. And in Tab. VII. c c in the foot. And in Tab. IX. p in the right foot.

FIGURE II.

The external or bicipital interossei of the foot, in their upper side.

a b b c d d e f The *second interosseus of the fourth toe.*

a The thicker head, arising at b b from more than the posterior half of the inner side of the fifth metatarsal bone, that is opposite the fourth.

c The smaller head, arising at d d from the back part of the lower side of the fourth metatarsal bone, that lies next the fifth bone.

e The tendon, inserted at f into the lower part of that side of the posterior head of the first bone of the fourth toe, that lies next the little toe.

Add here Fig. 3. a—e.

The *sesamoidal connexion* appears in Tab. IV. *P* in the foot. Then in Tab. VIII. S in the foot: and in Tab. IX. q in the left foot; covered by the tendon O of the long extensor of the toes.

g h h i k k l m The *second interosseus of the third toe.*

g The thicker head, arising at h h from more than the posterior half of the side of the fourth metatarsal bone, that lies next the third.

i The smaller head arising at k k from the posterior part of the lower margin of the side of the third metatarsal bone that lies next the fourth.

l The tendon, inserted at m in the lower part of that side of the posterior head of the first bone of the third toe, that lies next the fourth toe.

Add here Fig. 3. f—k.

The *sesamoidal connexion* appears in Tab. IV. *X* in the foot. Then in Tab. III. betwixt k and l in the left foot; covered by the short extensor of the toes k. In Tab. II. covered also by the tendon of the long extensor of the toes A E that belongs to the fourth toe. Then in Tab. VIII. T in the foot: and in Tab. IX. p in the left foot; covered by the short extensor of the toes d, and by the tendon of the long extensor P.

n o o p q q r s The *second interosseus of the second toe.*

n The thicker head, arising at o o from more than the posterior half of the side of the third metatarsal bone, that lies next the second.

p The thinner head, arising at q q from the posterior half of the side of the second metatarsal bone, that lies next the third, and particularly from the lower margin of the oblong eminence that is extended along that side.

r The tendon, inserted at s into the lower part of that side of the posterior head of the first bone of the second toe, that lies next the third toe.

Add here Fig. 3. l—q.

The *sesamoidal connexion* appears in Tab. IX. *L* in the foot. Then in Tab. III. betwixt i and k in the left foot, covered by the short extensor of the toes i. In Tab. II. it is also covered by the tendon of the long extensor of the toes A E belonging to the third or middle toe. Then in Tab. VIII. V in the foot: and in Tab. IX. o in the left foot; covered by the short extensor of the toes c, and the tendon of the long extensor Q.

t u u v w x y z a The *first interosseus of the second toe.*

t The thicker head, arising at u from more than the posterior half of that side of the second metatarsal bone, that lies next the first bone. v The tendinous part of its beginning.

w The thinner head, arising with a tendinous beginning x from the upper part of the tip of the larger cuneiform bone at y, and is inserted into the first and second metatarsal bone.

z The tendon inserted at a into the lower part of that side of the posterior head of the first bone of the second toe, that lies next the great toe.

But the fibres of each head of this muscle meet together at acute angles.

Add here Fig. 3. r—w.

The *sesamoidal connexion* appears in Tab. IV. *H* in the foot. Then in Tab. III. m m in the foot; covered by the short extensor of the toes f h. Then in Tab. II. h in the foot; covered by the short extensor of the toes i k, and by the tendon of the extensor proper to the great toe I K. And so in Tab. I. at L in the foot; and in Tab. IX. n in the left foot; covered by the short extensor of the toes a b, and by the tendon of the extensor proper to the great toe S.

FIGURE III.

The external bicipital or interossei muscles of the toes, viewed in their lower part.

a b c d e The *second interosseus of the fourth toe.*

b Part of the tendinous beginning.

c Its origin from the posterior head of the fourth metatarsal bone, that lies next the fifth.

It also arises from the ligament that confines the tendon of the long peroneus in the sole of the foot: see Tab. X. Fig. 21. U P.

d The tendon, inserted at e into the lower part of that side of the posterior head of the first bone of the fourth toe, that lies next the fifth.

Add here Fig. 2. a—f.

The *sesamoidal connexion* appears in Tab. X. Fig. 22. *b c d*; covered by the interosseus of the little toe *o*. Then in Fig. 21. U V; covered by the interosseus of the little toe S, the transversalis of the foot f g. Then in Fig. 20. *m n*; covered by the interosseus of the little toe *h*; the transversalis of the foot *r*, and the fourth lumbricalis Z, with the tendon of the long flexor of the toes M Q. Then in Fig. 19. X Y; covered by the interosseus of the little toe Z, the transversalis of the foot g, and the fourth lumbricalis c, and the tendon of the long and short flexor of the foot V, with the short flexor of the toes T. Then in Fig. 18. m m; covered by the interosseus of the little toe o, the transversalis of the foot i, the fourth lumbricalis h, and the tendon of the short flexor of the toes, that belongs to the little toe; also by the middle portion of the aponeurosis plantaris, belonging to the little toe G.

Its connexion is also seen in Tab. VIII. Y in the foot.

f g h i k The second interosseus of the third toe.

g The tendinous part of its beginning.

h Its origin from the root of the posterior head of the third metatarsal bone, where it lies next the fourth.

i The tendon, inserted at k into the lower part of the posterior head of the first bone of the third toe, that lies next the fourth toe.

Add here Fig. 2. g—m.

The *sesamoidal connexion* appears in Tab. X. Fig. 22. *v w x*; covered by the first interosseus of the fourth toe y. Then in Fig. 21. Y Z; covered by the first interosseus of the fourth toe W, the transversalis of the foot f, and the adductor of the great toe k. Then in Fig. 20. *o*; covered by the transversalis of the foot *r*, the third lumbricalis X, and the tendons O. P of the long flexor of the toes, and the adductor of the great toe t. Then in Fig. 19. *i*; placed under the same parts: and Fig. 18. l; placed under the same, and under the middle portion E of the aponeurosis plantaris.

l m n o p q The *second interosseus of the second toe.*

m The tendinous part of the beginning.

n n Its origin from the second metatarsal bone, before the root of its posterior head, that lies next the third metatarsal bone.

o Its origin from the third metatarsal bone, near the root of its posterior head, next the second metatarsal bone.

p The tendon, inserted at q into the lower part of the side of the posterior head of the first bone of the second toe, next the third or middle toe.

Add here Fig. 2. n—s.

The *sesamoidal connexion* appears in Tab. X. Fig. 22. p q r; placed under the first interosseus of the third or middle toe *a*. Then in Fig. 21. c d; placed under the first interosseus of the middle toe *a*, under the transversalis of the foot f, and the adductor of the great toe k. Then in Fig. 20. *q*; covered by the transversalis of the foot *r*, the second lumbricalis W, and the tendon of the long flexor of the toes N. Then in Fig. 19. *k*, and Fig. 18. k; covered by the same parts.

r s t u v The *first interosseus of the second toe.*

r The thicker head.

s. t Tendinous parts of the origin.

u Its origination from more than the posterior half of that side of the second metatarsal bone that lies next the first.

v The tendon, inserted at w into the lower part of that side of the posterior head of the first bone of the second toe, that lies next the great toe.

Add here Fig. 2. t—x.

The *sesamoidal connexion* appears in Tab. X. Fig 22. m n o. Then in Fig. 21. *r*; covered by the transversalis of the foot f, and the adductor of the great toe k l. Then in Fig. 20. betwixt the first lumbricalis, the metatarsal bone, and the first bone of the second toe; covered as before in Fig. 21. and also by the first lumbricalis V. So likewise in Fig. 19. and 18.

FIGURE IV.

The inner interossei of the foot, viewed in their lower part.

a b b c d e The *interosseus of the little toe.*

b b Its origin from the back part of the lower edge of that side of the fifth metatarsal bone, that lies next the great toe.

c The tendinous part of its origin.

The manner how it arises from the ligament that confines the tendon of the long peroneus in the sole of the foot, see in Tab. X. Fig. 21. S N.

d The tendon, inserted at e into the lower part of that side of the posterior head of the first bone of the fifth or little toe, that lies next the great toe.

The *sesamoidal connexion* appears in Tab. X. Fig. 22. *e f g*. Then in Fig. 21. S T; covered by the short flexor of the little toe Q, and the transversalis of the foot f h. Then in Fig. 20. *l*; covered by the short flexor of the little toe *h*, and the transversalis of the foot *r*, by the tendon M Q of the long flexor of the toes, and the fourth lumbricalis Z. Then in Fig. 19. Z; covered by the short flexor of the little toe *a*, and the transversalis of the foot g h, and the tendon V of the short flexor of the toes, with the tendon of the long flexor that belongs to the little toe, and the fourth lumbricalis c. And so in Fig. 18. *o*; covered as before.

Moreover in Tab. VII. it appears at *e* in the foot.

f g g h i k The *first interosseus of the fourth toe.*

g g Its origin from the back part of the lower edge of that side of the fourth metatarsal bone, that lies next the great toe.

h The tendinous part of its beginning.

The manner how it further arises from the ligament that confines the tendon of the long peroneus in the sole of the foot, see in Tab. X. Fig. 21. W P.

i The tendon, inserted at k into the lower part of that side of the posterior head of the first bone of the fourth toe, that lies next the great toe.

The *sesamoidal connexion* appears in Tab. X. Fig. 22. y z *a*; covered by the second interosseus of the fourth toe *b*. Then in Fig. 21. W X; covered by the second interosseus U, the transversalis of the foot f g, and the adductor of the

great toe k. Then in Fig. 20. e; covered by the second interosseus m, the transversalis of the foot r, the abductor of the great toe t, the fourth lumbricalis Z, and the third X, with the tendons of the long flexor of the toes M Q and P. Then in Fig. 19. betwixt the third lumbricalis d, the metatarsal bone, and the first bone of this fourth toe: also betwixt the fourth lumbricalis e, the tendon U, and the transversalis of the foot g; and covered by the same parts as in Fig. 20. with the addition of the short flexor of the toes T R. Then in Fig. 18. betwixt the third lumbricalis g, the metatarsal bone, and the first bone of this fourth toe: also betwixt the fourth lumbricalis h, the transversalis of the foot i, and the portion F of the aponeurosis plantaris; covered by the parts as before in Fig. 19. and by the portion F of the aponeurosis plantaris.

l m n o p The *first interosseus of the third toe.*

m m Its origin from the posterior part of the lower edge of that side of the third metatarsal bone, that lies next the great toe.

n The tendinous part of its origination.

o The tendon, inserted at p into the lower part of that side of the posterior head of the first bone of the third toe, that lies next the great toe.

The *systematic connexion* appears in Tab. X. Fig. 22. s t u; covered by the second interosseus of this third toe u. Then in Fig. 21. z b; covered by the second interosseus Y, and the transversalis of the foot f, with the adductor of the great toe k. Then in Fig. 20. betwixt the second lumbricalis W, the metatarsal bone, and the first bone of the third toe; covered as before in Fig 21. and by the second lumbricalis W. So likewise in Fig. 19. betwixt the second lumbricalis c, the metatarsal bone, and the first of the third or middle toe. And in Fig. 18. betwixt the second lumbricalis f, and first bone of the third toe.

FIGURE V.

The short flexor of the toes.

a Its origin from the lower part of the calcaneum, near the root of the protuberance that forms the heel: from whence it arises outwardly tendinous at b; in which part it coheres for a considerable way with the middle aponeurosis plantaris, in such a manner that it seems to arise from thence.

c The portion, belonging to the second toe. d its tendon, having a slit in it marked e, and afterwards dividing into two tails f. g; which cohere together again by a thinner portion h, and are at last inserted at i k into the tubercles, that are fixed at the lower part of each margin of the second bone of this toe, before the head of its first bone.

l The portion, belonging to the third toe. m its tendon, terminating like the tendon d of the first portion.

n The portion belonging to the fourth toe. o its tendon, terminating like the tendon d.

p The tendon, belonging to the little toe, and terminating like the tendon d.

For the ligaments by which the tendons are confined, see Tab. X. Fig. 18. s t.

The *systematic connexion* appears in Tab. X. Fig. 19. L—V; where part of the tendons lies under those of the long flexor of the toes l, &c. Then in Fig. 18. v w w. &c. where the tendons are placed also under those of the long flexor x. &c. but the rest of the muscle is covered by the middle aponeurosis plantaris A B C D E F G.

Moreover in Tab. IX. it appears at x y in the right foot, and y z in the left foot. And in Tab. II. c d in the foot. Tab. I. E in the foot. Tab. VI. Y and *d* in the foot. And Tab. V. *e* in the foot.

FIGURE VI.

The long flexor of the toes, in its back part.

a The tendinous part of its uppermost origin, arising at b from the back part of the tibia, below the middle of the long eminence, from whence the soleus arises.

c Another tendinous part of its origin, arising at d d from the back part of the tibia, and at e from the next adjacent part of the interosseus ligament, that is betwixt the tibia and fibula. This tendinous portion, with the adjacent fleshy portion f, are placed under the tibialis posticus.

g The tendon.

The ligament, by which it is confined near the inner ancle, see in Tab. V. c in the leg and foot.

Add here Fig. 7. and Fig. 8. a—a.

The *systematic connexion* appears in Tab. VII. f g in the leg; covered by the long flexor of the great toe h, and by the popliteus Y. Then in Tab. VI. F in the leg; covered by the soleus O, &c. And in Tab. V. betwixt the tendon d and *y* in the left foot, also betwixt d and the tendon of the plantaris in the right foot.

FIGURE VII.

The long flexor of the toes, in its fore part.

a a its origin from the edge of the tibia.

b c The tendon, arising here at b from the flesh, and running along the inner side of the ancle at c to the sole of the foot.

The *ligament*, by which it is confined near the ancle, and at the eminence of the calcaneum, that sustains the head of the astragalus, (under which eminence it goes along the side of the foot) see in Tab. I. u in the leg and foot, and in Tab. IX. *d* in the foot.

d The fleshy head, that joins the long flexor in the sole of the foot. e e its origin from inner side of the protuberance of the calcaneum, that forms the heel.

Add here Fig. 6. and Fig. 8. a—a.

The *systematic connexion* appears in Tab. III. X—c in the leg and foot; covered by the tendon of the tibialis posticus S—U. So also in Tab. II. Q R R S Z a b in the leg and foot; covered in the same manner by the tendon of the tibialis posticus V V. And in Tab. I. *b i i k z* in the leg and foot, covered in like manner by the tendon of the tibialis posticus *l* y y, and the abductor of the great toe A B.

Laterally its connexion appears in Tab. IX. *Y O O a a* in the right foot.

FIGURE VIII.

The long flexor of the toes, with the lumbricalis and tendon of the long flexor of the great toe, in the sole of the foot.

a b The *tendon of the long flexor of the toes.* b the knot where the tendon rubs against the calcaneum.

c The portion, by which the tendon of the long flexor of the toes, joins itself to the tendon of the long flexor of the great toe.

d e f g h i The fleshy head, that joins the long flexor of the toes in the sole of the foot, composed of two portions at its origination e and f: of which

e The one part arises at g g from the bottom of the calcaneum before the inner and lower part of the tubercle, that forms the heel. The continuation of this part, see in Tab. 7. d e e.

f The other part, begins by a thin tendon h, from the lower part of the calcaneum at i, before the lower and outer part of the protuberance that forms the heel.

k. l. m. n The four tendons, into which the tendon of the long flexor of the toes, with the head that joins it, divides or splits itself. Which tendons belong to the four small toes o. p. q. r; and being slit or divided according to their length, they are inserted at s. s. s. s into the third or last bones of the toes.

The ligaments, by which those tendons are tied down or confined to the bones of the toes, see in Tab. X. Fig. 18. s. t. u.

Add here Fig. 7. and 6.

The *systematic connexion* appears in Tab. X. Fig. 20. A—R, where the lumbricalis S. W. X. Z cover part of the tendons. Then in Fig. 19. l m, and on that side of the short flexor of the toes that lies next the great toe; and the rest of it is covered by the lumbrical muscles c. d. e. f, and the short flexor of the toes L—V, the abductor of the little toe A B, and the abductor of the great toe F G. Then in Fig. 18. x. &c. on that side of the tendons of the short flexor of the toes v, that is next the great toe, and betwixt the horns of those tendons w w: the rest being covered by the same muscles as in Fig. 19. and also by the middle aponeurosis plantaris D E F G.

Moreover in Tab. VII. its connexion appears at *d f b* in the foot. And in Tab. VI. below X, and *d* in the foot. Laterally in Tab. IX. y. z in the foot.

t u v The *first lumbricalis*, arising at u from the first and second tendons of the long flexor of the toes. v the tendon, in which it ends.

Its connexion appears in Tab. X. Fig. 20. S T V. Then in Fig. 19. *f*; covered by the short flexor of the toes N O R. Then in Fig. 18. c; covered by the middle aponeurosis plantaris A D.

w x The *second lumbricalis.* x the tendon, in which it ends.

The *systematic connexion* of it appears in Tab. X. Fig. 20. W; covered by the first lumbricalis S, and the third X. Then in Fig. 19. c; covered by the first lumbricalis f, and the short flexor of the toes R S. Then in Fig. 18. f, covered by the middle aponeurosis plantaris A D E.

y z *a* The *third lumbricalis*, arising at z from the second and third tendon. *a* its tendon.

The *systematic connexion* appears in Tab. X. Fig. 20. X Y. Then in Fig. 19. d; covered by the short flexor of the toes R S T U. Then in Fig. 18. g; covered by the middle aponeurosis plantaris A E F.

b c d The *fourth lumbricalis*, arising at *c* from the third and fourth tendon of the long flexor. *d* the tendon, in which it ends.

The *systematic connexion* appears in Tab. X. Fig. 20. Z *a*. Then in Fig. 19. c; covered by the short flexor of the toes R S T U V. Then in Fig. 18. b; covered by the middle aponeurosis plantaris A F G.

The tendons insert themselves into the tubercles of the bones of the first order of the toes, that stand out on that side of their posterior heads, which lies next the great toe: and a thin aponeurosis joins them to the tendons of the long extensor of the toes.

e The tendon of the long flexor of the great toe; which being increased by the portion *f* received from the tendon of the long flexor of the toes, is then in a manner split according to its length *g*, at last inserted at *h* into the last bone of the great toe, into the rough protuberance in the lower part of the posterior head of that bone.

The ligament, by which it is confined, see in Tab. X. Fig. 10. c. d. d.

Add here Fig. X.

The *systematic connexion* appears in Tab. X. Fig. 20. b c d e; covered by the tendon of the long flexor of the toes A, and by the head C that joins it in the sole of the foot. Then in Fig. 19. n o; covered by the short flexor of the toes N, and the abductor of the great toe F G. Then in Fig. 18. x x b; covered by the middle aponeurosis plantaris A C.

Moreover in Tab. VII. it appears at l l in the foot. In Tab. VI. *e e* in the foot. In Tab. V. *e e* in the foot. In Tab. III. w w in the foot. In Tab. II. f f g in the foot: and in Tab. I. F F G in the foot. Laterally in Tab. IX. *r* in the foot.

Muscles of the great toe, and of the three next toes.

FIGURE IX.

The short extensor of the toes.

a a Its origin from the upper part of the anterior protuberance, that stands forward from the calcaneum.

b The portion, that goes to the great toe. c the tendon, in which it ends; inserted at d into the oblique eminence that is in the upper part of the first bone of the great toe, just before its posterior head, on that side that lies next the small toes.

e The portion belonging to the second toe. f its tendon.

g The portion going to the third or middle toe. h its tendon.

i The portion going to the fourth toe. k its tendon.

l. l. l Those tendons conjoined with the tendons of the long extensor of the toes, so as to form common tendons, which are distinguished by an intermediate line.

m. m. m The cut tendon of the long extensor of the toes.

n l The common tendon formed by the conjunction of the tendon n from the long extensor, and l from the short extensor. o the extremity inserted into the bone

of the 2d phalanx. p. q portions which run to the third bone, of which the one p belongs to the extensor longus, and the other q to the brevis. r the common end of both those portions, inserted at s into the upper part of the posterior head of the bone of the first order. The same may be also observed in the third and fourth toe.

Add here Fig. 1.

The *sesamoidal connexion* appears in Tab. IX. a—e in the left foot; covered by the tendon of the extensor proper to the great toe S, and the tendons of the long extensor of the toes R. Q. P. O, by the tendon of the third peroneus L M, of the short peroneus D E, and by the ligament which covers the tendons at the joint of the foot, and upon the instep X.

And in Tab. III. c—f in the foot. Then in Tab. II. i k l in the foot, covered by the tendon of the extensor proper to the great toe I K, and by the tendons of the long extensor of the toes A E, and the tendon of the third peroneus D. Also in Tab. I. H I K in the foot; covered in like manner by the tendon of the extensor proper to the great toe i, and by the tendons of the long extensor of the toes c b a z, and by the tendon of the third peroneus x.

And in Tab. VII. y z a b in the foot; covered by the tendon of the short peroneus w. Then in Tab. VI. W in the foot, covered by the tendons of the extensor longus U, of the third peroneus V, and of the short peroneus L. Then in Tab. V. t; covered in like manner by the tendons of the long extensor of the toes r, and by the tendon s of the third peroneus, and of the short peroneus i; and moreover by the ligament q, by which the tendons are confined upon the back and bend of the foot.

Muscles of the great toe.

FIGURE X.

The long flexor of the great toe.

a a Its origin from the posterior flat side of the fibula, beneath a third part of its length: and from thence its rise is continued along the two lower thirds of the bone, almost to the ancle b b.

c c The line wherein the descending fibres converge or meet from each side.

d The tendon.

The ligament, that confines the tendon, see in Tab. IX. *W* in the right foot.

Add here Fig. 8. *e f g h.*

The *sesamoidal connexion* appears in Tab. VII. h i k in the leg. Then in Tab. VI. H in the leg; covered by the soleus O, &c. In like manner too it is seen in Tab. V. f in the leg.

Laterally its connexion appears in Tab. IX. *P S* in the right foot. And in Tab. III. V in the leg.

FIGURE XI.

The extensor proper to the great toe, laterally.

a a Its origin from the flat side of the fibula, that lies next the tibia in the fore part of the leg; and from that side along almost the whole anterior spine; but below, where the said spine is flatted, it arises from the flat side which it forms. And along the extent of this origination, it arises too from the ligament which occludes most of the space or interval betwixt the bones of the leg; and below, a small part arises also from the tibia b, next the ligament.

c The tendinous portion of its origin.

d The tendon, inserted at e into the upper part of the posterior head of the last bone of the great toe.

The manner in which it is retained by the ligament that is in the fore part of the leg at the head of the foot, see in Tab. IX. Y Z in the left foot: and in Tab. I. r. t in the leg and foot.

f The aponeurosis, that joins the tendon on this side from the capsule of the joint of the great toe, with its metatarsal bone.

The aponeurosis that joins it on the other side, see in Fig. 13. f.

The *sesamoidal connexion* appears in Tab. IX. S S S T in the left foot, covered by the long extensor of the toes, with the third peroneus G I N.

In its fore part the connexion appears in Tab. II. H I K L M in the leg and foot; covered by the long extensor of the toes, with the third peroneus. Then in Tab. I. i i i k l l l in the leg and foot; covered by the long extensor of the toes, with the third peroneus *r s* w, and the tibialis anticus n. Moreover in Tab. IX. *l l m n* in the right foot.

FIGURE XII.

The abductor and short flexor of the great toe, in their lower side.

a—e The *abductor of the great toe.*

a Its origin from the root of the protuberance of the calcaneum, that forms the heel; from whence it is outwardly tendinous at b, and in that part coheres for a long way with the aponeurosis that covers it.

c The tendon, at last conjoined at d with the ligament f, that ties the outer sesamoide bone to the first bone of the great toe, with which ligament it is inserted at e into the inner and lower part of the posterior head of the first bone of the great toe.

Add here Fig. 13. a—e.

The *sesamoidal connexion* appears in Tab. X. Fig. 19. F—K; covered by the short flexor of the toes L M N. Then in Fig. 18. Q—S; covered by the aponeurosis O.

Moreover in Fig. 20. m n, and Fig. 21. *b c d.* And in Tab. V. *d* in the foot.

f The ligament, which arising at g from the outer sesamoide bone of the great toe, is inserted at e, conjunctly with the tendon of the abductor d, into the first bone of the great toe.

The *sesamoidal connexion* of this ligament, see in Tab. X. Fig. 21. *c.* And Fig. 20. *p i* in part covered by the tendon of the long flexor of the great toe d e. So also in Fig. 19. K. and Fig. 18. T.

h—n The *short flexor of the great toe.*

h The longer tendinous head, arising at i from the lower and anterior extremity of that side of the calcaneum which lies next the other foot, just behind its juncture with the cubiform bone.

k The shorter tendinous beginning, arising at l from the lower part of the middle cuneiform bone of the tarsus.

m Part of that portion of the middle aponeurosis plantaris, that goes into the beginning of the short flexor of the great toe.

The portion which it receives from the tendon of the tibialis posticus, see in Tab. XXIV. Fig. 14. i.

n Part of the short flexor, which belongs to the outer sesamoide bone of the great toe.

o o The part in which the short flexor joins the tendon of the abductor of the great toe. p its insertion into the outer sesamoide bone of the great toe, into the lower and back part of that side of the bone which lies next the other foot.

q That part of the short flexor which belongs to the inner sesamoide bone of the great toe.

r The tendon, in which it ends, inserted at s into the back part of the inner sesamoide bone of the great toe. But being conjoined at t with the tendinous end of the adductor pollicis, it has one extremity common to that and the transversalis of the foot.

Add here Fig. 13. d e.

The *sesamoidal connexion* appears in Tab. X. Fig. 21. o—n and y z *a*; covered by the abductor of the great toe *b c.* Then in Fig. 20. s s v p q r; covered by the abductor of the great toe m n, the tendon of the long flexor of the great toe c d, and by the long flexor of the toes C D, &c. with the first lumbricalis S. Then in Fig. 19. q q s w x y; covered by the abductor of the great toe F H, the tendon of the long flexor of the great toe n, the first lumbricalis f, and the short flexor of the toes N O. Then in Fig. 18. U V W X, and betwixt Y and C; covered by the abductor of the great toe Q R, and by the middle aponeurosis plantaris A C.

Moreover in Tab. VIII. it appears at w x in the foot. And in Tab. VII. *g* in the foot.

u The place whence the adductor of the great toe is cut off, with the transversalis of the foot.

v The tendinous end, common to the adductor of the great toe, and the transversalis pedis. w the place of its juncture with the ligament y, that goes from the inner sesamoide bone of the great toe, to the insertion of it at x, in the first bone of the great toe.

y The ligament which arises at z from the inner sesamoide bone of the great toe, and being conjoined with the common tendinous end of the abductor pollicis v and transversalis pedis, is inserted therewith at a into the first bone of the great toe.

The *sesamoidal connexion* appears in Tab. X. Fig. 21. w. And Fig. 20. x; in part covered by the tendon of the long flexor of the great toe d e. So also in Fig. 19. u, and Fig. 18. a.

FIGURE XIII.

The abductor and short flexor of the great toe, laterally.

a a b b c The *abductor of the great toe.*

a a Its origin from the lower part of the inner side of the root of the tubercle of the calcaneum, where it forms the heel.

b b The meeting together of the fibres in angles.

c The tendon, in which it ends.

Add here Fig. 12. a—c.

The *sesamoidal connexion* appears in Tab. IX. *f—t* in the right foot.

Also in Tab. I. A B C in the foot.

d e The *short flexor of the great toe.*

e The lower part that joins itself to the tendon of the abductor pollicis.

Add here Fig. 12. b—f.

The *sesamoidal connexion* appears in Tab. IX. *u v w* in the right foot; covered by the abductor of the great toe *f v.*

Also in Tab. III. d in the foot. And in Tab. II. e in the foot. And in Tab. I. D in the foot; covered by the abductor of the great toe A C.

f The aponeurosis, coming partly from the tendon of the abductor of the great toe g, and partly from the capsule h of the joint of this toe, with its metatarsal bone, and joins the tendon i i of the extensor proper to the great toe.

The *sesamoidal connexion* appears in Tab. IX. *o* in the right foot. And in Tab. I. m in the foot.

k The tendon of the extensor proper to the great toe, here cut off at l, and inserted at m into the last bone of the great toe.

FIGURE XIV.

The adductor of the great toe, with the transversalis pedis.

a b b c c The ligament, which arising from the calcaneum at b b, is inserted at c c into the eminence of the cubical bone of the tarsus.

d The excursion of the forefaid ligament, which outwardly joins the ligament a in Fig. 15. And together they go into the origination e e of the adductor of the great toe.

The *sesamoidal connexion* appears in Tab. X. Fig. 21. K—O. Then in Fig. 20. *d d e g*; covered by the head D F that joins the long flexor of the toes in the sole of the foot. In Fig. 19. the rest is covered by the abductor of the little toe B A, and short flexor of the toes L.

f—m The *adductor of the great toe.* Internally it arises from the bottom part of the fourth metatarsal bone, near the root of its posterior head, and in its lower part it springs from almost the whole posterior head of the third and second metatarsal bone.

f Part of the adductor of the great toe, which is in a manner distinct or separate from the rest.

g The other more considerable portion. h the tendinous part of its origin.

i The tendinous end, which being first conjoined at k with the tendinous end p of the short flexor of the great toe, and is with that inserted into the posterior and lower part of that side of the inner sesamoide bone of the great toe, that lies

next the second toe; and being joined at l with the ligament n, that goes from the inner sesamoide bone to the first phalanx of the great toe, inserts itself therewith at m into the said first bone of the phalanx, into the lower part of that side of its posterior head, that lies next the second toe, not much beyond the posterior edge of the said head.

The *sesamatic connexion* appears in Tab. X. Fig. 21. k—n v; covered by the short flexor of the great toe o. s. Then in Fig. 20. t t u w, covered by the short flexor of the great toe s, and by the long flexor of the toes D M L K, with the lumbricalis Z. X. W. S. Then in Fig. 19. p r t; covered by the short flexor of the great toe q, and the first lumbricalis f, with those in Fig. 20. and also by the short flexor of the toes L T. Then in Fig. 18. Y Z; covered by the short flexor of the great toe, the first lumbricalis e, and the rest mentioned in Fig. 19.

Moreover in Tab. VIII. it appears at *C* in the foot. And Tab. IV. *S* in the foot.

n The ligament, which arises at o from the inner sesamoide bone of the great toe, and being conjoined with the tendon l, from the end of the abductor of the great toe i, is with that inserted into the first bone of the great toe at m. See y Fig. 11.

p The tendinous end of the inner tail of the short flexor of the great toe, here cut off at q, inserted at r into the inner sesamoide bone of the great toe.

s The ligamentary excursion d cut off, together with the ligament a Fig. 15.

t—y The *transversalis of the foot.*

u The tendinous beginning, whose first origination w, springs from the capsule that covers and includes the joint of the little toe with its metatarsal bone.

x The part that arises from the capsule of the joint of the fourth toe with its metatarsal bone, and next adjacent aponeurosis that covers the interossei muscles of that toe.

y y The extremity, by which it joins the tendinous end that is common to the adductor and short flexor of the great toe.

The *sesamatic connexion* appears in Tab. X. Fig. 21. f g h i. Then in Fig. 20. r r r f; covered by the lumbricalis i V W X Z, and by the tendons of the long flexor of the toes N. O. P. Q. Then in Fig. 19. g g h i; covered by the lumbricales f. e. d. c, with the tendons of the long flexor of the toes, and those of the short flexor O S. U. V, with the abductor of the little finger E. Then in Fig. 18. i i i i; covered by the lumbricales e. f. g. h, by the tendons of the long and short flexor of the toes v, &c. and by the middle aponeurosis plantaris D E F G, and the abductor of the little toe z.

Moreover in Tab. VIII. Z in the foot.

Muscles of the little toe.

FIGURE XV.

The short flexor of the little toe, in its bottom part.

a b The broad ligament, that arises from the lower eminence of the cubiform bone, and is inserted into the posterior heads of the 2d, 3d, 4th, and 5th of the metatarsal bones; and which contains the tendons of the long peroneus in the sole of the foot, like a sheath. Externally it is partly covered by meeting the excursion of the ligament a Fig. 14; which excursion is here cut off at c.

The *sesamatic connexion* appears in Tab. X. Fig. 21. N O P. Then in Fig. 20. *f g h*; partly covered by the head D, that joins the long flexor of the toes in the sole of the foot. Then in Fig. 19. W; covered by the short flexor of the toes L T R, and the abductor of the little toe B. And what there appears naked, is in Fig. 18. covered by the portion M; by which the aponeurosis that covers the abductor of the little toe, is conjoined with the middle aponeurosis plantaris.

d e f g The *short flexor of the little toe.*

e Its origin from the ligament a. But inwardly it arises from the middle of the lower side of the root of the posterior head of the fifth metatarsal bone.

f The tendinous end, inserted at g into the lower part of the posterior head of the first bone of the little toe.

Add here Fig. 16.

The *sesamatic connexion* appears in Tab. X. Fig. 21. Q R; covered by the transversalis pedis h. Then in Fig. 20. *i i*; covered as before, by the transversalis pedis *f*. Then in Fig. 19. a b; covered in like manner by the transversalis pedis h, and the abductor of the little toe B E. So likewise in Fig. 18. p; covered by the transversalis pedis i, and the abductor of the little toe q r.

h The place whence the interosseus of the little toe is cut off at its origin from the ligament a b. i That whence the second interosseus of the fourth toe is cut off. k That whence the first interosseus of the same toe is cut off. l l The origin of the principal part of the adductor of the great toe g h Fig. 14. And in that cut from its other left part f Fig. 14. See P. Fig. 21. Tab. X.

FIGURE XVI.

The short flexor of the little toe, laterally.

a The origin from the outer edge of the fifth metatarsal bone, that stands downward, near its posterior head.

b The part that is inserted at c c into the outer edge of the lower side of the metatarsal bone of the little toe, just behind its anterior head.

d The other and more considerable part, which is inserted into the first bone of the little toe. e The tendinous end, in which it terminates.

Add here Fig. 15. d—g.

The *sesamatic connexion* appears in Tab. IX. w x in the left foot; covered by the abductor of the little toe r r.

And in Tab. VI. Z—z in the foot. Then in Tab. V. *a b* in the foot, covered by the abductor of the little toe y.

FIGURE XVII.

The abductor of the little toe, laterally.

a The fleshy part uncovered.

b The tendon, in which it at last ends; inserted at c into the outer part of the root of the posterior head of the first bone of the little toe.

d The part which is covered by a tendinous expansion.

e e Its origin from the whole outer side of the root of the tubercle belonging to the os calcis, where it forms the heel.

f Part of the aponeurosis that covers it, inserted at g into the back part of the great rough eminence that stands out from the posterior head of the metatarsal bone, belonging to the little toe, in the outer side of the foot.

The aponeurosis, which it sends to the tendon of the long extensor of the toes, see in Fig. 1. w.

Add here Fig. 18.

The *sesamatic connexion* appears in Tab. IX. r—r in the left foot; covered by the aponeurosis s.

And in Tab. V. s—y in the foot; covered by the aponeurosis u.

FIGURE XVIII.

The abductor of the little toe, in its lower part.

a b The two parts of which it is composed; and of which the part a forms here a distinct tendon, but in other subjects is often joined into one with the other tendon, and in others again it is perfectly distinct.

c e Its origin from the whole lower part of the protuberance of the calcaneum, that forms the heel; from whence the one part at d, that is outwardly quite tendinous, and the part at e, cohere together with the aponeurosis and tendinous parts that cover them.

f The tendon inserted at g into the outer part of the root of the posterior head of the first bone of the little toe.

The aponeurosis, that goes off from its end to the tendon of the extensor belonging to the little toe, see in Fig. 1. w.

Add here Fig. 17.

The *sesamatic connexion* appears in Tab. X. Fig. 19. A B C D E; covered by the short flexor of the toes M L. Then in Fig. 18. q r; covered by the aponeurosis I K L.

I N D E X

OF THE

HUMAN MUSCLES,

WITH THEIR PROPER USES.

Numero majore tabula, minore figura indicata.

ABDUCTOR brevis alter pollicis manus,—draws the thumb from the fingers. XX. 17.
Abductor brevis pollicis manus,—has the same use with the former. XX. 16.
Abductor digiti minimi manus,—extends, and draws the little finger from the rest. XX. 11.
Abductor digiti minimi pedis,—draws the little toe outwards from the rest. XXV. 17. 18.
Abductor indicis manus,—brings the fore finger towards the thumb. XX. 13. 14.
Abductor longus pollicis manus,—draws the thumb from the fingers. XX. 18. 19.
Abductor pollicis pedis,—pulls the great toe from the rest. XXV. 12. 13.
Accelerator,—drives the urine or semen forward, grasps the bulb of the urethra, pushes the blood towards its corpus cavernosum and the glans, which last it forces more particularly to distend. XII. 37.
Adductor brevis femoris. XXII. 3. 4. } bring the thigh inwards and upwards.
Adductor longus femoris. XXII. 1. 2. } bring the thigh inwards and upwards.
Adductor magnus femoris. XXI. 16. 17. } bring the thigh inwards and upwards.
Adductor alæ ossis metacarpi minimi digiti manus,—bends, and brings the little finger towards the rest. XX. 25.
Adductor pollicis manus,—pulls the thumb towards the fingers. XX. 24.
Adductor pollicis pedis,—brings the great toe nearer the rest. XXV. 14.
Anconæus,—assists in extending the fore arm. XIX. 8.
Anterior auris,—draws a little forwards and upwards, a small eminence of the helix, opposite to the concha. XI. 3. 7.
Antitragicus,—turns the tip of the antitragus a little outwards, and depresses the extremity of the antihelix towards it. XI. 4.
Arytenoideus obliquus,—pulls the arytenoid cartilages towards each other. XII. 2. 3.
Arytenoideus transversus,—shuts the rima glottidis. XII. 1.
Attollens auriculæ,—draws the ear upwards, and makes the parts tense into which it is inserted. XI. 3. 6. 7.
Azygus uvulæ,—raises the uvula upwards and inwards, and shortens it. XII. 8.

Basioglossus,—draws the tongue laterally and backwards. XI. 40.
Biceps brachii,—bends the fore arm, and turns it supine. XIX. 3. 4.
Biceps cruris,—bends the leg. XXII. 10. 11. 12.
Biventer cervicis,—draws the head backwards, and to one side. XVI. 23. 24.
Biventer maxillæ,—pulls the lower jaw a little downwards and outwards; and when the jaws are shut, raises the larynx and pharynx. XII. 18. 19.
Brachialis internus,—bends the fore arm. XIX. 1. 2.
Buccinator,—draws the angle of the mouth backwards, and contracts its cavity, by pressing the cheek inwards, by which the food is thrust between the teeth. XI. 13. 14. XII. 23.

Ceratoglossus. See *Genioglossus*. XI. 40.
Cervicalis descendens,—turns the neck obliquely backwards, and to one side. XV. 4.
Chondroglossus. See *Genioglossus*. XI. 41.
Ciliaris,—shuts the eye, by drawing both lids close together; the fibres contracting from the outer angle towards the inner, press the eye-ball, squeeze the lachrymal gland, and convey the tears towards the puncta lachrymalia. XI. 2.
Circumflexus palati mollis,—stretches the velum, draws it downward, and to a side, towards the hook. XII. 9. 10.
Cleidomastoideus,—turns the head to one side, and bends it forwards. XVI. 25. 26.
Coccygeus,—moves the os coccygis forwards, and defends the ligament in the time of the exclusion of the fœtus or hardened fæces. XVII. 7. 8.
Complexus,—draws the head backwards, and to one side. XVI. 23. 24.
Compressor nasi,—compresses the ala towards the septum nasi, particularly when we want to smell acutely; but if the fibres of the frontal muscle, which adhere to it, act, the upper part of this thin muscle affists to pull the ala outwards. XI. 7.
Constrictor inferior pharyngis,—compresses that part of the pharynx which it covers, and raises it a little upwards. XII. 23. 24.
Constrictor isthmi faucium,—draws the velum towards the root of the tongue, and with its fellow contracts the passage between the two arches, by which it shuts the opening into the fauces. XII. 11.
Constrictor medius pharyngis,—compresses and draws upwards that part of the pharynx which it covers. XII. 23. 25.
Constrictor superior pharyngis,—compresses the upper part of the pharynx, and draws it forwards and upwards. XII. 23. 26.
Coraco-brachialis,—raises the arm upwards. XVIII. 7. 8.
Coraco-hyoideus,—pulls the os hyoides obliquely downwards. XI. 35.
Corrugator supercilii,—draws the eye-brow of that side towards the other, and makes it project over the inner canthus of the eye. XI. 1.

Cremaster,—suspends and draws up the testicle, and compresses it in the act of coition. XIII. 4.
Crico-arytenoideus lateralis,—opens the rima glottidis. XII. 5.
Crico-arytenoideus posticus,—has the same use with the former. XII. 2. 4.
Crico-thyroideus,—depresses the thyroid, or elevates the cricoid cartilage. XI. 46. 47. 48.
Crureus,—assists in the extension of the leg. XXIII. 7.
Cucullaris,—moves the scapula, according to three different directions of its fibres. The upper descending fibres, draw it obliquely upwards; the middle transverse straight fibres, draw it directly backwards; and the inferior ascending ones, draw it obliquely downwards and backwards. XVII. 18. 19.

Deltoides,—pulls the arm directly upwards, and a little forwards and backwards, according to the different directions of its fibres. XVIII. 11. 12.
Depressor alæ nasi,—draws the upper lip and ala nasi downwards. XI. 8.
Depressor anguli oris,—pulls down the corner of the mouth. XI. 10. 11. 12. 13.
Depressor labii inferioris,—pulls the under lip and skin of the chin downwards, and a little outwards. XI. 9. 16.
Diaphragma,—is the principal agent in respiration, particularly in inspiration: For when in its action, the fibres, from their different attachments, endeavour to bring themselves into a place towards the middle tendon, by which the cavity of the thorax is enlarged, particularly at the sides where the lungs are chiefly situated; and as the lungs must always be contiguous to the in-side of the thorax, and upper side of the diaphragm, the air rushes into them, in order to fill up the increased space. This muscle is constantly assisted by the two rows of intercostals which elevate the ribs, and the cavity of the thorax is more enlarged. In time of violent exercise, or whatever cause drives the blood with unusual celerity towards the lungs, the subclavian, and pectoral, and several other muscles, are brought into action. And, in laborious inspiration, the muscles which arise from the upper part of the trunk, when the parts into which they are inserted are fixed, likewise assist. In expiration, the diaphragm is relaxed and pushed up, by the pressure of the abdominal muscles upon the viscera of the abdomen; and, at the same time that they press upwards, they also, together with some others, pull down the ribs, and are assisted in a powerful manner by the elasticity of the cartilages that join the ribs to the sternum; by which the cavity of the thorax is diminished, and the air suddenly pushed out of the lungs: And in laborious expiration, the quadrati lumborum, sacro-lumbales, and longissimi dorsi, concur in pulling down the ribs. XIV. 4. 5. 6. 7.

Epicranius. See *Frontalis* et *Occipitalis*.
Erector penis,—compresses the crus penis, by which the blood is pressed into the corpora cavernosa, and the penis is by that means more completely erected. XII. 37. 40.
Extensor brevis digitorum pedis,—extends the toes. XXV. 9.
Extensor communis digitorum manus,—extends all the joints of the fingers. XXI. 1.
Extensor longus digitorum pedis,—extends all the joints of the four small toes. XXV. 1.
Extensor major pollicis manus,—extends the last joint of the thumb obliquely backwards. XX. 22.
Extensor minor pollicis manus,—extends the second bone of the thumb obliquely outwards. XX. 23.
Extensor proprius digiti auricularis. XX. 1.
Extensor proprius pollicis pedis,—extends the great toe. XXV. 11.
Externus mallei,—draws the malleus forward towards its origin, and consequently the membrana tympani, by which that membrane is relaxed. XI. 31. 28.

Flexor brevis digiti minimi pedis,—bends the little toe. XXV. 15. 16.
Flexor brevis digitorum pedis,—bends the second joint of the toes. XXV. 5.
Flexor brevis pollicis manus,—bends the second joint of the thumb. XX. 20.
Flexor brevis pollicis pedis,—bends the first joint of the great toe. XXV. 12. 13.
Flexor longus pollicis manus,—bends the last joint of the thumb. XX. 21.
Flexor longus digitorum pedis,—bends the toes. XXV. 6. 7. 8.
Flexor longus pollicis pedis,—bends the last joint of the great toe. XXV. 10. 8.
Flexor parvus digiti minimi manus,—bends the little finger, and affists the adductor. XX. 10.
Frontalis,—pulls the skin of the head backwards, raises the eye-brows upwards, and at the same time draws up and wrinkles the forehead. XI. 6. 7.

Gemellus,—extends the foot, by bringing it backwards and downwards. XXIV. 10.
Gemini,—roll the thigh outwards. XXI. 11.

Genio-glossus.—This muscle, according to the direction of its fibres, draws the tip of the tongue backwards into the mouth, the middle downwards, and renders its dorsum concave; draws its root and os hyoides forwards, and thrusts the tongue out of the mouth XI. 41. 42. 43.
Genio-hyoideus,—draws the os hyoides upwards and forwards. XI. 36.
Glutæus magnus,—extends the thigh, by pulling it directly backwards, and a little outwards. XXI. 1.
Glutæus medius,—assists the former. XXI. 2. 3.
Glutæus minor,—assists the two former, in pulling the thigh outwards. XXI. 4. 5.
Gracilis,—moves the leg obliquely inwards, or brings one leg and thigh cross the other. XXIII. 5.

Hyo-thyroideus,—pulls the thyroid cartilage upwards, or the os hyoides downwards. XI. 43.

Iliacus internus,—assists the psoas in bending the thigh, and brings it directly forwards XXI. 14. 15.
Indicator,—assists in extending the fore finger. XX. 12.
Infraspinatus,—pulls the arm upwards and backwards, and pulls the ligament from between the bones. XVIII. 6.
Intercostales externi,—raise the ribs during the time of inspiration. XVII. 9. 10.
Intercostales interni,—have the same use. XVII. 11. 12. 13.
Interossei externi, seu bicipites digitorum manus,—draw the fingers outwards. XX. 8. 9.
Interossei interni digitorum manus,—draw them inwards. XX. 6. 7.
Interossei externi, seu bicipites digitorum pedis,—draw the toes outwards. XXV. 2. 3.
Interossei interni digitorum pedis,—pull the toes inwards. XXV. 4.
Interspinales cervicis,—connect the transverse processes of the vertebræ with each other. XVI. 2. 3.
Interspinales dorsi,—connect the spinous processes of the vertebræ of the back with each other. XV. 11.
Interspinales lumborum,—connect the vertebræ of the loins with each other. XV. 11.
Intertransversarii dorsi,—connect the vertebræ of the back with each other. XV. 9.
Intertransversarii lumborum,—draw the vertebræ of the loins towards each other. XV. 10.

Intertransversarii posteriores colli. XVI. 9. 16. 18. } draw the vertebral processes of the
Intertransversarii priores colli. XVI. 8. 10. } neck towards each other, & turn the neck a little to one side.

Latissimus colli,—assists the depressor anguli oris. XI. 16.
Latissimus dorsi,—pulls the arm backwards and downwards, and rolls the os humeri XVIII. 1. 2. 3.
Levator tympani. See *Externus mallei.* XI. 30. 28.
Levator anguli oris,—draws the corner of the mouth upwards, and makes that part of the chin opposite to the mouth prominent, as in smiling. XI. 11. 12.
Levator ani,—draws the rectum upwards after the evacuation of the fæces, and assists in shutting it. It also sustains the contents of the pelvis, and helps in ejecting the semen, urine, and contents of the rectum. XII. 31. 32. 33. 34.
Levatores breviores costarum. XVII. 14. } assist in raising the ribs.
Levatores longiores costarum. XVII. 15 }
Levator labii superioris,—raises the upper lip. XI. 10.
Levator labii superioris alæque nasi,—answers the same purpose, and likewise dilates the nostril, by drawing the skin of the nose upwards and outwards. XI. 10.
Levator menti,—pulls upwards the under lip and skin of the chin. XI. 15.
Levator palati mollis,—draws the velum upwards and backwards, so as to shut the passage from the fauces into the nose. XII. 9.
Levator palpebræ superioris,—opens the eye, by drawing the eye-lid upwards. XI. 21.
Levator scapulæ,—pulls the scapula upwards, and a little forwards. XVI 13. 14.
Lingualis,—contracts the substance of the tongue, and brings it backwards. XI. 41. 43.
Longissimus dorsi,—extends the vertebræ, raises and keeps the trunk of the body erect. XV. 3. 5. 6.
Longus colli,—bends the neck gradually forward, and to one side. XVI. 6. 7.
Lumbricales manus,—assist in bending the fingers. XX. 3.
Lumbricales pedis,—assist in bending and drawing the toes inwards. XXV. 8.

Major helicis,—moves the cartilage below the tragus a little forwards and downwards. XI. 4.
Masseter,—pulls the lower jaw upwards, and a little forwards and backwards. XII. 20. 21. 22.
Minor helicis,—contracts the fissure of the helix. XI. 4.
Multifidus spinæ,—extends the back obliquely, moves it laterally, or backwards. XV. 1. 2.
Myle-hyoideus,—pulls the os hyoides forwards, upwards, and to a side. XI. 38.

Nasalis labii superioris,—assists in shutting the mouth. XI. 10. 11.

Obliquus externus abdominis,—supports and compresses the peritonæum and abdomen; assists the evacuations of fæces and urine, and the exclusion of the fœtus; thrusts the diaphragm upwards, and draws down the ribs in expiration; bends the body when the ribs are fixed, and raises the pelvis obliquely. XIII. 1. 2.
Obliquus inferior capitis,—assists in turning the head to one side, and giving it a rotatory motion. XVII. 4.
Obliquus inferior oculi,—draws the globe of the eye forwards and inwards, and turns the pupil upwards. XI. 18. 19. 20. 27.
Obliquus internus abdominis,—assists the *obliquus externus*, but in a contrary direction. XIII. 3. 4. 5.
Obliquus superior capitis,—turns the head obliquely to one side. XVII. 3.
Obliquus superior oculi,—rolls the globe of the eye, and turns the pupil inwards and outwards. XI. 22.
Obturator externus,—rolls the thigh-bone obliquely outwards. XXII. 7. 8.
Obturator internus,—moves the os femoris a little upwards, and rolls it obliquely outwards. XXI. 10.
Occipitalis. See *Frontalis.* XI. 6.
Opponens pollicis manus,—brings the thumb inwards, opposite to the other fingers. XX. 15.
Orbicularis oris,—shuts the mouth, by contracting and drawing both lips together. XI. 10. 11. 12. 13. 14.
Orbicularis palpebrarum. See *Ciliaris.* XI. 1.
Orbicularis palpebrarum portio ad labium superius accedens. XI. 16.

Palato-pharyngeus,—draws the uvula and velum backwards, and at the same time pulls the pharynx upwards, and shortens it. XII. 11. 27. 28. 29. 30.
Palmaris brevis,—assists in contracting the palm of the hand. XX. 26.
Palmaris longus,—bends the hand, and stretches the membrane expanded on the palm. XX. 26.
Pectineus,—brings the thigh upwards and inwards. XXII. 5. 6.
Pectoralis,—moves the arm forwards, and obliquely upwards towards the sternum. XVIII 4. 5.
Peroneus brevis,—pulls the foot outwards and upwards. XXIV. 1. 2.
Peroneus longus,—moves the foot outwards, and bends it a little. XXIV. 3. 4. 5.
Peroneus tertius,—assists in extending the foot. XXV. 1.
Plantaris,—assists in extending the foot, and brings the ligament from between the bones. XXIV. 11.
Popliteus,—moves the leg obliquely outwards, and assists in bending it; it also pulls the ligament from between the bones. XXIII. 2.
Profundus,—bends the last joint of the fingers. XX. 2. 3.
Pronator quadratus,—turns the radius, together with the hand, inwards. XIX. 21. 22.
Pronator teres,—has the same use with the former. XIX. 19. 20.
Psoas magnus,—bends the thigh forwards; or, when the extremity is fixed, assists in bending the body. XXI. 12. 13. 15.
Psoas parvus,—assists the former XV. 14.
Pterygoideus externus,—pulls the lower jaw forwards, to a side, thrusts the teeth out beyond those of the upper jaw, and pulls the ligament from the joint, that it may not be pinched during these motions. XII. 15. 16.
Pterygoideus internus,—draws the jaw upwards, and to one side. XII. 15. 17.
Pyramidalis,—assists the inferior part of the rectus abdominis. XIII. 7.
Pyriformis,—moves the thigh a little upwards, and rolls it outwards. XXI. 6. 7.

Quadratus femoris,—rolls the thigh outwards. XXI. 8. 9.
Quadratus lumborum,—moves the loins to one side, pulls down the last rib, and bends the loins forwards. XV. 12. 13.

Radialis externus brevis. XIX. 11. 12. } extend, and bring the hand backwards.
Radialis externus longior. XIX. 13. 14 }
Radialis internus,—bends the wrist, together with the hands. XIX. 9.
Rectus abdominis,—compresses the fore part, but more particularly the lower part of the belly; bends the trunk forwards, and raises the pelvis. By its tendinous intersections, it is enabled to contract at any of the intermediate spaces; and by its connection with the tendons of the other muscles, it is prevented from changing place, and from rising into a prominent form when in action. XIII. 6.
Rectus abducens oculi,—moves the globe of the eye outwards. XI. 26.
Rectus adducens oculi,—turns the eye towards the nose. XI. 25.
Rectus attollens oculi,—raises the globe of the eye. XI 23.
Rectus cruris,—extends the leg, and in a powerful manner, by the intervention of the patella, like a pully. XXIII. 2. 3.
Rectus deprimens oculi,—pulls the globe of the eye downwards. XI. 24.
Rectus internus major capitis,—bends the head forwards. XVI. 19. 20.
Rectus internus minor capitis,—bends the head forwards. XVII. 6.
Rectus lateralis capitis,—bends the head a little to one side. XVII. 5.
Rectus pelvicus major capitis,—pulls the head a little backwards. XVII. 2.
Rectus pelvicus minor capitis,—assists the foregoing. XVII. 1.
Retrahentes auriculæ,—draw the ear back, and stretch the concha. XI. 5. 6.
Rhomboides major. XVII. 24. } draw the scapula obliquely upwards, and directly
Rhomboides minor. XVII. 23 } backwards.

Sacro-lumbalis,—pulls the ribs down. XV. 3. 4. 6.
Salpingo-pharyngeus. XII. 27. 28.
Sartorius,—moves the leg obliquely inwards, or brings one leg and thigh cross the other. XXIII. 4.
Scalenus medius. XVI. 4. 5. } elevate the ribs, and dilate the thorax; or, when the
Scalenus pelvicus. XVI. 12. } ribs are fixed, bend the neck to one side.
Scalenus prior. XVI. 11. }
Semimembranosus,—bends the leg, and brings it directly backwards. XXII. 9. 10.
Semispinalis dorsi,—extends the spine obliquely backwards. XV. 8.
Semi-tendinosus,—bends the leg backwards, and a little inwards. XXII 11. 12.
Serratus anticus,—raises the ribs upwards, or brings the scapula forwards. XVII. 22.
Serratus magnus,—dilates the thorax, by pulling up the ribs, and moves the scapula forwards and downwards. XVI. 21.
Serratus pelvicus inferior,—depresses the four inferior ribs. XVII. 17.
Serratus pelvicus superior,—elevates the ribs, and depresses the thorax. XVII. 16.
Soleus,—extends the foot, by bringing it backwards and downwards. XXIV. 8. 9.
Sphincter ani externus,—shuts the passage through the anus into the rectum; pulls down the bulb of the urethra, by which it assists in ejecting the urine and semen. XII. 35. 36.
Sphincter ani internus. XII. 31. 32.
Spinalis cervicis,—extends the neck obliquely backwards. XVI. 15.
Spinalis dorsi,—erects and fixes the vertebræ, and assists in raising the spine. XV. 7.
Splenius capitis,—brings the head and upper part of the neck backwards laterally, and pulls the head directly backwards. XVI. 27.
Splenius colli,—assists the former. XVI. 1.
Stapedius,—draws the stapes obliquely upwards, towards the cavern. XI. 34. 29.
Sterno-hyoideus,—pulls the os hyoides downwards. XI. 39.
Sterno-mastoideus,—turns the head to one side, and bends it forwards. XVI. 25. 26.
Sterno-thyroideus,—draws the larynx downwards. XI. 44.
Stylo-glossus,—draws the tongue laterally, and backwards. XI. 40. 43.
Stylo-hyoideus,—draws the os hyoides to one side, and a little upwards. XI. 37.
Stylo-pharyngeus,—dilates and raises the pharynx upwards. XII. 27. 28. 30.
Subclavius,—pulls the first rib upwards. XVII. 20.
Sublimis,—assists in bending the fingers. XX. 4.
Subscapularis,—brings the arm inwards, and rolls it towards the ribs. XVIII. 15.
Supinator brevis,—rolls the radius outwards. XIX. 17. 18.
Supinator longus,—has the same use with the former. XIX. 16.
Supraspinatus,—raises the arm upwards, and at the same time pulls the capsular ligament from between the bones, that it may not be pinched. XVIII. 16. 17.

Temporalis,—pulls the lower jaw upwards, and presses it against the upper at the same time, drawing it a little backwards. XII. 12. 13. 14.
Tensor tympani,—pulls the malleus and membrana tympani inwards, towards the pars petrosa. XI. 29. 32. 35.
Tensor vaginæ femoris,—stretches the membranous fascia, extends the leg, and turns it a little outwards. XXII. 8.
Teres major,—moves the arm backwards and downwards, and rolls the head of the os humeri. XVIII. 9. 10.
Teres minor,—assists the former, brings the arm more directly forwards, and pulls the ligament from between the bones. XVIII. 13. 14.
Thyreo-arytenoideus,—opens the external rima, and relaxes the upper side of the ventriculus larvngis, and the ligaments. XII. 3. 4.
Thyreo-arytenoideus alter minor. XII. 6. 7.
Thyreo-epiglotticus major. XII. 3. 7. } draw the epiglottis downwards, and
Thyreo-epiglotticus minor. XII. 3. } expand that soft cartilage.
Tibialis anticus,—bends the foot, by drawing it upwards and inwards. XXIV. 6. 7.
Tibialis posticus,—brings the foot inwards and upwards. XXIV. 12. 13. 14.
Trachelo-mastoideus,—pulls the head backwards, and to one side. XIV. 21. 22.
Tragicus,—pulls the point of the tragus a little forwards. XI. 4.
Transversalis cervicis,—turns the neck obliquely backwards, and a little to one side. XVI. 16. 17. 18.
Transversalis pedis,—brings the little toe towards the great one. XXV. 14.
Transversus abdominis,—assists the *obliquus externus et internus*. XIV. 1. 2. 3.
Transversus auriculæ,—draws the parts to which it is connected towards each other, and stretches the scapula and concha. XI. 5.
Transversus perinæi,—sustains and keeps the perinæum in its proper place. XII. 37. 38.
Transversus perinæi alter,—dilates the bulb of the penis, and draws the perinæum and verge of the anus a little outwards and backwards. XII. 37. 39.
Triangularis sterni,—depresses the ribs and cartilages of the sternum. XIV. 1.
Triceps brachii,—extends the arm. XIX. 5. 6. 7.

Vastus externus,—extends the leg. XXIII. 6. 7.
Vastus internus,—assists the former. XXIII. 6. 7.
Vesicæ musculus. XII. 41.
Ulnaris externus,—assists in extending the hand. XIX. 15.
Ulnaris internus,—assists in bending the hand. XIX. 10. 11.

Zygomaticus major,—makes the cheek prominent, by drawing the corners of the mouth asunder, as in laughing. XI. 10. 11. 13.
Zygomaticus minor,—draws the corner of the mouth obliquely outwards and upwards towards the external canthus of the eye. XII. 10.

F I N I S.

ANATOMIA BRITANNICA:

A

SYSTEM OF ANATOMY.

ILLUSTRATED BY UPWARDS OF

THREE HUNDRED COPPERPLATES,

FROM

THE MOST CELEBRATED AUTHORS

IN

EUROPE.

IN SIX PARTS.

BY ANDREW BELL, F. S. A. S.
ENGRAVER TO HIS ROYAL HIGHNESS THE PRINCE OF WALES.

THE WORK APPROVED OF BY

DR ALEX. MONRO, PROFESSOR OF ANATOMY, &c. IN THE UNIVERSITY OF EDINBURGH.

AND CONDUCTED

BY *ANDREW FYFE*, HIS ASSISTANT.

DUM AUDES ARDUA VINCES.

PART III.

EDINBURGH:
PRINTED FOR ANDREW BELL, ENGRAVER.
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TAB. I.

Part 3.

Pl. 42.

ANATOMIA BRITANNICA,

A

SYSTEM OF ANATOMY.

PART III.

THE

First Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

BEFORE we enter upon the Anatomical Defcription of the Human Body, it may not be improper to take a view of the Proportions of the different Parts of a well-formed Man, and of the relative Proportions of the Male and Female, in the living State.

From the crown of the head 1, which is covered with the hair, to the upper part of the forehead A, is the third part of a face.

The face B, begins at the roots of the loweft hairs, which are upon the forehead A C, and ends at the bottom of the chin K.

The face is divided into three proportionable parts; the firft contains the forehead A C; the fecond, the nofe G; and the third, the mouth and the chin H I K.

From the chin to the upper part of the fternum, or breaft bone,—two lengths of a nofe.

From the top of the fternum to the bottom of the breaft, called fcrobiculus cordis, O,—one face.

From the pit of the ftomach to the umbilicus or navel R, one face;—the Apollo has half a nofe more.

From the umbilicus to the pudendum U, one face.

From the pudendum to the fmall of the thigh above the patella or knee-pan Z,—two faces.

From the lower part of the knee to the fmall of the leg above the ankle D, two faces.

From the ankle, or malleolus internus, to the bottom of the heel,—half a face.

A man, when his arms are ftretched out, is, from the extremity of the longeft finger of his right-hand to the extremity of the longeft of his left, as broad as he is long.

From one fide of the breafts to the other below the nipples N N, two faces.

From the pit of the throat to the top of the fhoulder, or extremity of the fpine of the fcapula,—one face; from thence to the bending of the cubit or elbow,—one face and a half; thence again to the wrift, one face and a nofe. The hand with the fingers extended, contain one face: So that four faces, a nofe, and half a face, is the diftance between the pit of the throat and extremity of the middle finger; which, upon extenfion of the whole arm, &c. will amount to five faces, rather more than lefs.

The foot, a face and a nofe in length.

As to the breadth of the limbs, no precife meafure can be given, becaufe the meafures themfelves not only vary according to the quality of the perfons, but according to the motion of the mufcles.

A man is two lengths or faces from the point of each fhoulder; that is to fay, from the upper part of the fternum between the clavicles, called the pit of the throat, to the extremity of the fpine of the fcapula, called the top of the fhoulder, one length; and fo, on the other fide.

The breadth of the hips of a man is one length and a half; that is, from the great trochanter of the thigh-bone of one fide to that of the other; the precife places of which bones are interfected by an horizontal line drawn from the pubes on each fide.

L The pomum adami, or protuberant part of the larynx, which is much larger in men than in women.

M The fternum or breaft-bone appearing under the fkin, &c. between the two pectoral mufcles.

O The fcorbiculus cordis, commonly called the pit of the ftomach, under the fkin, &c. Precifely in this place is the cartilago enfiformis.

P The epigaftrium.
Q Q The hypochondria, or fpaces under the fhort ribs.
R The region of the umbilicus.
S The hypogaftrium.
T One of the ilia.
U The pubes.
V One of the inguina, or groins.
W The penis.
X The fcrotum
Y Y The thighs.
Z Z The knees.
a a The legs.
b b The tarfus, or bending of the foot.
c c The metatarfus, or fore-foot.
d d The toes.
e e The fhoulders.
f f The arms.
g g The fore and back parts of the elbows.
h h The fore-arms.
i i The carpus or wrift.
k k The metacarpus.
l l The fingers.

THE

Second Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

REPRESENTS the fore-part of a Woman, in whom the ſymmetry or proportion differs from that of a Man: Firſt, Moſt remarkably in this, that the ſhoulders are narrower; the Man having two lengths or faces in the breadth of his ſhoulders, and one and a half in his hips; whereas a Woman, on the contrary, has but one face and a half in her ſhoulders, and two in her hips. Secondly, The clavicles, or collar-bones, and muſcles in general, do not appear in Women as in Men; whence it is that the outline of the one, as painters expreſs it, differs very much from that of the other. Nor will any action, in which a Woman uſes her utmoſt ſtrength, occaſion ſuch a ſwelling or riſing of the muſcles and other parts to appear, as is the caſe in Men; the great quantity of fat placed under the ſkin of Women, covering their muſcles, &c. ſo as to prevent any ſuch appearance.

A A The mammæ:

B The pudendum.

THE

A
A

TAB. III. Part 3.

Pl. 44.

THE

Third Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

WHAT has been ſaid under the preceding Table, concerning the appearance of the external parts of a Man or Woman, is equally applicable in this place; we ſhall therefore next proceed to take a view of the external appearance of the muſcles in various actions. If a ſtrong perſon is to be repreſented in vigorous action, (ſuch as a Hercules, &c.), after a ſuitable proportion to ſuch a figure, and the action is deſigned, the next thing the painter or ſculptor ought to conſider is, which are thoſe parts or members chiefly employed in action. And if the figure is in a ſtanding attitude, let him be ſure one leg, and particularly its foot, be in a right line, or perpendicular to the trunk of the body, where the centre of its gravity may be placed in an equilibrium. This centre is determined by the heel; or if the figure is on tip-toe, as it is called, then the ball of the great toe is the centre. The muſcles of this leg, which thus ſupports the body, ought to be expreſſed more in action, or their bellies more ſwelled, and their tendons more extended, than thoſe of the other leg, which is placed only to receive the weight of the body towards that way to which the action inclines it. For example, imagine a Hercules with a club, or the like, ſtriking at ſomething which ſtood before him, towards his left-ſide. In this caſe, let his right-leg be ſo placed as to ſupport the whole weight of his body, and the left ſlightly touching the ground only with its toes. Here the external muſcles of the right-leg ought to be expreſſed very ſtrong, or much tumified; but thoſe of the left ſcarcely appearing more than if the whole figure was in a ſedentary poſture; except as in the caſe now mentioned; where the foot being extended, the muſcles which compoſe the calf of the leg, are then in action, and appear very ſtrong; as is well expreſſed in the right-leg of that excellent figure of the ancients, The Gladiator in Prince Borgheſes' Palace at Rome, of which we have only a copy or caſt, placed by the canal in St James's Park, London. When we ſay the external muſcles of the right-leg, or of that which ſupports the weight of the body, ought to be expreſſed very ſtrong, it is not meant that all theſe muſcles ſhould be expreſſed equally ſwelled, or in action; but thoſe chiefly concerned in that action or poſture, in which the leg then is. For example, if the leg is extended, then the extending muſcles, placed on the thigh, are moſt ſwelled; if bended, then the bending muſcles and their tendons appear moſt prominent. The ſame may be obſerved of the whole body in general, when engaged in ſome vigorous action; as appears in the figure of the Gladiator laſt mentioned.

The Laſcoon, in the Vatican Garden at Rome, alſo furniſhes an example of this muſcular appearance throughout the whole. But in the Antinous, Apollo, and ſome other figures of the ancients in the Vatican and elſewhere, where no conſiderable action is deſigned, we find their muſcles expreſſed but faintly, or ſcarcely appearing; from which it muſt be believed, that the ſculptors of theſe times were well acquainted with theſe obſervations.

The ancient Greeks, indeed, were accuſtomed to ſee Nudities very frequently, and almoſt conſtantly, yet the difficulty of copying theſe things from the life is ſo great, that unleſs they were well acquainted with ſimilar remarks, they would fall ſhort of nature in ſuch performances, ſince even life itſelf, when expoſed to the view of the Artiſt, cannot continue theſe vigorous actions for any length of time: The muſcles therefore fall, and the parts loſe their neceſſary appearance in action, though the attitude be the ſame. Hence it is, that limbs, though caſt or moulded from the life itſelf, are not to be ſtrictly followed, unleſs the life could continue the whole ſpirit or force of the action during the time the mould was making from it; which is ſcarcely poſſible. It might however be attempted, at leaſt in ſome particular parts. Wherefore a rational theory muſt help us, at leaſt, to ſuch hints, that when we ſee, we may know what to obſerve, and the reaſon why it appears ſo in the life.

This is indeed a very entertaining ſtudy, with which many of our modern painters and ſculptors, are leaſt acquainted.

Thus far in general concerning the muſcles, &c. Let us, in the next place, take notice of ſome particular appearances of the external muſcles and other parts.—Firſt, of the muſculi ſterno-maſtoidei, (vid. Tab. V. 14. 14.) If either of theſe act, the head is turned to the contrary ſide, and the muſcle, which performs the action, appears very plain under the ſkin, and is often well expreſſed both by painters and ſculptors; as is repreſented in the neck of the figure of the firſt Table.

If

If the arms are lifted up, the ſwelling of the muſcles placed on the ſhoulders, which perform that action, called Deltoides, (Tab. V. 20.), make the extremities of the ſpines of the ſhoulder-blades, (Tab. VI. i i), called the tops of the ſhoulders, appear hollow, or indented.

The ſhoulder-blades follow the elevation of the arms, their baſes (Tab. VI. l l) incline at that time obliquely downwards.

If the arms are drawn down, put forwards, or pulled backwards, the ſhoulder-blades neceſſarily vary their poſitions accordingly; all which is to be learned by conſulting the life only, when, being well acquainted with what then appears in the very action, the Artiſt will be able to comprehend an idea how to expreſs it. Hence it is, we ſeldom find the back ſo well expreſſed as the fore parts; the latter not being ſubject to ſuch a variety of alterations, as the motions of the ſhoulder-blades cauſe in the former.

When the cubit or arm is bended, the biceps muſcle (Tab. V. 22.) has its belly very much raiſed; as appears in the right-arm of the Figure of the firſt Table. The like may be obſerved of the triceps, &c.

The right-muſcle of the abdomen (Tab. V. 41. 41.) appears very ſtrong in riſing from a decumbent poſture.

Thoſe parts of the ſerratus anticus major (ib.) which are received in the teeth, or origins of the obliquus deſcendens muſcle, (ib. 38. 38.), are very much ſwelled, when the arm on the ſame ſide is thruſt forward; that ſerratus muſcle being then in action in drawing the ſcapula alſo forwards.

The long extending muſcles of the trunk, placed on each ſide of the back-bone, (Tab. VI. * *), act alternately in walking, after this manner;—if the right-leg bear the weight of the body, and the left be in tranſlation as on tip-toe, the laſt-mentioned muſcles of the back, on the left-ſide, may be obſerved to ſwell about the region of the loins; and ſo, on the other ſide.

The trochanters, or outward and uppermoſt heads of the thigh-bones, (ib. r. r.), vary in their poſitions in ſuch a manner as no preciſe obſervations can explain their ſeveral appearances, but the ſtudy of life will ſoon inform the diligent obſerving Artiſt.

If the thigh is extended, as when the whole weight of the body reſts on that ſide, the glutæus muſcle (ib. 32. 32.) makes a different appearance from what offers at another time; but, if the thigh is drawn backwards, that muſcle appears ſtill more and more tumified.

When the whole leg is drawn upwards, forwards, and the foot is at the ſame time inclined inwards, the upper part of the ſartorius muſcle (Tab. V. 44.) appears riſing very ſtrong. In other poſitions of the thigh, that muſcle makes a furrowing appearance in its whole progreſs, as is expreſſed in the Figure of the firſt Table.

If a man is on tip-toe, the extending muſcles of the leg, placed on the fore-part of the thigh, (Tab. V. 46. 47. 48.), and thoſe of the foot, which compoſe the calf of the leg, (Tab. VI. 43. 44.), appear very ſtrong, and the muſculus peronæus longus (Tab. V. 55.) makes a conſiderable indentation or furrowing at that time, in its progreſs on the outſide of the leg.

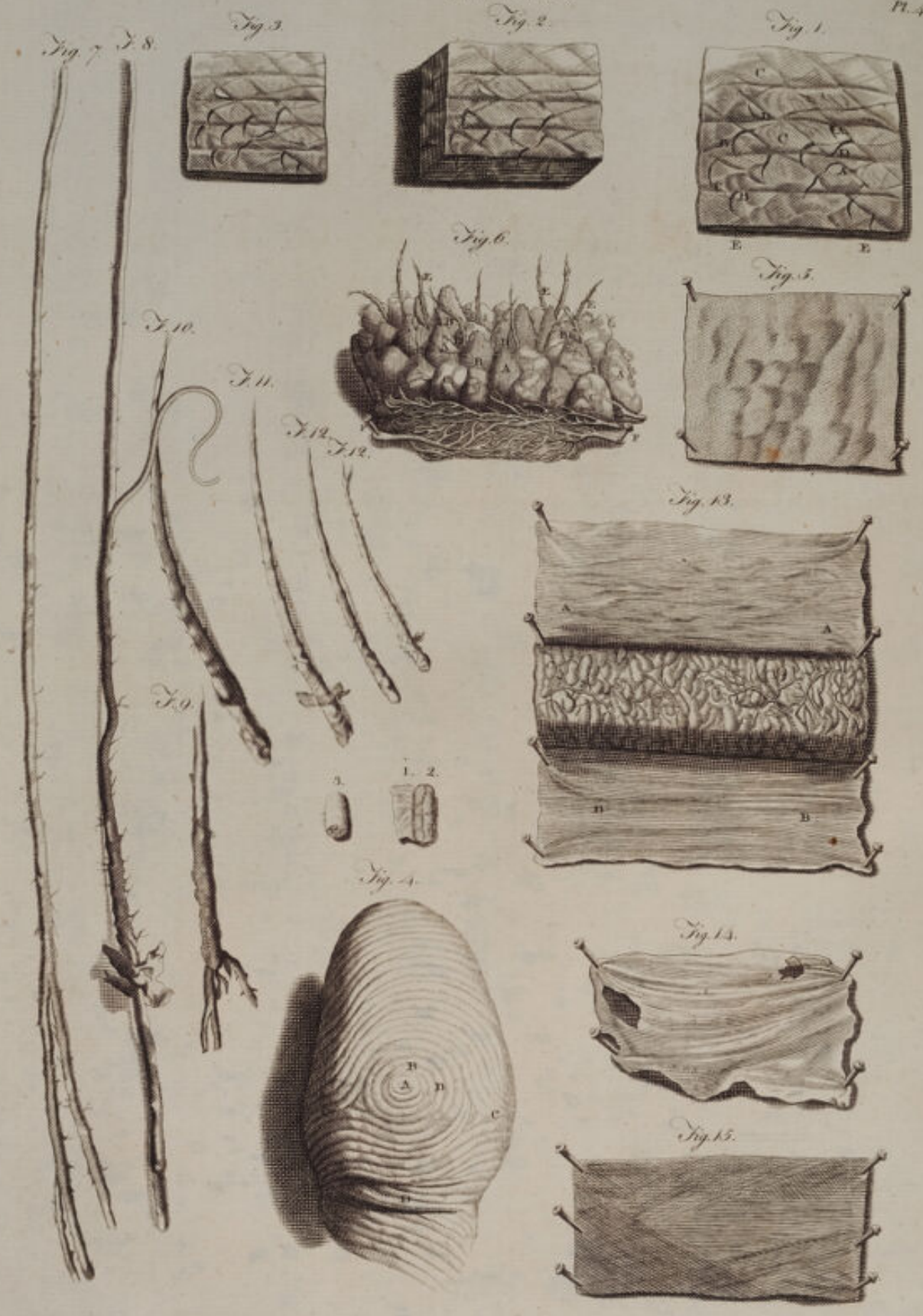
Beſides theſe remarks, many more might be mentioned, which will ſoon occur to the obſerving Artiſt, who diligently conſults the life; to which he ought aſſiduouſly to apply himſelf, after he has acquired a ſufficient knowledge of the Anatomy of the external parts.

A The vertex or ſummit of the head.
B The hind head, the hair tied up over it.
C The fore-head.
D The neck.
E The ſhoulder.
F The ſhoulder-blade.
G The back.
H The loins.
I The buttocks.
K The thigh.
L The ham.
M The calf of the leg.
N The heel.
O The elbow.

THE

TAB. IV. Part 3.

Pl. 43.



A. B. Ellis sculp. Phil. Soc. Exh. Sculptor, fecit

THE

Fourth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

REPRESENTS a portion of the cuticle or ſcarf-ſkin, raiſed from the back of the hand, and viewed through a microſcope.

A A The perforations or pores by which the ſweat is diſcharged.

B B The indentures or furrows.

C C The bladder-like protuberances; both theſe ariſe from the inequality of the papillary ſurface of the ſkin itſelf.

D D The hairs which penetrate the cuticle.

E E The aſperities or filaments by which the cuticle is fixed to the true ſkin.

By the aſſiſtance of the microſcope, the cuticle appears compoſed of various ſtrata or beds of ſcales, adhering to the papillary ſurface of the ſkin, and are ſo interwoven with each other, that they appear a continued membrane or pellicle, when raiſed from the true ſkin, whether by the application of bliſters in living people, or ſcalding water, hot irons, or the like, in dead bodies. According to the number of theſe ſtrata or beds of ſcales, the ſkin appears more or leſs fair, and the perſon is commonly ſaid to have a thicker or thinner ſkin; though very often the jaundice and other diſeaſes give it an ill tincture. The cuticle, like the true ſkin, is not uniform; in various parts of it the number of its ſcales, and their ſtrata, exceed thoſe of others; on the lips, not above two ſtrata appear; on other parts more, ſeldom leſs. On the bottom of the feet of thoſe who walk much, and the palms of the hands of laborious mechanics, theſe ſtrata are not only very numerous, but each ſcale is thickened. If you macerate the cuticle in water, after ſome days the ſcales will appear, and you may divide it into two, ſometimes three or four pellicles. The like diviſion of it may alſo be obſerved in veſicatories, or bliſters, raiſed on living perſons.

FIGURE II.

A portion of the cuticle raiſed from the bottom of the foot, and viewed with the ſame microſcope as the former; where its remarkable thickneſs appears.

FIGURE III.

A portion of the cuticle raiſed from the back, in which the indentures, furrows, &c. agree with thoſe in Fig. 1. the ſurface of the true ſkin being exactly ſimilar to that of the other; but at the extremities of the fingers and thumbs, the cuticle is variouſly wreathed and contorted, conformable to the ſubjacent papillary protuberances of the true ſkin, as appears from the following Figure.

FIGURE IV.

The upper and inner ſide of the thumb, likewiſe drawn by the aſſiſtance of the microſcope.

A From the point ariſe.

B B Two lines of a circular form.

C C Others which form triangles.

D Other lines variouſly contorted.

The cuticle being removed, the cutis or ſkin itſelf appears.

FIGURE V.

A portion of the ſkin of the arm, as it appears on its external ſurface to the naked eye.

FIGURE VI.

The external ſurface of the ſkin, when viewed with a microſcope; where its internal ſtructure, or rete of blood-veſſels, are alſo expreſſed.

A A C D The papillæ pyramidales, which Cowper conſidered as ſudoriferous glands.

E E The hairs ariſing between the papillæ pyramidales. Beſides theſe parts, the ſkin is furniſhed with arteries, veins, nerves, and lymphatics: The trunks of the two former are well expreſſed in this Figure F F.

FIGURE VII. VIII.

Two of the hairs of the head, as they appear viewed through a microſcope. Here we obſerve,

A villous appearance, a diviſion at the extremity, and, near the bottom of Fig. 8. a portion of the cuticle which commonly adheres to the hair when extracted.

FIGURE IX.

The branches which ſometimes appear on the top of the hair, as obſerved by the help of the microſcope.

FIGURE X. XI. XII.

The different thickneſs of hairs extracted from various parts of the body, viewed with the ſame microſcope.—Fig. 10. A hair from the groin.——Fig. 11. A hair from the noſtril.——Fig. 12. Hairs from the eye-lids.

FIGURE XIII.

A portion of the fat of the abdomen.

A A Its external membrane.

B B Its internal membrane.

C C The globules of the fat, with their blood-veſſels paſſing to them, whence their only contents are derived.

1. The integument or covering of the globules of fat raiſed.

2. The globules of fat themſelves.

3. Some of the globules ſeparated from the reſt, in which the breakings off of their membranes and blood-veſſels are expreſſed. Hence it appears, that the fat is a congeries of membranous cells, which, by the microſcope, appear diſtended with oil.

FIGURE XIV.

The external ſurface of the laſt common integument of the whole body, called the common membrane of the muſcles. This is divided by ſome into two membranes, which they diſtinguiſh by the names of *carneſa*, and *communis muſculorum*.

FIGURE XV.

The internal ſurface of the laſt-mentioned membrane. The origin of this membrane is commonly ſaid to be from the ſpines of the vertebræ of the back, becauſe, as is ſuppoſed by our Author, that is the moſt ſtable part to which it is connected. It is co-extended with the ſkin itſelf, as appears in moſt parts, and has its correſponding foramina for the eyes, noſtrils, ears, mouth, anus, and pudendum.

The whole Figures of this Table are copied from Cowper; but neither the Figures, nor the deſcriptions of them, are to be much attended to, both being deficient in accuracy. As they are the only delineations, however, of theſe parts, of which we could avail ourſelves, we have thought proper to inſert them; correcting, at the ſame time, the opinions and obſervations of the Author, as far as circumſtances would admit.

THE

A. Bell R.A.S.S. Pinxit et Sculp.

THE

Fifth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

REPRESENTS the ſuppoſed appearance of the external muſcles, while in action, on the anterior part of the body; the common teguments being removed.

1. The muſculus frontalis.
2. The orbicularis palpebrarum.
3. Levator labii ſuperioris alæque naſi.
4. Depreſſor labii ſuperioris.
5. Part of the levator anguli oris.
6. Orbicularis oris.
7. Depreſſor labii inferioris.
8. Depreſſor anguli oris.
9. Zygomaticus major.
10. Buccinator.
11. Temporalis.
12. Maſſeter.
a The parotid gland.
b The zygoma.
c The duct of the parotid gland.
d The lower jaw laid bare.
e The inſertion of the right ſterno-maſtoid muſcle.
13. The muſculus genio-hyoideus.
14 14. The ſterno-maſtoidei.
15. The ſterno-hyoideus of the left-ſide.
16 16. The omohyoidei.
17 17. Part of the ſcaleni.
18. Part of the levator ſcapulæ.
19 19. Part of the trapezius on each ſide inſerted to the clavicle.
20. The deltoides.
21 21. The two pectorales majores.
f f The clavicles.
g The upper part of the ſternum.
h The ſcrobiculus cordis, or pit of the ſtomach.
22. The biceps flexor cubiti.
23 23. Part of the coraco brachialis on each ſide.
24 24. Part of the brachiales interni.
25 25. Part of the tricipites.
i A branch of the ulnar nerve.
k The internal protuberance of the os humeri.
l The trunk of the humeral artery.
m A thin tendinous membrane ariſing from the biceps muſcle, and covering all the muſcles on the inſide of the fore-arm.
26. Part of the brachialis internus.
27. The pronator radii teres.
28 28. Flexor carpi radialis, on each ſide.
29 29. Palmaris longus, on each ſide.
30 30. Part of the muſculi flexores perforati of the fingers.
31 31. The flexor carpi ulnaris, on each ſide.
32 32. The ſupinator radii longus, on each ſide.
33. Part of the extenſor carpi radialis.
34. A tendon of the flexor longus pollicis.
35 35. The abductor pollicis, on both hands.
n The ligamentum carpi annulare.
o o The tendinous expanſion of the palm of the hand.
36. The palmaris brevis.
37. The abductor minimi digiti.
38 38. The fleſhy parts of the obliquus deſcendens abdominis, on both ſides.
41 42. p q Their tendons running over the recti abdominis, to the linea alba.
39 39. Parts of the latiſſimi dorſi.
40 40. Part of the ſerrati majores antici.
41 41. The recti abdominis, as they appear under the tendons of the oblique muſcles.
p The linea alba.
q q The tendons of the two oblique muſcles forming the linea ſimilunaris, before they paſs over the rectus to the linea alba.
r r The fore-part of the ſpines of the oſſa ilia.
s s The inguinal glands.
t The oſſa pubis.
u u The ſpermatic cord.
42. The muſculi pyramidales.
43 43. The tenſor vaginæ femoris, on each ſide.
44 44. The ſartorius, on each ſide.
45. Part of the gluteus medius paſſing over the great trochanter.
46 46. The rectus femoris, on both thighs.
47 47. The vaſti externi.
48 48. The vaſti interni.
49. Part of the pectinalis.
50 50. The triceps longus femoris, on both ſides.
51 51. The gracilis, partly expreſſed on both ſides.
w w The patellæ.
x Part of the tendon of the tenſor vaginæ femoris, fixed to the head of the fibula.
y The right tibia laid bare.
z The malleolus internus.
* The malleolus externus.
† † The ligamentum tarſi annulare.
52. The muſculus tibialis anticus.
53 53. The extenſor pollicis pedis longus, on each ſide.
54. Part of the peroneus brevis.
55. Part of the peroneus longus.
56 56. Part of the gaſtrocnemii externi.
57. Part of the flexor longus digitorum pedis.
58. Part of the gaſtrocnemius internus.
59. Abductor pollicis.
60. Part of the extenſor brevis digitorum pedis.
61. The tendon of the extenſor brevis digitorum, which is inſerted into the great toe.
62. The extenſor longus digitorum pedis.

THE

THE

Sixth Anatomical Table

OF THE

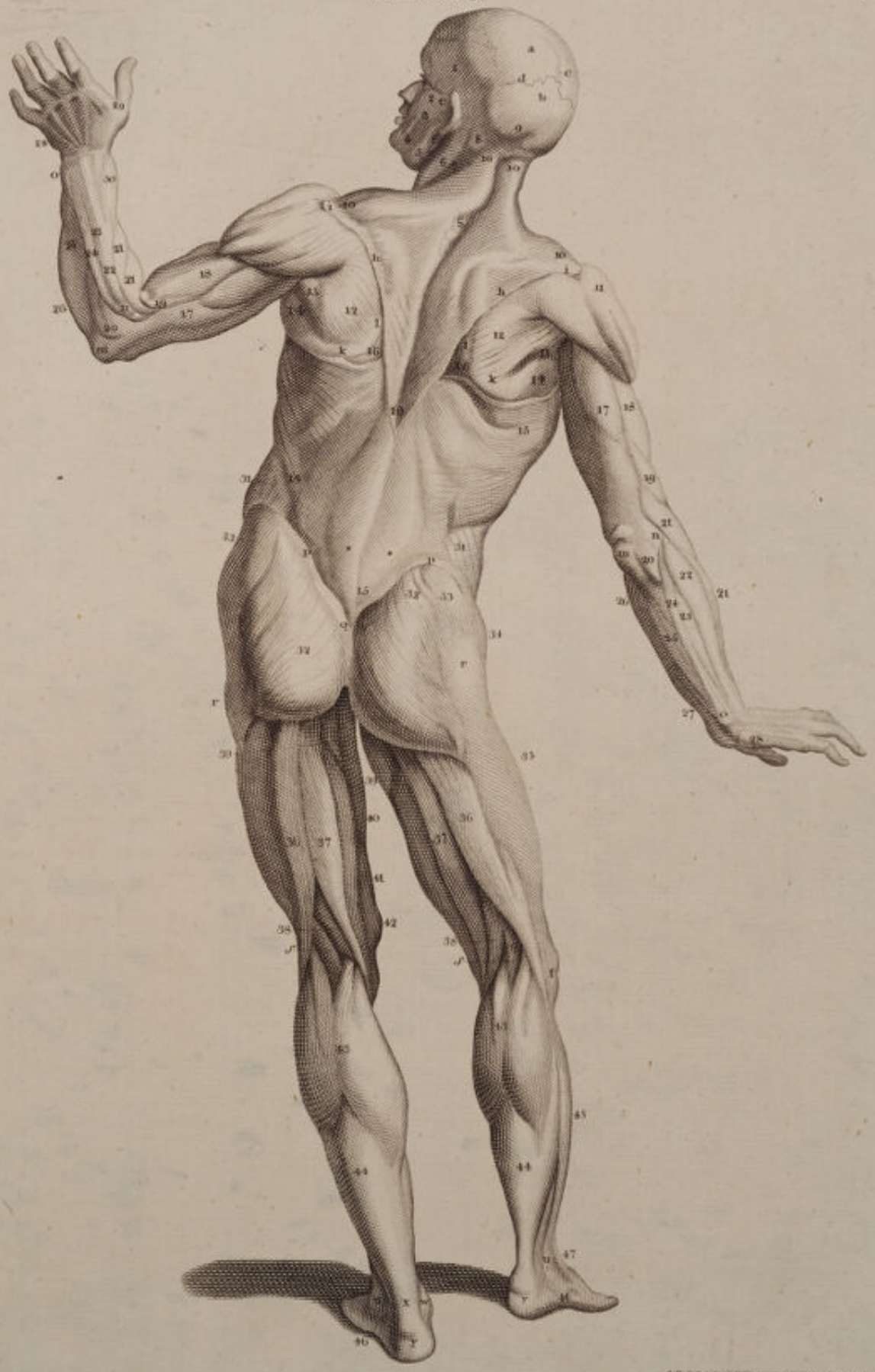
HUMAN BODY

EXPLAINED.

A VIEW of the muſcles in action on the poſterior part of the Body, the Teguments being removed.

1. The muſculus temporalis.
2. The orbicularis palpebrarum.
3. Part of the zygomaticus major.
4. The depreſſor anguli oris.
5. The maſſeter.
6. Part of the ſterno-maſtoideus.
7. Part of the levator ſcapulæ.
8. Part of the ſplenius.
9. Part of the occipitalis.
10 10. &c. The cucullaris or trapezius, on each ſide.
a The os parietale.
b The os occipitis.
c Part of the ſagittal ſuture.
d The lambdoidal ſuture.
e The zygoma.
f The parotid gland.
g The ſpinous proceſs of the ſeventh vertebra of the neck.
h h The tendons of the cucullaris, on each ſide, inſerted to the ſpine of the ſcapula.
i i The extremity of the ſpine of the ſcapula, on each ſide, to which the clavicle is connected.
k k The lower angles of the ſcapulæ.
l l The baſis of each ſcapula.
m m The upper end of each ulna, called Olecranon.
n n The external protuberance of each os humeri.
o o The inferior extremity of the ulna.
11. The muſculus deltoides, on the right-ſide.
12 12. The infra ſpinati.
13 13. Part of the teretes minores.
14 14. The teretes majores.
15 15. The latiſſimi dorſi.
* * Their tendinous parts paſſing over the ſacrolumbales and longiſſimi dorſi.
16 16. Part of the rhomboides.
17 17. The triceps extenſor cubiti, on each ſide.
18 18. Part of the brachiales interni.
19 19. Part of the ſupinator radii longus, on both ſides.
20 20. The anconei.
21 21. The extenſor carpi radialis, on each ſide.
22 22. The extenſores digitorum communes.
23 23. The extenſor minimi digiti, on each ſide.
24 24. The extenſor carpi ulnaris, on each ſide.
25 25. Part of the flexor ſublimus.
26 26. The flexor carpi ulnaris, on each ſide.
27. Part of the tendons of the flexor carpi radialis and palmaris longus.
28 28. The adductor minimi digiti, on each ſide.
29. The adductor pollicis.
30. The extenſor muſcles of the thumb.
31 31. Part of each obliquus deſcendens abdominis.
32. The gluteus maximus.
33 33. Part of the gluteus medius.
34. The tenſor vaginæ femoris.
p p The back-part of the ſpine of each os ilium.
q The os ſacrum.
r A prominence made by the great trochanter under the tendon of the gluteus maximus.
s s The nervus popliteus, on each ſide.
t The upper end of the fibula.
u u The lower end of the fibula, called Malleolus externus.
w The lower end of the tibia, or malleolus internus.
x The tendon of the gaſtrocnemius, or tendo Achillis.
y The os calcis.
35 35. Part of each vaſtus externus.
36 36. The biceps flexor cruris, on each ſide.
37 37. The ſemitendinoſi.
38 38. The ſemimembranoſi.
39 39. The triceps adductor femoris, on both ſides.
40. Part of the gracilis.
41. Part of the ſartorius.
42. Part of the vaſtus internus.
43 43. The gaſtrocnemii externi.
44 44. The gaſtrocnemii interni, covered with the tendons of the externi.
45. The peroneus longus.
46 46. The abductor minimi digiti, on each ſide.
47. Part of the extenſor digitorum longus, on the right-ſide.

THE



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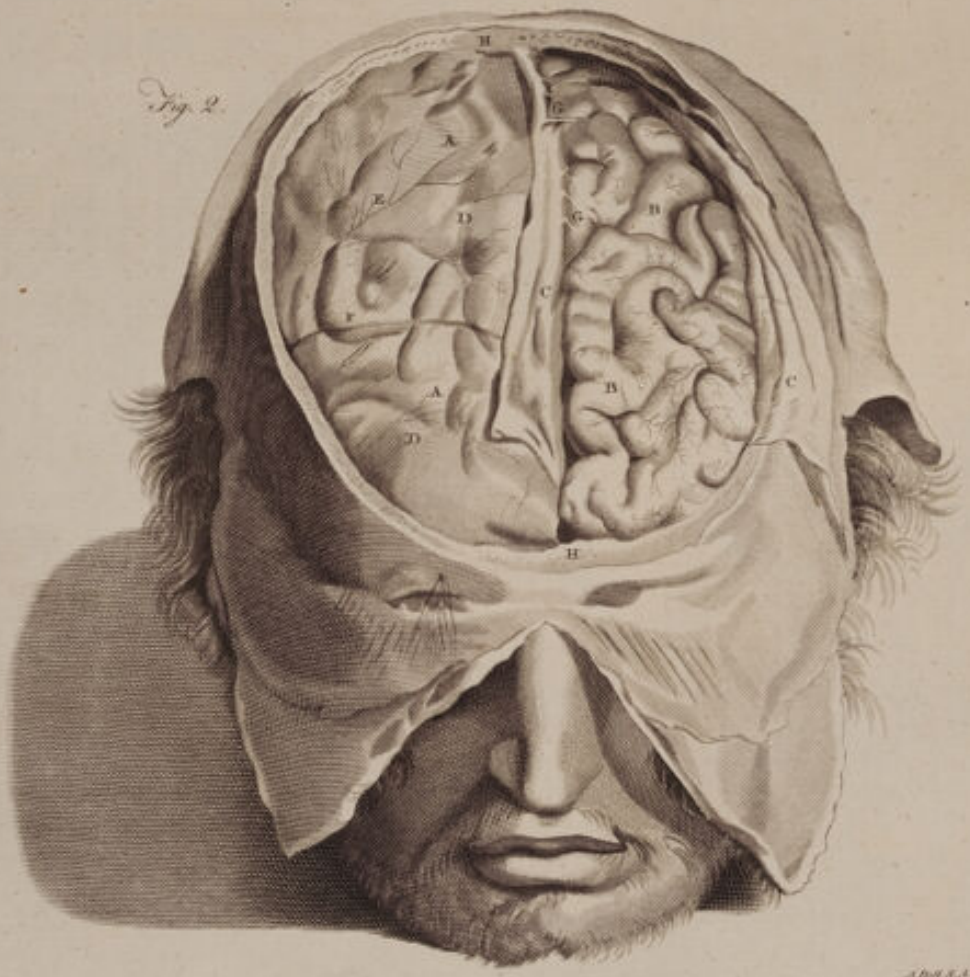


A. Dick R. A. A. S. Prin. Sculp. & Wal. Sculp.

THE

Seventh Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

A VIEW of the Teguments and other parts on the outer ſide of the Cranium.

A A A The hairy ſcalp cut in a crucial direction, and turned down.

B B The fore-part of the occipito-frontalis muſcle, with its tendinous expanſion cut and turned down.

C A portion of the tendon of the occipito-frontalis adhering to the pericranium.

D D D The pericranium raiſed and turned to the right-ſide. The ſmall *dots* expreſs the cut extremities of blood-veſſels of that membrane and of the ſkull.

E E The oſſa frontis and parietale.

F The upper part of the temporal muſcle, diveſted of its aponeuroſis.

G Part of the coronal ſuture.

H The ſagittal ſuture.

I The frontal veſſels and nerves paſſing through the foramen ſupra orbitarium.

FIGURE II.

The upper part of the Brain in ſitu, with its Membranes, the top of the Skull being removed.

A A The dura mater covering the brain on the right-ſide.

B B The left hemiſphere of the brain covered with the pia mater only, the circumvolutions of the brain appearing diſtinctly through it.

C C The dura mater on the left-ſide divided and reclined laterally.

D D A faint appearance of the brain through the dura mater.

E The blood-veſſels of the dura mater.

F That part of the dura mater which was contiguous to the coronal ſuture.

G G The veins of the brain entering the ſuperior longitudinal ſinus.

H H The cut edge of the ſkull.

THE

Eighth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

GIVES different Views of the Dura Mater and its Blood-veſſels.

FIGURE I.

The upper and fore part of the Dura Mater as it appears after the Skull has been removed.

A A The cut edge of the fore-part of the ſkull.
B Part of the temporal muſcle.
C C The dura mater covering the two hemiſpheres of the brain.—The dark line behind theſe letters correſponds with the coronal ſuture, at which place the adheſion is greateſt.
D D The lacerated extremities of veſſels which run between the dura mater and ſkull.
E E The blood-veſſels of the dura mater.
F F The ſuperior longitudinal ſinus opened, from near its origin at the criſta galli, to near its termination in the lateral ſinuſes.

FIGURE II.

The upper and back part of the Dura Mater.

A A The ſuperior longitudinal and left lateral ſinus laid open.
B B The os occipitis turned back.
C The left os petroſum.
D The orifice of the fourth ſinus, called Torcular Herophili, at the junction of the longitudinal and lateral ſinuſes.
E Some of the ſtrong tranſverſe ligaments ſituated within the lateral ſinus.
F F Termination of veins of the brain in the ſuperior longitudinal ſinus.
G G That part of the dura mater which adhered ſtrongly to the lambdoidal ſuture.
H The medulla oblongata going out through the foramen magnum occipitis.
I The cerebellum covered with the dura mater.

FIGURE III.

A Part of the ſuperior longitudinal ſinus opened.
B B The veins of the brain running towards the ſinus.
C C Their terminations within the ſinus.

FIGURE IV.

A view of the poſterior and lateral parts of the Dura Mater, &c.

A A The poſterior and lateral part of the dura mater covering the brain; various branches of blood-veſſels are ſeen running upon it.
B B The os petroſum turned back.
C Part of the os occipitis ſeparated from the cranium.
D The left lateral ſinus opened.—In this the ligaments expreſſed in Fig. 2. E, are ſeen.
E The ſpecus or cavity in the temporal bone, which receives the varicoſe part of the lateral ſinus, or beginning of the internal jugular vein.
F The internal jugular vein, repreſented too ſmall.
G A probe introduced by the ſinus into the vein.
H The varicoſe part of the ſinus mentioned above.

FIGURE V.

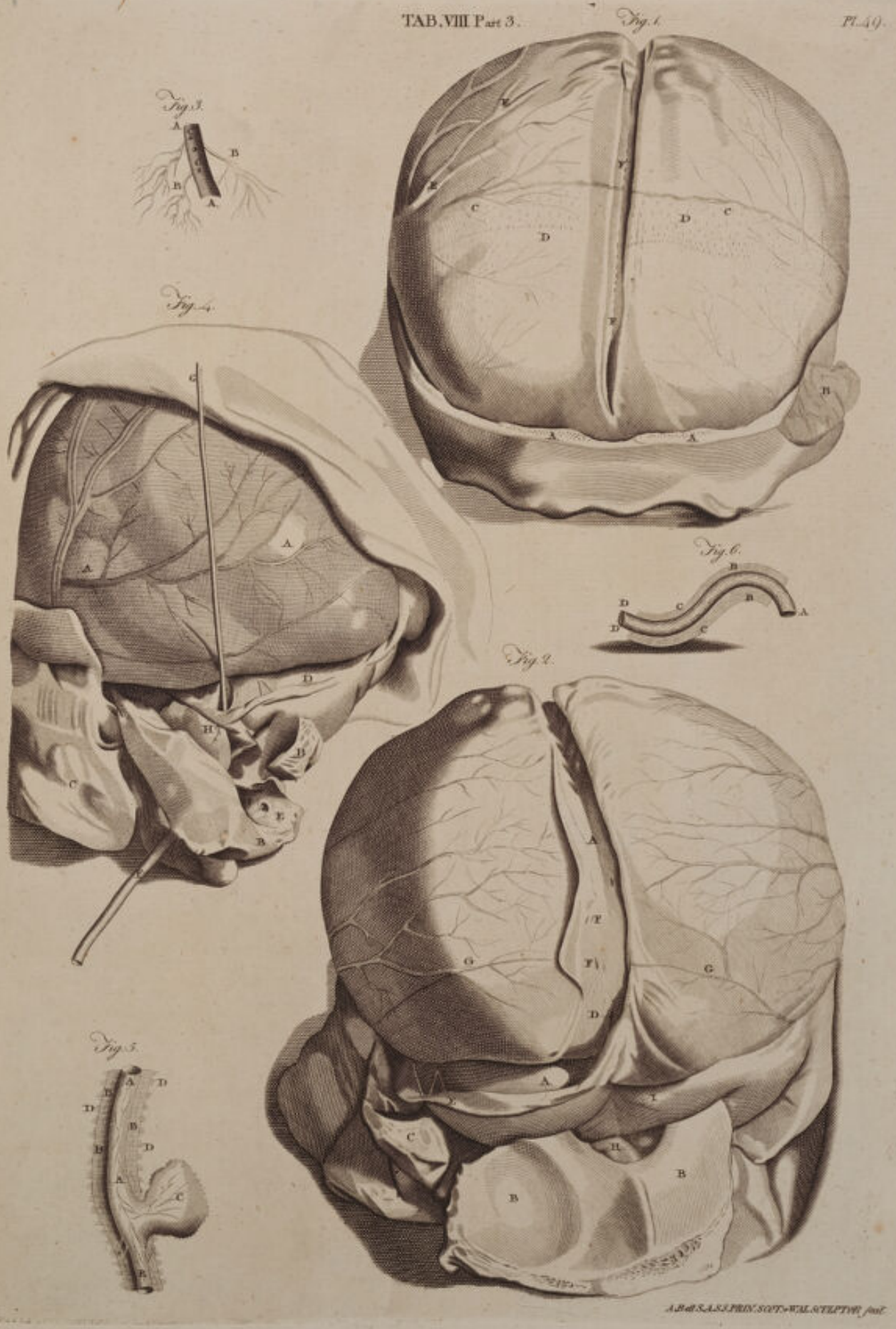
Repreſents the termination of the Lateral Sinus, and beginning of the internal Jugular Vein.

A A Part of the lateral ſinus.
B B The dura mater which covered the ſinus cut open and expanded.
C The varicoſe part of the ſinus which lay in the ſpecus of the temporal bone.
D D D The filaments of the dura mater broken off.
E The beginning of the internal jugular vein.

FIGURE VI.

The courſe of the internal carotid artery through the baſe of the cranium.

A The artery paſſing towards the brain.
B C Part of its membrane received from the dura mater, ſeparated and turned back.
D D The lower part of the artery next the heart.



A. Bell S.A.S.I. PRIN. SCUL. - W. ALSO STEPTOE fecit.

TAB. IX. Part 3.

Pl. 30

Fig. 1.

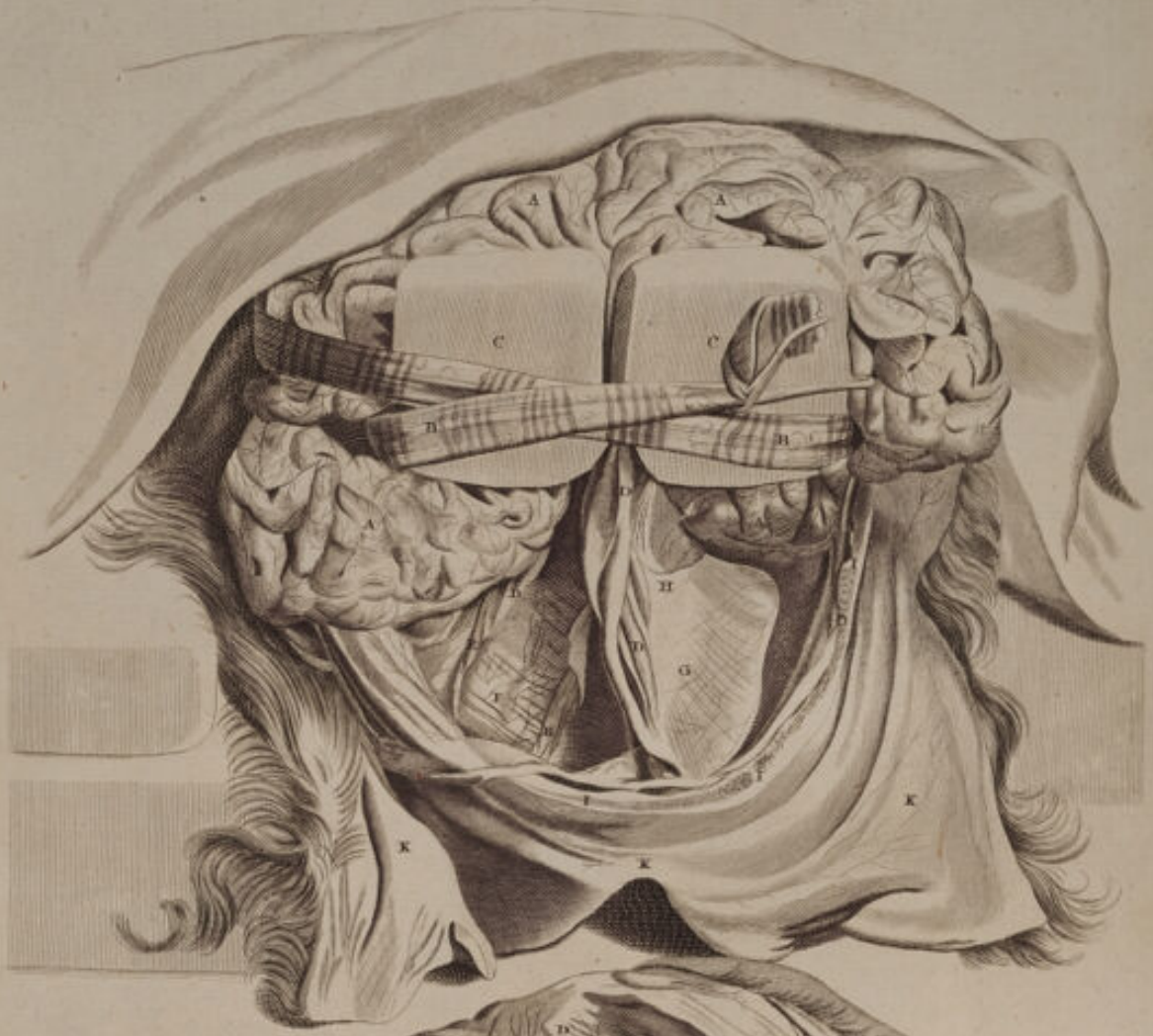


Fig. 2.

A. Bell. F.A.S.S.P.R.S.N.A.F. Wil. Sculp. Fec. et Sc.

THE

Ninth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE back-part of the Brain, and upper part of the Cerebellum.

A A The posterior lobes of the brain raised and drawn forwards.
B C Ligatures and pieces of wood supporting the brain in this position.
D D Folds of the dura mater.
E E The left lateral process of the dura mater cut, to show
F The cerebellum.
G H The right lateral process covering the corresponding part of the cerebellum.
I I I The cut edge of the os occipitis.
K K The common integuments of the head.

FIGURE II.

The Cerebellum raised from its cavity in the Occipital Bone.

A A The cerebellum drawn towards the sella turcica.
B B The back-part of the medulla oblongata in its passage through the foramen magnum occipitis.
b The processus vermiformes of the cerebellum.
C C C Roots of the eighth, ninth, and part of the tenth pair of nerves.
a a The accessory nerves accompanying the eighth pair, at their egress.
D D, &c. The dura mater.
E E, &c. The edge of the skull.
F F The integuments dissected.
G Part of the pericranium raised.
H The left-ear.

THE

THE

Tenth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

VIEWS of the Brain and Dura Mater.

FIGURE I.

The Falx and ſome other parts of the Dura Mater dried.

A A The falx ſupported ſo as to ſhow its figure and extent.
B B The ſuperior longitudinal ſinus opened.
C The ſituation of the inferior longitudinal ſinus.
D D Veins running to, and their ſituation in the ſuperior longitudinal ſinus.
E The beginning of the ſuperior longitudinal ſinus at the criſta galli.
F F The left lateral ſinus.
G G Part of the tentorium which lies between the brain and cerebellum.
H H, &c. Inſtruments uſed to ſupport the membrane in drying it.

FIGURE II.

Parts of the above-mentioned Sinuſes diſtended; but they are repreſented much ſmaller than nature; nor is their ſituation, with reſpect to each other, properly attended to.

A The longitudinal ſinus.
B B The two lateral ſinuſes.
C The fourth ſinus, or Torcular Herophili.
D A large vein which terminates in the union of the ſinuſes. At the ſides of the ſinuſes, the dura mater is ſpread out.

FIGURE III.

The connection of the Falx with the Criſta Galli of the Œthmoid Bone.

A The cribriform plate of that bone.
B The criſta galli.
C The beginning of the falx adhering firmly to the criſta galli.

FIGURE IV.

The Falx dried.

A The fore-part of the falx.
B The back-part.
C The lower part, where the inferior longitudinal ſinus is ſituated.
D D Veins of the brain running to the ſuperior longitudinal ſinus.
E The triangular appearance of this ſinus when cut acroſs.
F Part of the dura mater which covered the left hemiſphere of the brain. The continuation of this part is ſeen farther back, ſupported upon the uppermoſt pins.
G G The dura mater covering the upper part of the ſuperior longitudinal ſinus.

FIGURE V.

A view of the upper part of the Brain and Cerebellum, after being removed from the head, and laid upon their baſis.

A A The two hemiſpheres of the brain.
B B The cerebellum covered with the dura mater.
C The proceſſus vermiformis.
D The medulla oblongata cut acroſs.
E F The fiſſure between the hemiſpheres where the falx is ſituated.
G G Part of the tunica arachnoides and pia mater ſeparated, and turned to one ſide.
H H I I K K L The ſurface of the brain divided into various convolutions, and theſe covered by the pia mater, and tunica arachnoides, upon which numerous blood-veſſels are ſpread. The largeſt of theſe are veins, the trunks of which are ſeen running towards the ſuperior longitudinal ſinus, which is here ſeparated.
M M Blood-veſſels of the pia mater.

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A.B.HS.A.E.S.PRIN.SVT.&.WIL.SCVLPTOR fecit.

Fig. 1.

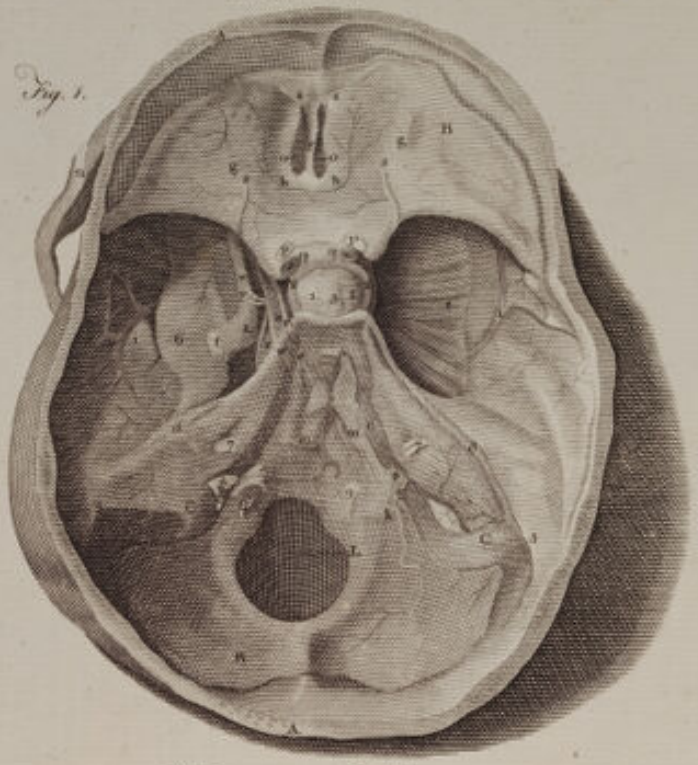
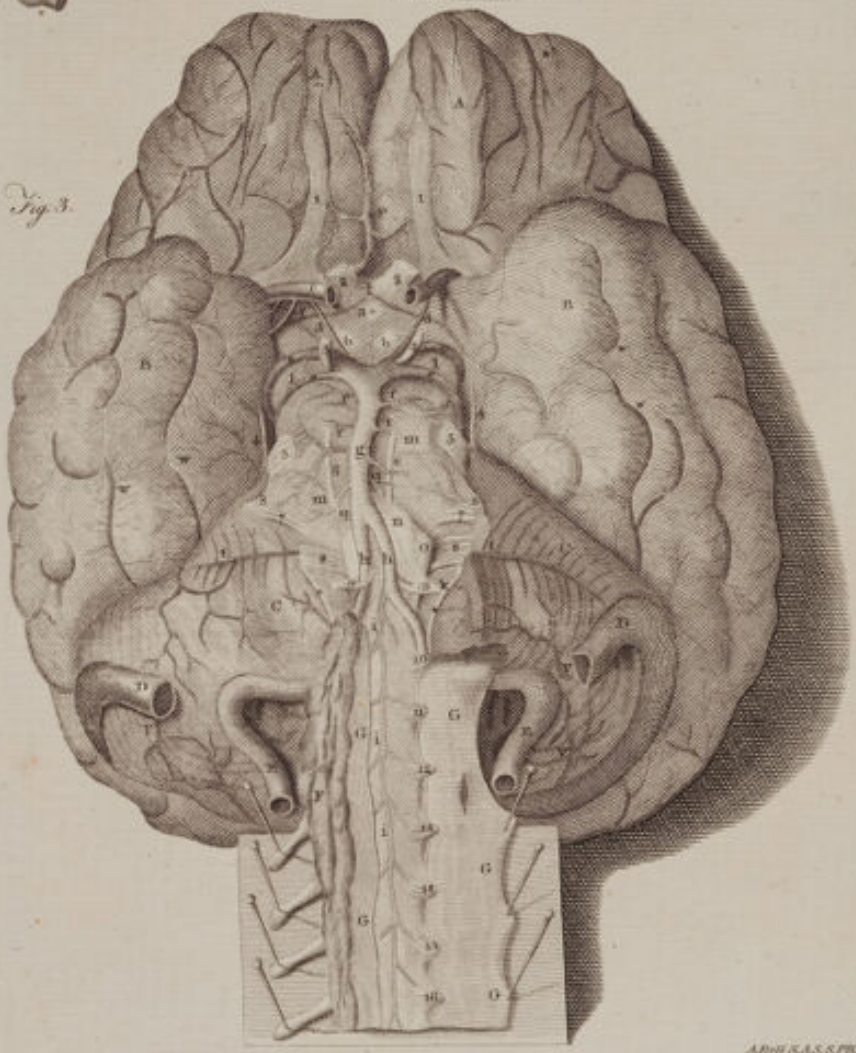


Fig. 2.

Fig. 3.



A. Bowie R.A.S.S. Phil. Soc. Del. & Wilson Sculp. Edin. fecit.

THE

Eleventh Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

INTERNAL surface of the basis of the Cranium, with the Dura Mater lining it, represented immediately after the Brain was taken out; the Blood-vessels having been previously injected with wax.

A A The cut edge of the skull.

B B The dura mater adhering to the base of the skull.

C C The two lateral sinuses filled with wax in the course of their passage to their egress at the base of the skull.

d d The two superior petrosal sinuses, which communicate between the circular sinus 2 2, and lateral sinuses.

e e Two inferior petrosal sinuses, which also discharge themselves into the two lateral ones at their egress.

f The *Crista Galli*, or middle process of the œthmoid bone.

g g Several blood-vessels of the dura mater.

h h The anterior arteries of the dura mater.

i i The middle or principal arteries of the dura mater. After these arteries enter the skull, their larger branches lie on the exterior surface of the dura mater, and run in furrows on the internal surface of the cranium.

k The third branch of the arteries of the dura mater, which enters the cranium where the eighth pair of nerves pass out.

L The foramen magnum of the os occipitis, through which the medulla oblongata passes to the spinal canal.

m m Some veins of the dura mater which communicate with the inferior petrosal sinuses.

n Part of the zygoma.

o o The os œthmoides, through which the olfactory nerves pass out of the cranium.

p p The optic nerves cut off at their egress.

q q The large branches of the carotid arteries cut off at their entrance into the cavity of the skull.

r One of the nerves of the third pair on the left-side, dissected from the duplicature of the dura mater, in which it passes before it goes out of the skull with the following pair.

s s The fourth pair of nerves freed from the above-mentioned duplicature, and turned back at their passage through the foramen lacerum of the os sphenoides.

t t The fifth pair of nerves expanded before its division into three branches. On the opposite side its trunk is entire.

v The first branch of the fifth pair of nerves on the left-side, before it passes out of the cranium.

w The nerve of the sixth pair on the left-side, disengaged from the duplicature of the dura mater, in which it is inclosed for a considerable way before it accompanies the third, fourth, and anterior branch of the fifth pair of nerves, at its egress.

x The intercostal nerve of the left side, formed of two branches from the fifth pair, (as represented by Cowper), and united with the body of the sixth.

y The two branches of the fifth pair of nerves, which contribute to the formation of the intercostal nerve.

z z The contortion of the carotid artery near the sella turcica.

1 1. The pituitary gland situated in the sella turcica.

2 2. The circular sinus or vein surrounding the pituitary gland.

3. The infundibulum.

4 4. Two arteries which pass out of the cranium to the glandular membranes of the foramina narium, and adjacent parts.

5 5. The bended portions of the lateral sinuses, as they pass that part of the cranium where the ossa temporum, os parietale, and os occipitis, meet.

6. Part of the dura mater raised, and turned to a side, to shew the progress of the third, fourth, fifth, and sixth pair of nerves.

7 7. The portio mollis and portio dura of the auditory, or seventh pair of nerves, entering the os petrosum.

8 8. The eighth pair of nerves, or par vagum, together with the accessory nerves (♀ ♀) accompanying them at their egress.

FIGURE II.

The Trunk of the Fifth Pair of Nerves, with its ganglion, and division into three branches.

A The trunk.

B Its ganglion.

C D E Its first, second, and third branches.

FIGURE III.

The basis of the Brain, with the large trunks of its arteries and veins injected with wax; some of their branches being freed from the Pia Mater, together with the Ten Pair of Nerves of the Brain, and a portion of the Spinal Marrow, &c.

A A The anterior.

B B The lateral lobes of the brain.

C C The cerebellum.

D D The two lateral sinuses cut off, where they pass through the base of the cranium.

E E The trunks of the vertebral arteries as they pass the transverse processes of the first vertebra of the neck, in

their winding progreſs through the foramen magnum of the occipital bone to the medulla oblongata and brain.

F The vertebral ſinus or large vein, in the external membrane of which the wax is extravaſated, whence it appears with an unequal ſurface, as here expreſſed.

G G G G G Continuation of the dura mater divided longitudinally, one ſide lying on the medulla ſpinalis, the other raiſed and pinned out.

a The mouth of the infundibulum.

b b Two white protuberances behind the infundibulum, commonly called Corpora albicantia.

c c The trunks of the internal carotid arteries cut off, before they reach the brain.

d d Two communicating branches between the carotid and vertebral arteries, forming a part of the circle of Willis.

e e e e The diviſions of the vertebral artery ſupplying the cerebellum, &c. From the anterior of theſe, chiefly ariſe the arteries of the choroid plexus;—from the two poſterior ariſe theſe branches which go to the choroid plexus of the fourth ventricle of the brain.

f Two ſmall branches of the carotids.

h h The two trunks of the vertebral arteries which form the baſilar artery.

i i The ſpinal artery not diſtended like the reſt.

k A ſmall branch of an artery running between the faſciculi of the nerve of the ninth pair, on the right-ſide, near their origin.

l l Portions of the crura of the medulla oblongata, immediately before they meet at their conjunction under the Pons Varolii.

m m The annular protuberance, or Pons Varolii.

n That part of the medulla oblongata on the left-ſide, called Corpus pyramidale.

o That part on the ſame ſide, called Corpus olivare.

p A branch of the carotid arteries which paſſes between the two anterior lobes of the brain, from whence ſome ſmall branches go off, which accompany the olfactory nerves at their egreſs through the cribriform bone.

q q Small branches from the baſilar artery running under the pia mater, which covers this part, and ſometimes proceeding further to the choroid plexus in the fourth ventricle and cerebellum.

r r r r Other branches paſſing into the tuber annulare.

s s The two firſt medullary proceſſes of the cerebellum, which are continued to the tuber annulare, and ſeem to form part of it.

t t Veins on the cerebellum, the progreſs of which differs much from thoſe of the brain itſelf.

v v v Other veins variouſly diſtributed over the cerebellum, which empty themſelves into the lateral ſinuſes.

w w w w The *falci* of the brain, in which large branches of veins, and ſometimes of arteries, may be ſeen.

x x x Their capillary branches as they appear under the pia mater on the external ſurface of the brain.

From 1 to 10. The ten pair of nerves of the brain.

From 11 to 16. Six of the cervical nerves.

* * The acceſſory ſpinal nerves, as they aſcend under the vertebral arteries to the eighth pair.

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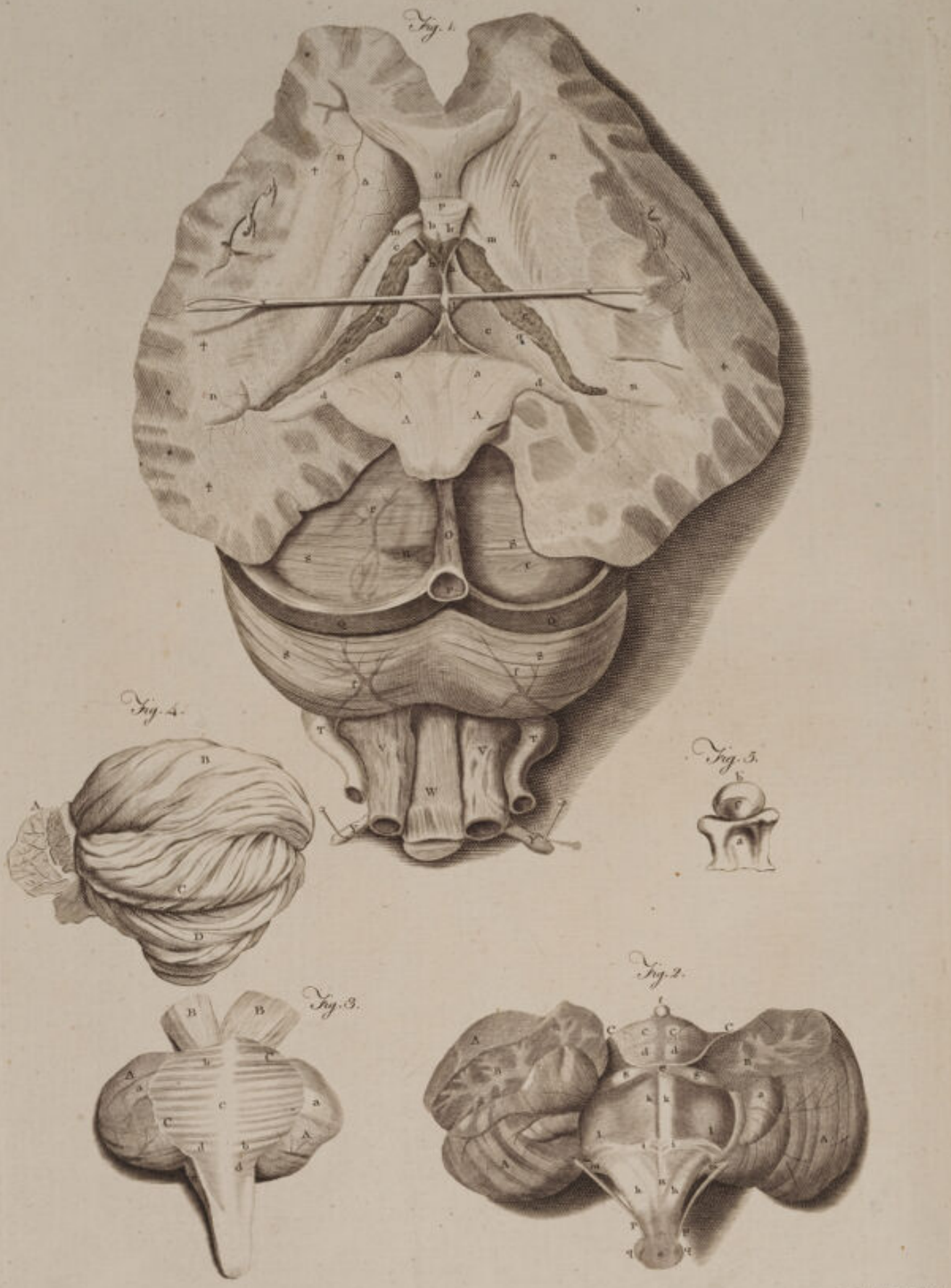

A Bell R.A.S.A.S. PRINT. SCUPT. & WAL. SCULPTOR

THE

Twelfth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE Brain lying on its base, after its two Hemispheres are cut off, and the arteries and veins injected with wax; the Cerebellum remaining entire.

A A The inferior part of the fornix cut off from its roots b b, and turned back, part of the corpus callosum remaining on it.

a a Blood-vessels appearing on this surface of the fornix.

b b The roots of the fornix.

c c The thalami optici, or origin of the optic nerves.

A A The corpora striata, that of the left side remaining entire, the right being divided, to shew its *striæ*.

d d The crura of the fornix, where they begin to wind down on the sides of the crura medullæ oblongatæ.

e e The choroid plexus, the arteries of which arise from the first branches of the vertebral artery.

f The meeting of the plexus, at the root of the fornix, where its two veins pass to the other part of it, g g.

g g The other part of the choroid plexus, the arteries of which arise from the second branches of the vertebral artery, joined with the first by communicating branches, which are not seen here, as they lie under the crura fornicis, d d.

h h Two veins which arise from the upper parts of the choroid plexus, and pass the third ventricle to the other part of the same plexus, g g, near the nates and testes.

i i i i i i Branches of the carotid arteries cut off, as they appear injected with wax, and passing between the cortical foldings of the brain.

k A branch of a vein running along the corpus striatum of the left side, and discharging itself into the veins of the choroid plexus, the left being removed to shew the striæ.

l Part of the *rima* of the third ventricle, which appears under the vein, h.

m A long medullary tract between the corpus striatum and optic thalamus, called by Willis *Processus medullaris transversus*.

n n n n The *Centrum ovale* of Vieussens.

o That part of the corpus callosum, called the Fornix vera, between which and the fornix, p, is placed the septum lucidum, dividing the anterior part of the right ventricle of the brain from the left. This septum is a continuation of the internal membrane which invests the two lateral ventricles.

O The fourth sinus of the dura mater, called Torcular Herophili, filled with wax.

P The longitudinal sinus cut off, where it meets the two lateral sinuses.

Q Q The two lateral sinuses also distended with wax.

R A vein filled with wax, on the tentorium cerebelli.

r Some branches of veins as they appear on the tentorium, or second process of the dura mater.

p The fornix cut off near its two roots.

q q A supposed appearance of lymphatics upon the choroid plexus.

S S S S The cerebellum covered with the second process of the dura mater on the upper, and with the dura mater itself on the under part.

f f Some branches of veins which appear on the dura mater, covering the back part of the cerebellum, differing in their course from those subjacent vessels on the pia mater, which are immediately distributed on the cerebellum itself, and appear faintly in those strokes running somewhat parallel with the lateral sinuses.

T T Parts of the vertebral arteries.

V V The vertebral sinuses, on which the wax appears extravasated.

W W The posterior part of the medulla oblongata covered with the dura mater.

X X A probe supporting the large veins of the choroid plexus in the third ventricle of the brain.

† † † The medullary part of the brain.

* * * The cineritious part.

FIGURE II.

The back part of the Cerebellum cut through, and reclined laterally,—with a portion of the Spinal Marrow.

A A A The cerebellum covered with the pia mater only, where its circular furrows, in which its large blood-vessels pass, are expressed, together with several ramifications of blood-vessels, which decussate those of its furrows, as they pass under the pia mater.

B B Distribution of the branches of the medullary part of the cerebellum, as it appears when divided.

C C The fourth pair, or two pathetic nerves, near their origin.

c c The nates.

d d The testes, on the surface of which blood-vessels appear distributed under the pia mater.

f The pineal gland.

g g The first processes of the cerebellum passing to the nates.

e The transverse process uniting the two first processes of the cerebellum, from whence the pathetic, or fourth pair of nerves arise.

h h The third or cordal processes arising from the cerebellum, and descending on both sides of the medulla oblongata.

i i Some striæ appearing in the fourth ventricle of the brain, and

and which contribute to the formation of the medullary trunks of the auditory nerve.

k k l l n The fourth ventricle opened.

o Origin of the medulla ſpinalis.

p p The acceſſory nerves.

q q Thoſe parts of the tenth pair of nerves which ariſe from the poſterior part of the medulla ſpinalis.

m m Parts of the eighth pair of nerves, where they meet the acceſſory nerves.

FIGURE III.

A A Part of the cerebellum.

B B The crura of the medulla oblongata cut off from the brain.

C C The tuber annulare divided through the middle, its external ſurface being cut off.

b b Cineritious and medullary ſtriæ which appear in this ſection of the tuber annulare.

c The middle medullary tract to which the lateral ſtriæ run.

d d The cineritious part of the medulla oblongata under the corpora pyramidalia: In this ſection the corpora olivaria are divided.

e The left cordal proceſs partly in ſitu.

FIGURE IV.

Repreſents one of the hemiſpheres of the Cerebellum expanded in two or three places, to ſhew the deep circles of which its ſurface is compoſed.

A Portion of the ſection by which this hemiſphere of the cerebellum is divided from the other.

B C The ſurface of two deep circles, which in the natural ſtate are in contact, but which are here ſeparated, that thoſe ſegments of circles into which they are diſtributed may appear, and to ſhew how ſome of theſe are intermixed, and others extended from one of theſe ſurfaces to the other.

D The ſurface of the other circle, in which the ſegments of the circles appeared with more elegance, and more parallel one to another, than is here expreſſed.

FIGURE V.

Shews the Poſterior Surface of the Sella Equina viewed anteriorly, with the Pituitary Gland removed from its place.

a Poſterior ſurface of the ſella, concave in the middle.

b Pituitary gland, with its appendix, taken from the ſella, and inverted.

c Appendix of the pituitary gland.

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Fig. 1.

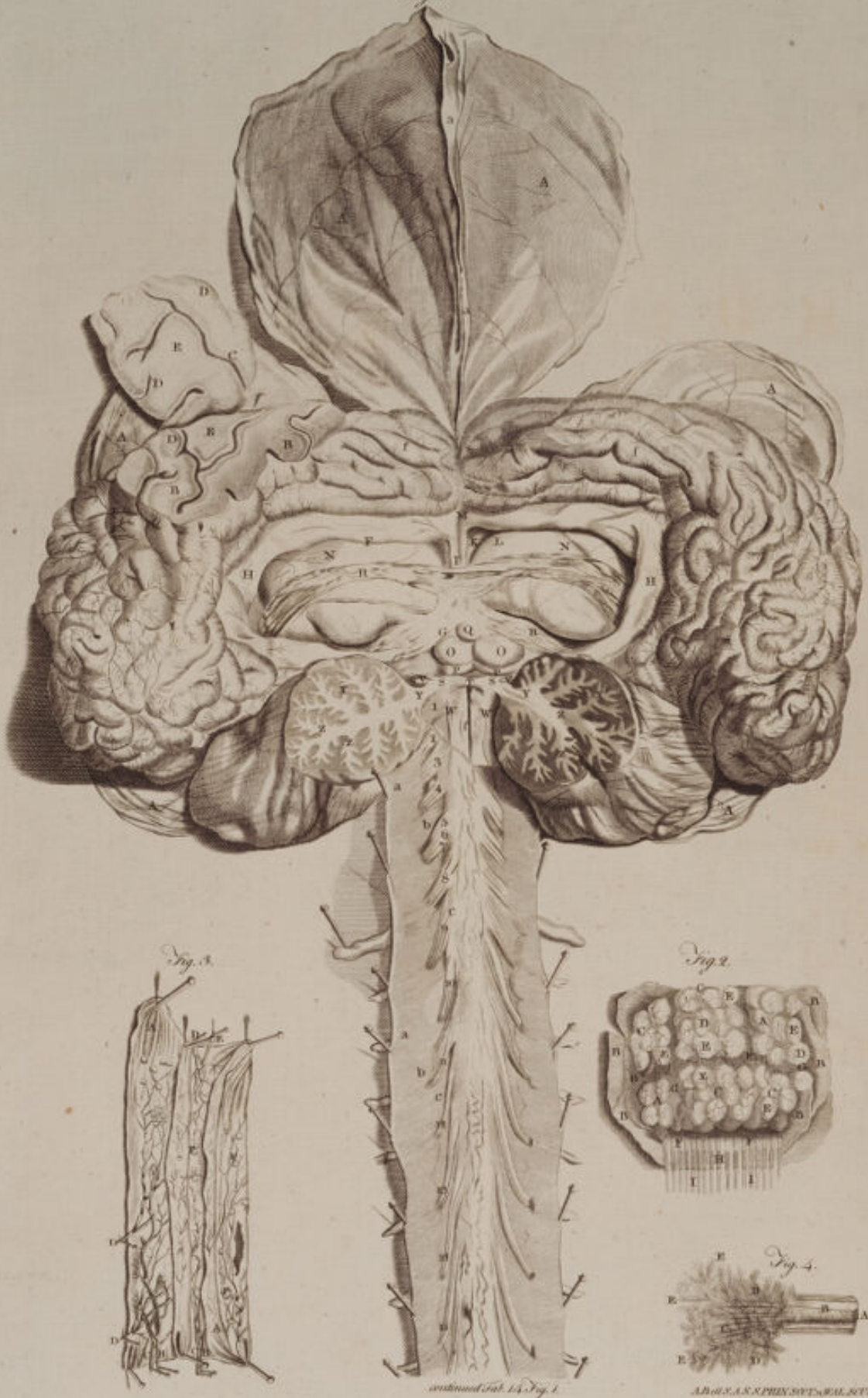


Fig. 3.

Fig. 2.

Fig. 4.

continued Tab. 14. Fig. 1.

A. Bell S.A.S.S. PRINS. SCULPT. SCAL. SCULPTOR, fecit.

THE

Thirteenth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

A VIEW of the Brain, Spinal Marrow, &c. ſeparated from the Bones.

A A The dura mater cut and turned forwards.
a a Part of the falx.
B B Part of the brain cut tranſverſely.
C Separation of the convolutions from each other.
D D The cortical or cineritious part of the brain.
E E The medullary part.
f f The back-part of the brain which was ſupported by the tentorium.
F G H The two lateral ventricles opened; where the blood-veſſels of the pia mater which line them may be ſeen.
F Their large upper and fore part.
G Their ſmall under and back part.
H H The corpus calloſum.
I K The roots of the fornix.
L The right thalamus nervi optici; the left not being *lettered*.
M The corpus tranſverſale of the corpus calloſum.
N N The corpora ſtriata.
O O The nates.
P P The teſtes.
Q The glandula pinealis.
R The plexus choroides.
S S The firſt proceſſes of the cerebellum going to the nates.
T A tranſverſe proceſs joining the fourth pair of nerves and laſt mentioned proceſs.
s The fourth ventricle.
V V The pathetic, or fourth pair of nerves.
W W Two proceſſes of the ſpinal marrow which compoſe the ſides of the fourth ventricle.
X Y Z The arbor vitæ, or medullary part of the cerebellum, ſhewn by a perpendicular cut through that ſubſtance.
a b, a b, &c. The dura mater which incloſes the ſpinal marrow, ſlit open and turned back.
c c The pia mater adhering to the dura mater, and incloſing the medulla ſpinalis, but raiſed on a probe, where it inveſts the cauda equina.——See Tab. XIV.
1 2 3, &c. The origin of the ſpinal nerves and their paſſage through the dura mater. The firſt of theſe paſſes out between the os occipitis, and firſt vertebra of the neck—and is reckoned the tenth of the brain: The reſt go out between the vertebræ of the neck, back, loins, and perforations of the os ſacrum, ſucceſſively.

FIGURE II.

A A Part of the brain boiled, and viewed through a microſcope.
B B The three membranes of the brain ſeparated.
C D The diſtribution of the blood-veſſels.
E E A granulated appearance on the ſurface of the brain.
F F What have been conſidered as tubes derived from theſe.
H H Complicated tubular appearances.
I I Nervous fibres ariſing from theſe.

FIGURE III.

Part of the Choroid Plexus delineated by the help of a magnifying glaſs.

A A The membranes which incloſed the veſſels ſeparated.
B C The blood-veſſels injected.
D D An appearance of lymphatic veſſels ſomewhat diſtended with air.
E Nervous tubuli, as deſcribed by *Bidloo*, but not obſerved by other Anatomiſts.
F F Veſicular bodies which have been conſidered by ſome as glands.

FIGURE IV.

A Nerve as viewed through a microſcope.

A A branch of one of the cervical nerves.
B The blood-veſſels paſſing in the nervous fibrillæ.
C D E The fibres into which the nerve divides at its termination.

THE

Fourteenth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

Is a Continuation of Fig. First, Plate Thirteenth.

FIGURE II.

A Portion of the Medulla Spinalis cut in a longitudinal and lateral direction, and expressed somewhat larger than nature.

A A D D The upper part of the spinal marrow.
B B The fore and back part.
C C The nervous fibrillæ arising from the fore and back parts.
E E Portions of the dura mater left to show the passage of the nerves through it.
F F F Ganglia formed by the nerves at their egress from between the vertebræ.—Beyond the ganglia, the trunks of the nerves are seen.

FIGURE III.

A Portion of the Medulla Spinalis cut off about the third Vertebra of the Back.

A The upper part.
B B The dura mater expanded.
C C The nervous fibrillæ arising from the fore and back parts of the spinal marrow.
D The nervous fibrillæ collectively passing through the dura mater.
E One of the ganglia at the beginnings of the nerves.
F A section of the spinal marrow.
G Some vestiges of blood-vessels on the outside of the spinal marrow.

FIGURE IV.

A Portion of the Medulla Spinalis taken out of the Vertebræ of the Back, together with its membranes.

A A The back part of the spinal marrow.
B B C The sheath which lines the spinal canal, raised and supported by a probe.
D D The dura mater which lies within the sheath, and covers the spinal marrow.
E E E Various fatty substances which are situated between this sheath and the dura mater.
F F, &c. The spinal nerves passing through the dura mater.

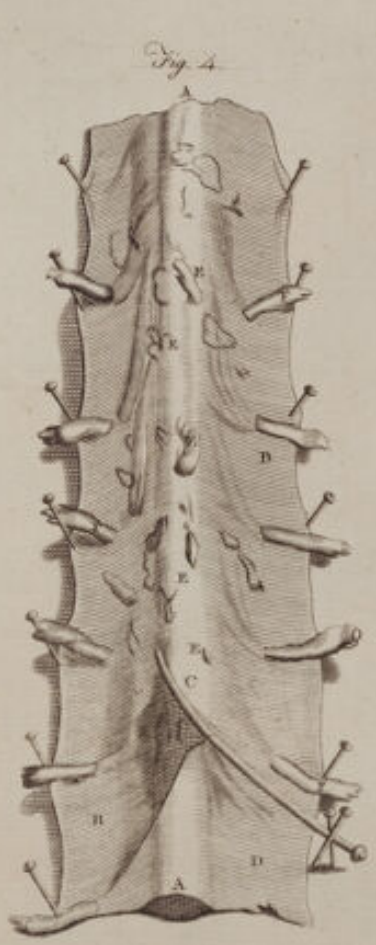
FIGURE V.

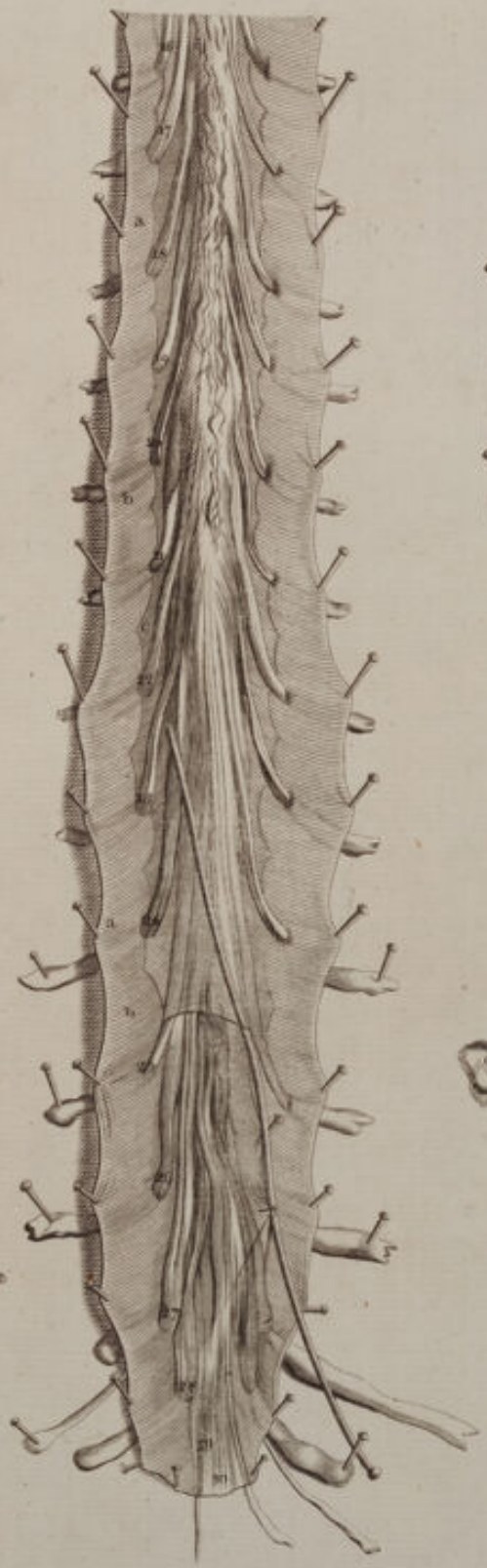
The Inferior Surface of the first Vertebra of the Thorax.

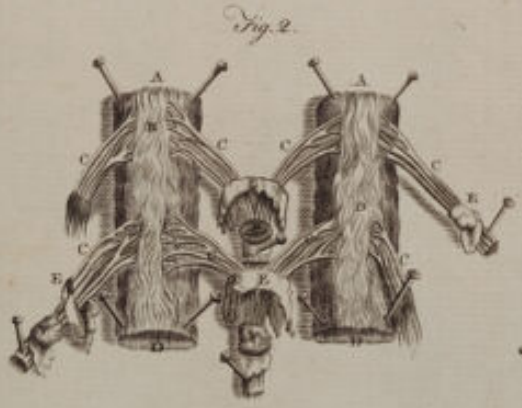
A Its spinous process.
B B Its oblique or articulating process.
C C The transverse process.
D The body of the vertebra.
E The great foramen for the passage of the spinal marrow.
F F Fatty mucilaginous substances which are continued through the whole of the spinal canal.

THE

Continuation of Fig. 1. Tab. 13.

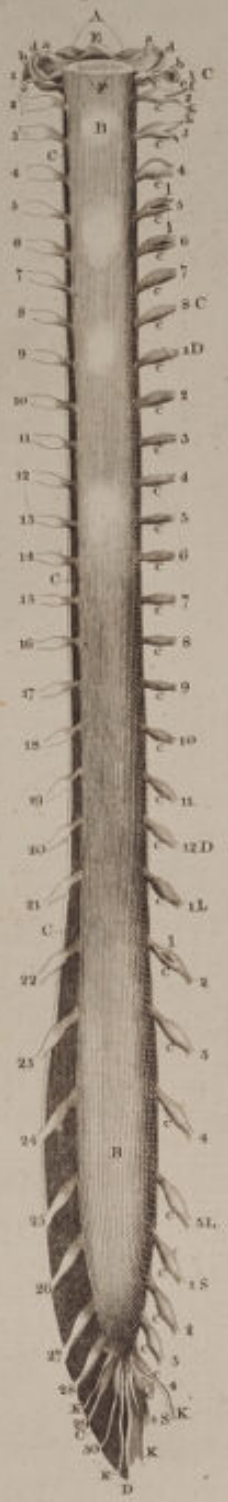






ABR. RAMSBOTTOM, SCUL. WM. SCLATER, Sculp.

Fig. 1.



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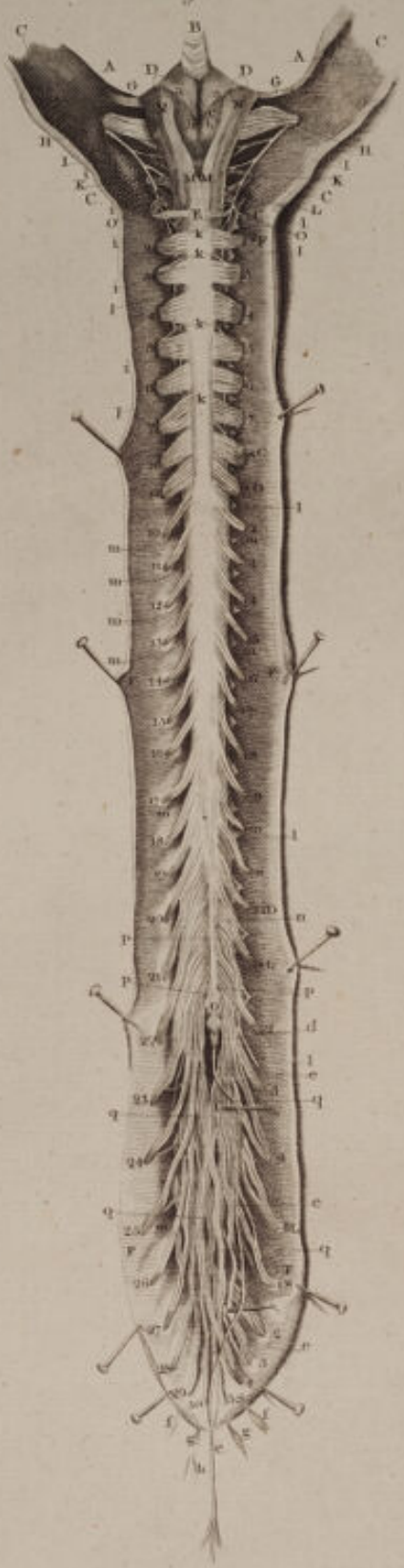


Fig. 3.

Adam & A.S.A. Fraucourt sculp. Wm. Nesbitt fec. & del.

THE

Fifteenth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

VIEWS of the Spinal Marrow and its Membranes.

FIGURE I.

Represents the Spinal Marrow, or rather production of the Dura Mater, investing the Spinal Marrow and its nerves, as in its natural situation; together with the whole Vertebral Nerves, their direction, situation, and natural size in the specus of the vertebræ; viewed posteriorly.

A Anterior portion of the first vertebra, raised a little obliquely.

a a Its articular *surfaces*.

b b Its transverse processes, with their foramina.

B B Covering of the spinal marrow, produced from the dura mater, continued from the os occipitis to the middle of the os sacrum, nearly resembling a sac.

C C Cavity or interstice within the osseous sheath of the dura mater.

D Ligament going from the bottom of the sac of the dura mater, and descending in a straight direction among the undermost nerves to the os coccygis, into which it is inserted. The ancients considered this as the *nervus impar*.

E The processus dentatus of the second vertebra.

F Spinal marrow dissected at its origin.

1 to 30. All the spinal nerves of the left-side, with their ganglia.

1 C to 8 C Eight cervical nerves of the right-side.

1 D to 12 D Twelve dorsal nerves.

1 L to 5 L Five lumbar nerves.

1 S to 5 S Five nerves of the os sacrum.

c c, &c. Thirty pairs of ganglia, varying according to their various situation, exactly corresponding to each other on each side; those on the right-side only being marked with letters.

d Branch of the nerve of the first pair, not much smaller than the anterior, winding in its small sinus, near the articular sinus or surface, and proceeding forwards.

e Another branch of it going backward towards the neck.

f Large branch of the nerve of the second pair, which goes backward, and a small one g, going forward.

h Large branch of the ganglion of the third pair, which proceeds forward to the neck.

i A smaller going to the spine.

k k Four filaments or ligaments going from the lower apex of the dura mater, two on each side, and inserted into the adjacent bones.

l l l Foramina in the ganglia themselves, or between them, for the passage of the vessels within the osseous sheath, frequently observed in these places.

FIGURE II.

The Second Figure also viewed posteriorly, like the First, represents part of the Medulla Oblongata, situated in the under Base of the Cranium, and shows the whole Spinal Marrow produced from it, in situ, and in its natural connection within the sheath of the vertebræ, (which however cannot be seen), and stripped of all its coverings, except the Pia Mater. Where it is to be observed, that the hind-part of the Occipital Bone, as far as the passage of the Vertebral Artery, and its associate nerve, as also the hind-part of the Vertebræ, are removed;—the Anterior Portion of the Os Occipitis, and a Portion of the Os Petrosum, is seen, a little raised and turned backward. The Lobes of the Cerebellum, with the Vermiform Process, are inclined forwards, that the Fourth Ventricle, and parts adjacent to it, may be more conveniently seen and pointed out.

A A The space which the reclined lobes of the cerebellum, and their vermiform process,

B Rudely expressed, occupy.

C C C C Portions of the os petrosum and os occipitis, covered with dura mater.

D D Part of the medulla oblongata from which the spinal marrow descends in a continued series.

a a White medullary striæ arising from the furrow of the fourth ventricle, and proceeding, on both sides, to the nervus mollis of the seventh pair.

b b Fourth ventricle.

c c Its longitudinal furrow continued with the Rima calami scriptorii.

E E Spinal marrow.

d Its two eminences, almost circular, in which the lower apex of the medulla terminates, which are wholly smooth, sending off no nervous filaments.

e e A ligament produced from the lower apex of the pia mater, with blood-vessels, which are not here expressed, proceeding over the middle of the cauda equina, and perforating the lower apex of the dura mater, and thus resembling the nervus impar, and at last dispersed over the os coccygis, where it terminates. It is raised by pins, that it may be more distinctly seen.

f f Ganglion of the twenty-ninth pair of nerves.

g g Ganglion of the thirtieth pair, from which, on the left-side, besides the nerve of the same number, another

small

ſmall nerve goes off, marked h, which forms a peculiar ganglifform excreſcence.

F F Sheath of the ſpinal marrow produced from the dura mater, here diſſected through the middle, turned to each ſide, and extended by the help of the pins.

G G Nerve of the ſeventh pair.

H H Nerve of the eighth pair, having a double foramen in the dura mater on the right-ſide; on the left, one.

I I The acceſſory nerve from its firſt origin between the poſterior filaments of the ſixth and ſeventh nerve, expreſſed more diſtinctly on the left-ſide than on the right, as far as its exit through the dura mater.—On the left-ſide it paſſes under a peculiar foramen of the dura mater, on the right it takes a common courſe with the inferior filaments of the nerve of the eighth pair.

Oppoſite to i i are its ſmall roots.

k k Nervous communicating filaments, paſſing obliquely from the lower part of the filaments of one nerve, to the upper part of the filaments of another.

K K Nerve of the ninth or laſt pair of the brain, conſiſting on both ſides of four filaments, which unite on the right-ſide, and paſs under the common foramen of the dura mater; but on the left they paſs through two diſtinct and ſeparate foramina.

L Origin of the denticulated ligament, or its firſt adheſion to the dura mater, after which all its teeth, l—l, are ſeen ſucceſſively inſerted at the interſtices of the nerves of the dura mater, repreſented only on one ſide.

M M Corpora pyramidalia poſtica, } not well expreſſed.
N N ——— olivaria poſtica, }

O O Vertebral arteries paſſing out of their foramina with nerve 1 P. (1 C.)

m m Nervous filaments coming from the anterior ſurface of the medulla, and entering along with the poſterior ones, the foramina of the dura mater, to be ſeen here and there, expreſſed only in part.

n Place where the nervous filaments begin to unite, and the baſe of the cauda equina is formed. There the remaining portion of the medulla is no longer ſeen in ſitu.

o Place where nervous filaments ceaſe to ariſe.

p p Origin, from the ſpinal marrow, of the filaments which form the cauda equina. Theſe filaments are turned back a little on both ſides, to ſhew the nature and form of the medulla concealed in the middle.

q q q Cauda equina.

1 to 30. Poſterior origins of the thirty vertebral nerves, and their exit from the dura mater.

1 C to 8 C Nervous filaments of the eight cervical nerves.

1 D to 12 D, and 1 L to 5 L, alſo 1 S to 5 S, as in the former figure.

FIGURE III.

Figure Third preſents a Portion of the Spinal Marrow, taken from the upper part of the Back, and viewed from the anterior ſurface, correſponding to the Bodies of the Vertebræ.

A Ligament produced from the pia mater, and inſerted into the medullary ſubſtance.

B B Eminences ſomewhat reſembling a ſilk-worm.

C C Anterior origins of the ſpinal nerve, where ſeveral ſmall twigs form two filaments for each nerve.

D The medulla cut tranſverſely, where the medullary or white portion E is ſeen within the circumference, and the figure and ſize of the cineritious ſubſtance is ſhown in the centre F.

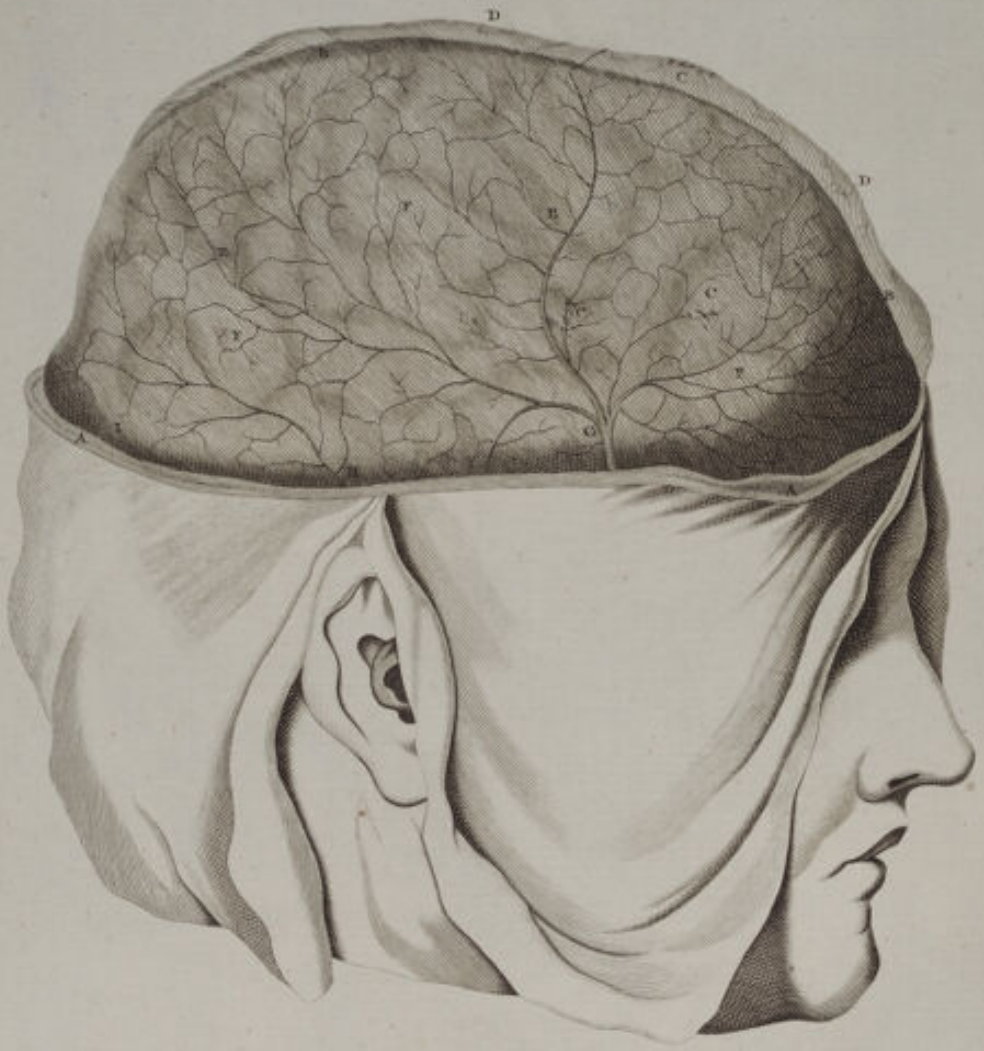
THE

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 1.



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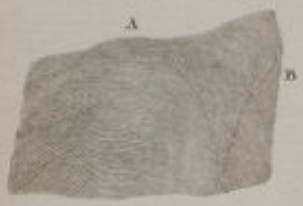

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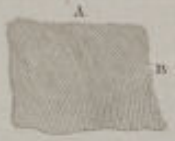


Fig. 7.

A. Dick Phin. Med. Sculptor, fecit.

THE

Sixteenth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

REPRESENTS the Dura Mater, the upper-part of the Skull being removed.

A A The cut edge of the cranium.

B B The courſe of the ſuperior longitudinal ſinus.

C C C Little pits and ſcattered fibres of the dura mater, which are commonly occupied by the glands of Pacchioni.

D D Part of the dura mater which covers the left hemiſphere of the brain.

E E Depreſſions between the convolutions of the brain appearing through the dura mater.

F F The convolutions of the brain appearing through the dura mater.

G The principal artery of the dura mater dividing into branches which have correſponding furrows in the ſkull.

H I Branches from the trunk, G.

FIGURE II.

A portion of the Dura Mater taken from above the Poſterior Lobe of the Brain, near the Superior Longitudinal Sinus.

A The ſuperior part.

B The anterior. The direction of the fibres here is oblique. At the upper and under part branches of the artery are ſeen.

FIGURE III.

A portion of the Dura Mater at the ſide of the Superior Longitudinal Sinus.

A The ſuperior,

B The anterior part. Many vaſcular diviſions and various planes of fibres of a white and ligamentous or tendinous nature, croſs obliquely at different angles.

FIGURE IV.

A portion of the Dura Mater over one of the Anterior Lobes of the Brain.

A The ſuperior,

B The anterior part. In this we find many fiſſures and ſcattered fibres, eſpecially at the fore-part. There are alſo ſeveral planes of oblique fibres. The dura mater is thinner here than in the parts already delineated.

FIGURE V.

A portion of the Dura Mater from the under and middle part of one of the Hemiſpheres.

A The ſuperior,

B The anterior part. The fibres run chiefly in curved lines. In theſe different ſections, the direction of the fibres of the external layer is found to differ from that of the internal.

FIGURE VI.

Shews the Direction of the Fibres of a portion of the Dura Mater, cut from a ſimilar part with that of the former Figure, but from a different ſubject.

A The ſuperior,

B The anterior part.

FIGURE VII.

Shews the Direction of the Fibres of the Dura Mater, in a portion cut from the upper part of one of the Hemiſpheres of a ſubject different from either of the former.

THE

Seventeenth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

THE First and Second Figures repreſent the Veſſels of the Pericranium and Dura Mater of a Fœtus of Eight Months from Conception. The Parts were injected and prepared by Ruyſch.

FIGURE I.

The outer ſide of the Cranium covered by the Pericraniſium.

A A The arteries of the pericranium injected.

B B The bregma formed of a ligamento-cartilaginous ſubſtance.

e e A kind of poſterior bregma, generally much leſs evident than the former.

D A ſmall portion of the occipital bone.

E E The two parietal bones.

F F The frontal bone ſeparated by a continuation of the ſagittal ſuture.

G G The coronal; and H, The ſagittal ſuture appearing through the pericranium.

FIGURE II.

The Skull-cap removed to ſhew the Dura Mater and Veſſels.

A A The cut edge of the cranium.

B B Branches of the arteries of the dura mater, the greater part of which grow from one principal trunk on each ſide.

C C Arteries larger than the reſt: They run almoſt parallel, and ſupply the bregma.

D D The edges of the dura mater which correſpond with the bregma.

E E The ſuperior longitudinal ſinus.

F F Marks made on the dura mater by the coronal ſuture.

FIGURE III.

The Circumvolutions of the Brain appearing through the Pia Mater, after the Skull-cap and Dura Mater have been raiſed.

A A The ſkin and muſcle which covered the cranium turned down.

B B The cut edge of the cranium.

C C The left hemiſphere of the cerebrum.

D D The right hemiſphere. Between the two hemiſpheres is the ſpace which was occupied by the falx of the dura mater.

E E The anterior circumvolutions of the cerebrum which were lodged in the cavity of the frontal bone. They are ſmaller than thoſe which correſpond with the parietal bone; nor do they reſemble thoſe on the oppoſite ſide of the head.

F F The middle circumvolutions of the cerebrum: They are ſituated obliquely; and are larger, longer and ſtraighter, than thoſe in the other parts of the cerebrum.

G G The poſterior circumvolutions of the cerebrum, which are nearly of the ſame ſize with the former, but more convoluted and numerous.

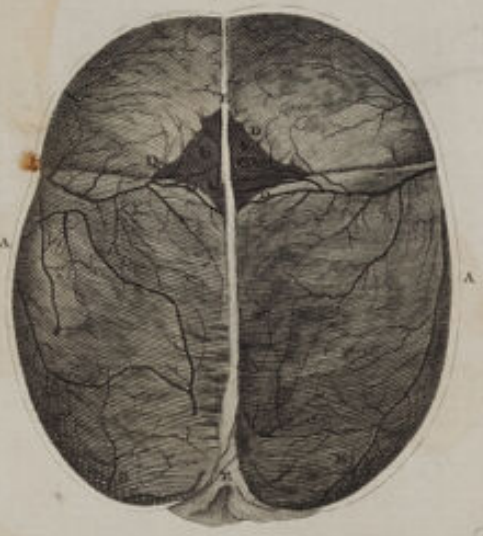
H H The poſterior and inferior circumvolutions of the cerebrum, ſmaller than the preceding, and their diſpoſition ſimilar to that of the anterior circumvolutions.

I The appearance of an union of two circumvolutions into one: Examples of this kind are frequently met with upon the ſurface of the brain. Over the ſurface of the pia mater are ſeen ſmall arteries, which, after being ſpread out on that membrane, plunge into the ſubſtance of the brain.

The above Figure is taken from the Brain of a Man of 37 years of age.

THE

Fig. 2.



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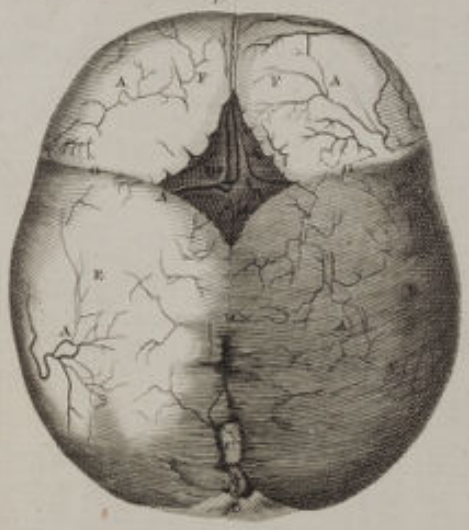

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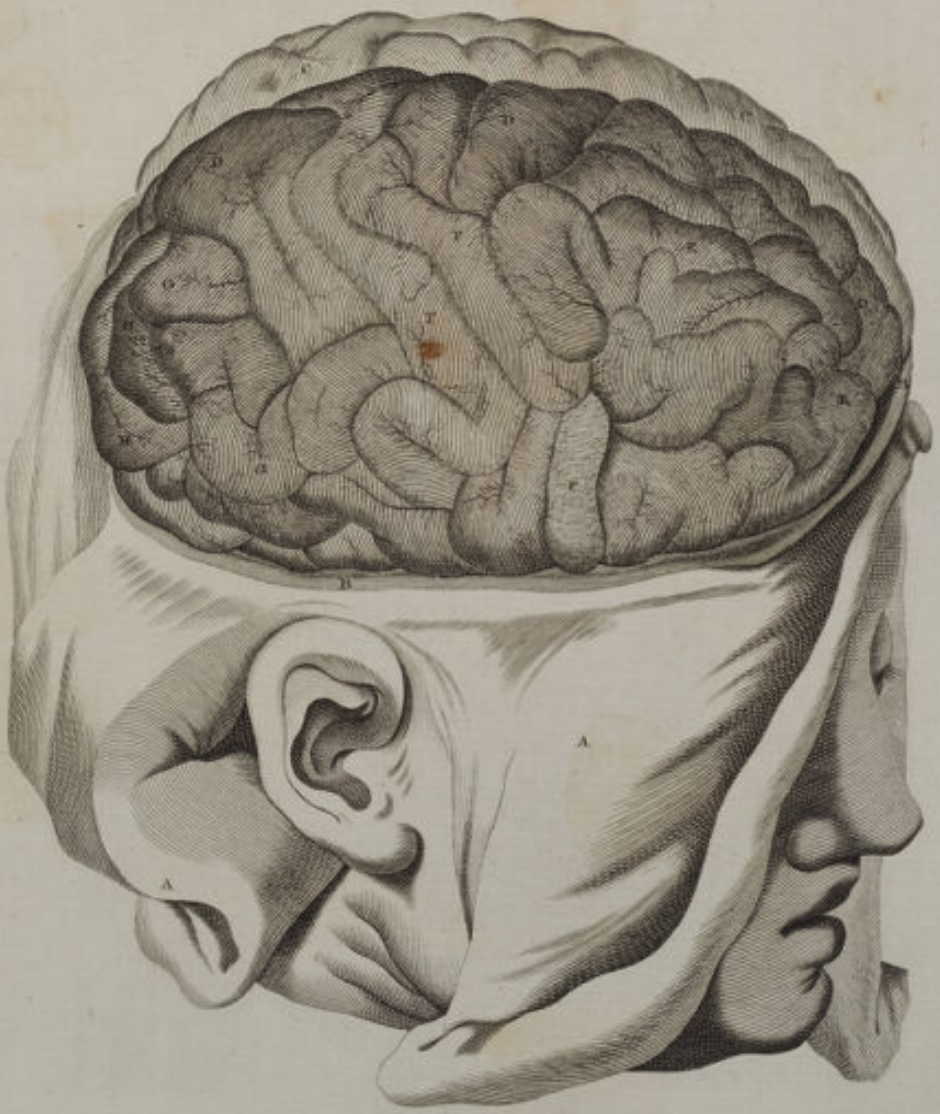

J. Elliott Sculp. Mad. Impetty fecit.

Fig. 1

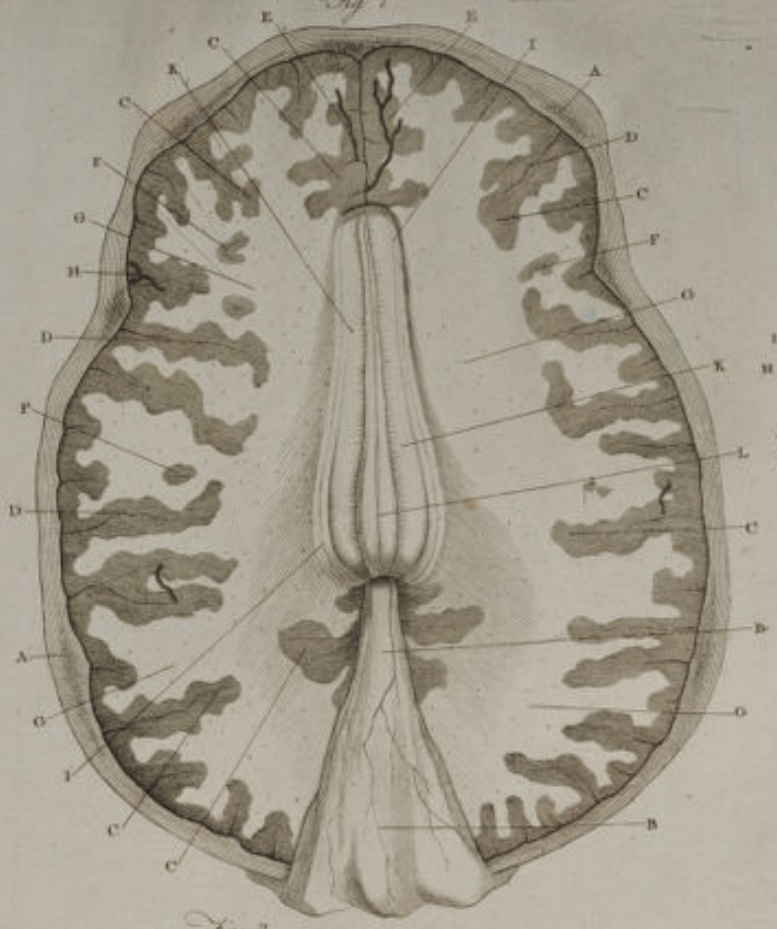

Fig. 2

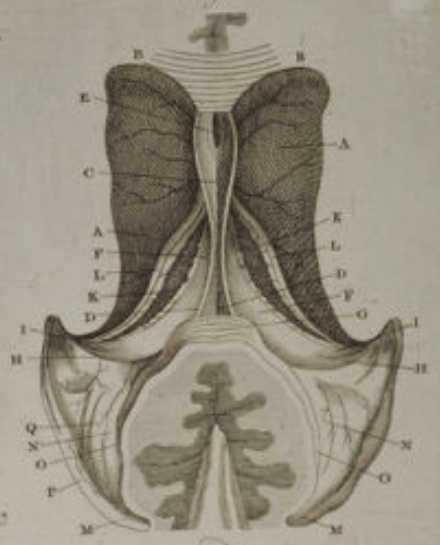

Fig. 4

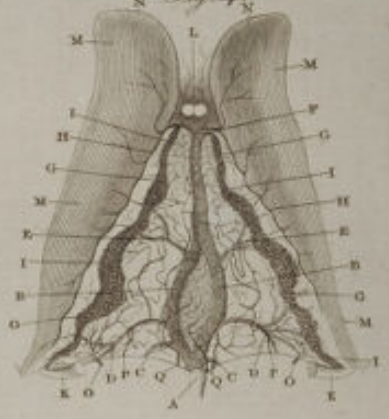

Fig. 3.

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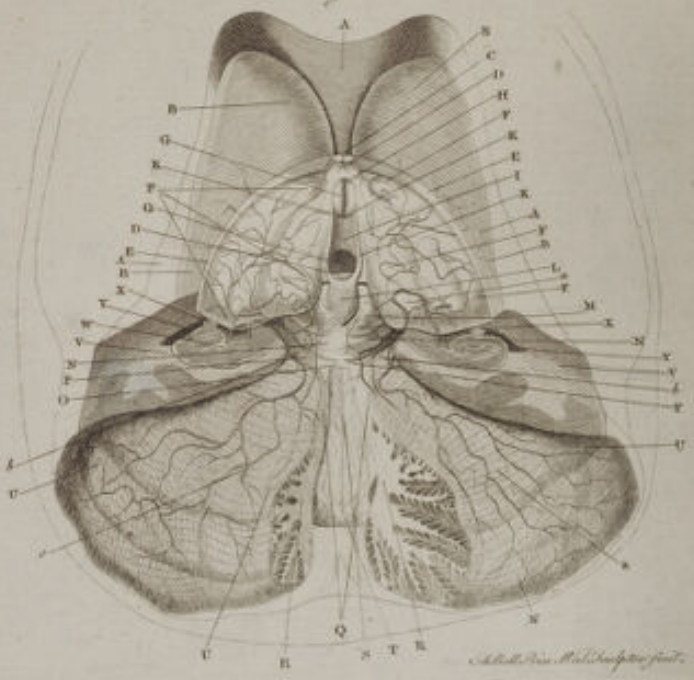


THE

Eighteenth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

A View of a Transverse Section of the Brain upon a level with the Corpus Callosum.

A A The cranium sawed at its greatest diameter.

B B The dura mater turned back.

C C, &c. The cortical part of the brain.

D D The fissures between the circumvolutions.

E E The arteriæ callosæ, which were placed upon the corpus callosum, and which are now drawn forwards.

F F Some portions of the cortical substance separated from the rest: They belonged to that portion of the brain which was raised from this.

G G The medullary substance, in which are seen the cut orifices of many blood-vessels.

H The branch of an artery which sinks into the fossa of Sylvius.

I K L The corpus callosum.

L A raphe or suture in the middle of the corpus callosum; on each side of which is a medullary cord, broad behind, narrow before, which accompanies it through its whole length.

K K Transverse lines which run under the medullary cords, are connected to them, and pass from one hemisphere to the other, so as to assist in forming the raphe.

FIGURE II.

A Deeper Section of the middle of the Brain. The Outer Parts, being nearly the same with the former, are not here represented. The Corpus Callosum is removed to shew the Lateral Ventricles, to which the following Parts belong.

A A The corpora striata, on which are seen vessels which form the vena Galeni, which opens into the torcular Herophili. The outer edge of the corpora striata was covered by the edge of the corpus callosum, and that joined to the medullary part of the brain.

B B The anterior extremities or cornua of the lateral ventricles.

C The septum lucidum, improperly so called, being almost entirely opaque. This is connected above to the corpus callosum, below to the fornix, and separates the lateral ventricles from each other.

D D The two laminæ of the septum lucidum; each of which is composed of two thin membranes, the internal medullary, the external cineritious.

E A space or fissure, somewhat of a triangular form, placed between the laminæ of the septum lucidum, and called Fossa Sylvii. It is a natural cavity always present, varying in different subjects, but never communicating with the third ventricle.

F F The two posterior crura of the fornix; the anterior crura are hid by the septum lucidum.

G The back-part of the corpus callosum joined to the fornix and septum lucidum.

H H The continuation of the crura fornicis.

I I The anterior bandelette of the cornua ammonis, the origin only of which is here seen. It is known by the name of *corpus fimbriatum*, or more properly by that of *tænia hippocampi*.

K K The vascular or choroid plexus. It is situated over the outer edge of the fornix and upper part of the thalami nervorum opticorum.

L L The centrum semicirculare geminum of *Vieussens*. Limbus posterior corporis striati *Willisii*. Tænia semicircularis *Halleri*. Bandelette demi-circulaire of Vicq. d'Azyr. Two medullary bands placed between the corpora striata and thalami nervorum opticorum.

M M The posterior prolongations of the lateral ventricles.

N N Projectures in form of a cock-spur.

O O The edge of the cortical substance forming various circumvolutions.

P The external margin of the ancyroid cavity.

Q The extremity, prolongation, or *cornu posterius*, of the posterior cavity of the lateral ventricles.

FIGURE III.

This Figure differs from the former in having the Septum Lucidum removed from the Fornix, and the Choroid Plexus raised from the Optic Thalami. Here also, the proportion of the Lateral Ventricles is somewhat different.

A The place which the anterior extremity of the septum lucidum occupied.

B B The anterior broad extremity of the corpora striata.

C C The outer edge of the corpora striata.

D D The posterior narrow extremities.

E E The anterior veins of the corpora striata.

F F The posterior veins.

G G The trunks of these veins; they pass into the Vena Galeni under the fornix.

a a A passage by which the lateral ventricles communicate with each other and with the third one.

H H The centrum semicirculare geminum.

I I The upper surface of the thalami optici, joined together before, and separated behind.

K The fornix, in the middle of which is the vestige of the septum lucidum.

L L The outer sharp edge of the fornix. Small blood-vessels

veſſels are obſerved here which terminate in the choroid plexus.

M M The convex poſterior part of the fornix.

N N The outer ends divided into two bands: The anterior edge is called Corpora Fimbriata, the poſterior is connected with the cornua ammonis.

O O The origin of the cornua ammonis.

P P Blood-veſſels which lie in the poſterior prolongations of the lateral ventricles, and paſs to the veins of Galen.

Q Q The continuation of the lateral ventricles, called Digital, or Ancyroid.

R R A projection joined to the cornua ammonis, and named by *Morand*, Ergot, or Cockſpur; or, it may be called Hippocampus Minor.

S The diviſion between the poſterior lobes.

T The dura mater turned back.

U The cut edge of the ſkull.

FIGURE IV.

Repreſents the different Branches which terminate in the Veins of Galen.

A The common trunk of the veins of Galen. It is very ſhort and terminates in the torcular herophili. A little farther forwards is ſeen the termination of the two veins of Galen into the common trunk.

B B The right and left veins of Galen: The ſpace between them is covered by numerous branches, which are chiefly arterious.

C C The poſterior branches of the veins of Galen, the diſtribution of which belongs to the parts in the neighbourhood of the nates, teſtes, and to the back-part of the lateral ventricles.

D D Middle branches of the venæ Galeni. They are diſperſed about the origin of the pedes hippocampi, &c.

E E Anterior branches of the venæ Galeni which belong to the anterior part of the thalami optici; the corpora ſtriata and choroid plexus.

F The anterior extremity of the venæ Galeni, each of which divides into two principal branches.

One G, The author of this figure calls the Choroid Vein.

The other H, he names, Great Vein of the Corpus Striatum.

I The choroid plexus, very narrow anteriorly, expanding in the middle, and contracting behind, where it ſinks, by the ſide of the cornua ammonis.

K K The poſterior crura of the fornix.

L The anterior crura fornicis.

M M The outer edge of the corpora ſtriata.

N N The anterior extremity of the corpora ſtriata, which correſponds with the anterior extremity of the lateral ventricles.

O O Branches of the poſterior cerebral arteries.

P P Other branches paſſing with the former to the choroid plexus, after having formed, in ſome parts, curious plexus.

Q Q Small branches of the ſuperior arteries of the cerebellum.

FIGURE V.

Part of the Brain cut horizontally, to ſhow the Corpora Striata, the Thalami Optici, the Pineal Gland, the Nates, Teſtes, &c. The Cerebellum is cut perpendicularly from before backward, and the Lateral Parts ſeparated a little from each other.

The Figure is Haller's, improved by the Vicq. d'Azyr.

A The middle of the brain which ſurrounds the corpora ſtriata.

B B The corpora ſtriata, with ſome blood-veſſels upon their ſurface.

C A ſection of the anterior pillars of the fornix.

D The commiſſura anterior and poſterior of the brain.

E E The tænia ſemicircularis, or centrum ſemicirculare geminum.

F F, &c. The thalami optici covered with many veſſels. At the fore-part, the letters F F point out alſo the anterior tubercles of the thalami.

G G The bottom of the third ventricle.

H The origin of the infundibulum.

I The commiſſura mollis of the optic thalami, concealing part of the third ventricle.

K K The peduncles of the pineal gland. Behind they cover part of the poſterior commiſſure of the brain, but are diſtinct from it.

L The pineal gland. It is chiefly compoſed of cineritious ſubſtance.

M M The tubercula quadrigemina ſuperior, or nates, over which the pineal gland is placed

N N The tubercula quadrigemina inferior, or teſtes.

O A medullary lamina between the teſtes and valvula Vieuſſenii; which laſt ends here.

P P The origin of the fourth pair of nerves.

Q Q Two medullary tracts called Proceſſus ad Teſtes, Columnæ valvulæ Vieuſſenii, &c.

R R The medullary part of the cerebellum, called Arbor Vitæ.

S The cavity of the fourth ventricle, in the bottom of which runs a furrow, called Calamus Scriptorius.

T The end of the fourth ventricle and calamus ſcriptorius. It is ſituated over the back-part of the medulla oblongata.

U U The cerebellum.

V V A perpendicular cut of the brain.

W W The cornua ammonis, or great hippocampi.

X X The corpus fimbriatum, or band of the great hippocampus.

Y Y The choroid plexus.

a A principal branch of the deep cerebral artery, which comes from the vertebral one. This ſends ſmall branches inwards to the tubercula quadrigemina, pineal gland, and its peduncles. The principal branches run forwards to the thalami optici and choroid plexus; theſe frequently anaſtomoſe and croſs each other. A few branches run from the former to the tænia ſemicircularis, and back-part of the corpora ſtriata.

b b The ſuperior arteries of the cerebellum. The firſt part of theſe ſends branches to the tubercula quadrigemina, and parts near them; and ſome ſmall twigs run to the fourth ventricle, where they communicate with the ſuperior arteries of the cerebellum. On the left-ſide of the tubercula, the deep and ſuperficial branches of the ſuperior arteries of the cerebellum communicate freely.

c c The continuation of the ſuperficial arteries of the cerebellum. They ſpread over its ſurface, ſink into its ſubſtance, and there communicate with the arteries which come from its under part.

THE

Fig. 1.

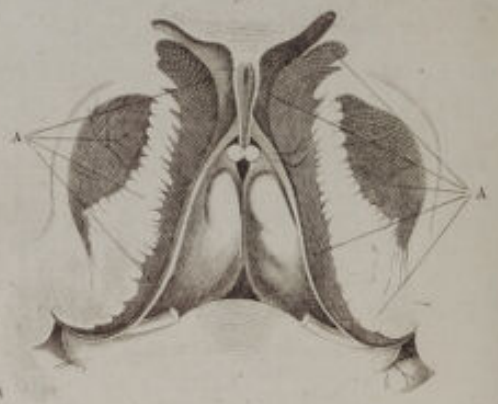
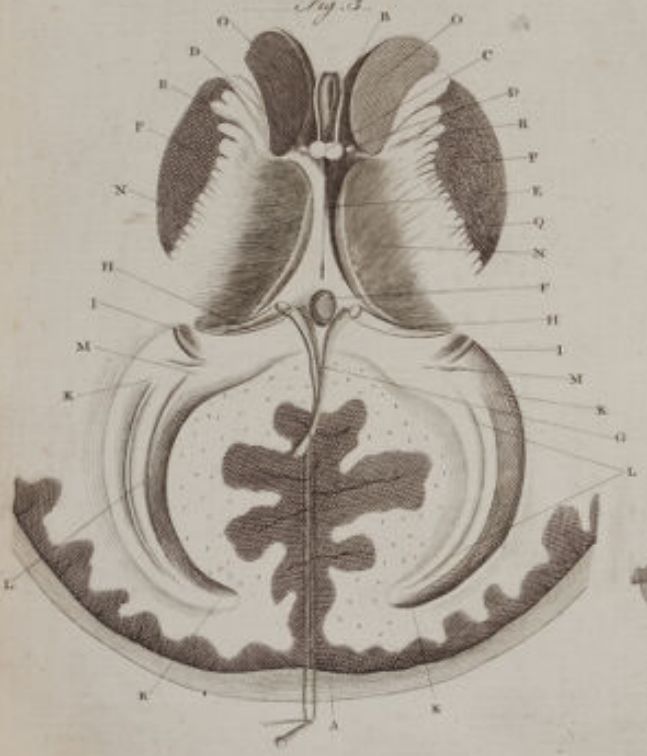


Fig. 2.

Fig. 4.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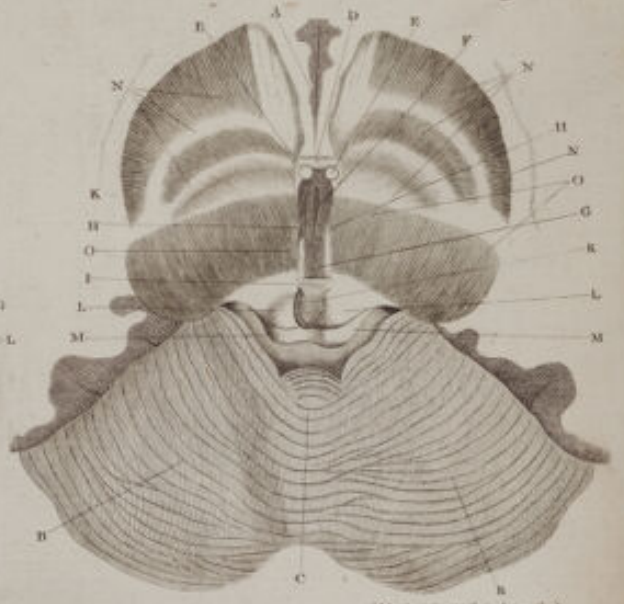


Fig. 5.

THE

Nineteenth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

AN Horizontal Section of the Brain, a little deeper than the Corpus Callosum.

A A, &c. The cortical part.

B B The fissures which separate the convolutions.

C The separation of the anterior lobes.

D The separation of the posterior lobes; or rather, the posterior separation of the hemisphere of the brain.

E The dura mater turned back.

F F The medullary substance of the brain, in which numerous orifices of cut blood-vessels appear. Between the cortical and medullary substance, sometimes a thin lamina appears, but of a different colour from either, approaching sometimes to a white, at other times to a yellow, and sometimes to a horny colour: But this, having been met with in a few subjects only, cannot be given as the general structure G G.

H H The fossa sylvii, a division between the anterior and lateral lobes of the brain.

I I Medullary threads; they are the remains of the anterior and posterior parts of the corpus callosum.

K K The anterior extremities or cornua of the lateral ventricles.

L A section of the two anterior pillars of the fornix.

M The anterior part of the septum lucidum. In the fore-part is seen a fissure between the laminæ, under the name of Fossa Sylvii.

N N A section of the posterior crura of the fornix.

O P The thalami optici.

O The anterior tubercles of the optic thalami.

Q Q The tænia semicircularis.

R R The anterior part of the digital cavity of the lateral ventricles.

S S The corpora striata. The upper and outer part is cut horizontally to shew their medullary and striated structure.

FIGURE II.

An horizontal Section immediately under the preceding; but the Corpora Striata are cut obliquely outwards and downwards.

A A The corpora striata, in which are seen the internal and external parts cortical; the middle part medullary, and somewhat striated. The other parts are similar to what are found in the other figure.

FIGURE III.

A Section still deeper than the former, including also the Optic Thalami, which are cut a little higher than the Anterior Commissure.

A The cut edge of the cranium.

B The septum lucidum, in which appears the fossa sylvii.

C The anterior crura fornicis.

D D A section of the anterior part of the tænia semicircularis.

E A fissure forming the bottom of the third ventricle.

F Glandula pinealis turned back. At the posterior extremity of the third ventricle, is the beginning of a passage which runs under the tubercula quadrigemina, by the name of Iter ad Quartum Ventriculum.

G The plexus choroides of the third ventricle, which is placed under the vascular membrane lining the fornix. In this membrane the veins of Galen are situated.

H A section of the posterior crura of the fornix.

I The beginning of the cornua ammonis, or great hippocampi.

K K The digital cavities.

L L The Ergots, Cockspurs, or small hippocampi.

M M The union of the great and small hippocampi.

N N A section of the optic thalami, in which a mixture of cineritious and medullary substance appears: Curved medullary lines run at the inner edge of these bodies.

O O The anterior round extremities of the corpora striata.

P P The outer part of the corpora striata, composed of many cineritious and medullary parts.

Q A striated appearance common to the thalami optici and corpora striata.

R R The same continued into the corpora striata. From the above it appears, that the optic thalami are separated from the corpora striata, by a range of medullary lamina.

FIGURE IV.

An horizontal Section of the brain upon a level with the two Commissures, to shew the Parts about the Third Ventricle.

A A fissure between the anterior lobes.

B The commissura anterior running through the substance of the corpora striata.

C The commiſſura poſterior.
D The third ventricle appearing like a furrow.
E The pineal gland.
F F The tubercula quadrigemina ſuperior, or nates.
G G The tubercula quadrigemina inferior, or teſtes.
H H Medullary ſtriæ obſerved in many ſubjects paſſing from the anterior convex part of the anterior commiſſure to the medullary part of the anterior lobes.
I I Portions of the corpora ſtriata placed behind the anterior commiſſures, and forming cineritious and medullary arches.
K K A ſection of the anterior crura of the fornix.
L L Two little medullary cords unobſerved by the ancients. They run from the corpora albicantia to the anterior tubercles of the optic thalami, marked O, in Fig. 1.
M M A ſection of the optic thalami, in which numerous cineritious and medullary ſtriæ appear in curved lines.
N N The origin of the great hippocampi.
O O The digital cavity.
P P The ſmall hippocampi.

FIGURE V.

The middle of the Brain cut horizontally at the height of the Commiſſures. The Lateral Parts are cut obliquely outwards and downwards.

A The diviſion of the anterior lobes.
B B The cerebellum entire.
C The ſuperior vermiform proceſs of the cerebellum.
D The commiſſura anterior, of a fibrous texture.
E E The anterior crura of the fornix cut and ſeparated to ſhow the third ventricle.
F The upper end of the infundibulum.
G The poſterior part of the third ventricle.
H H Its ſides.
I The commiſſura poſterior.
K The pineal gland, from the bottom of which medullary threads run to be connected with the peduncles ſeen in Fig. 5. Tab. XVIII.
L L The nates.
M M The teſtes.
N N The corpora ſtriata, forming medullary and cineritious arches.
O O The thalami optici appearing cineritious: But in theſe, as well as in the cineritious arches of the corpora ſtriata, there is throughout a mixture of medullary ſtriæ, which, however, are here not fully repreſented.

THE

Fig. 2.

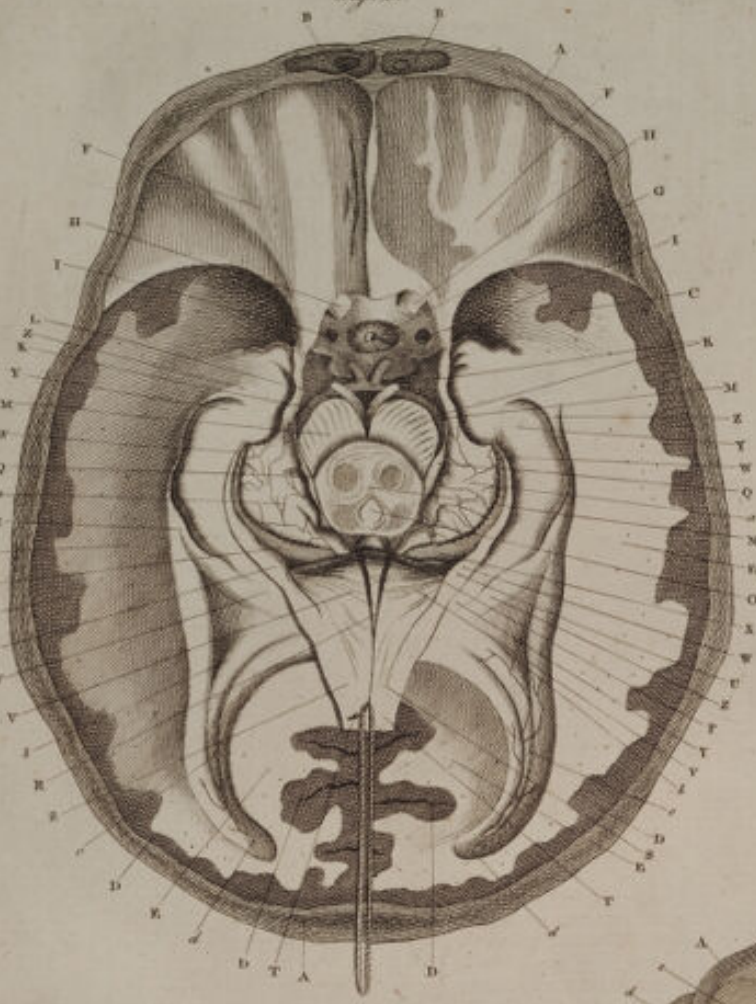
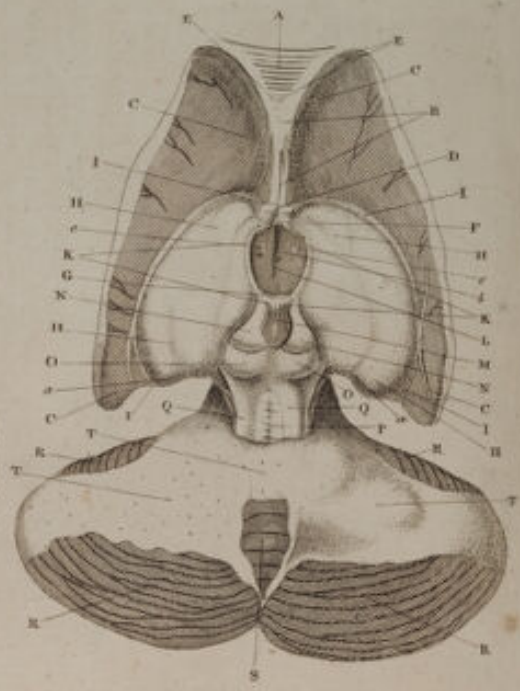


Fig. 1.



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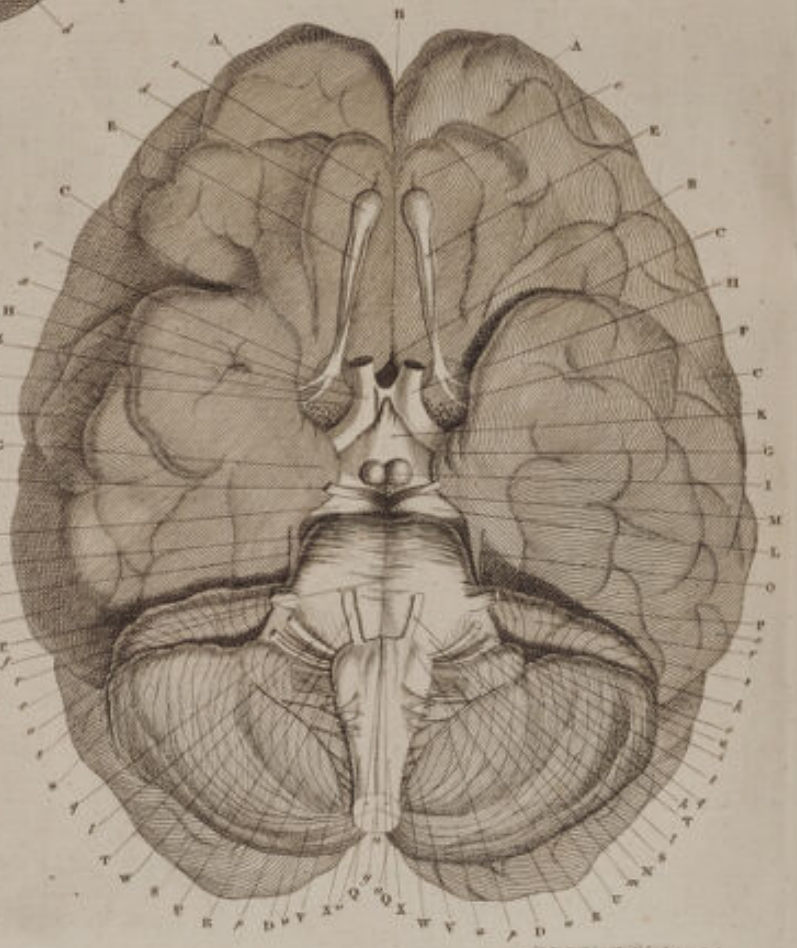
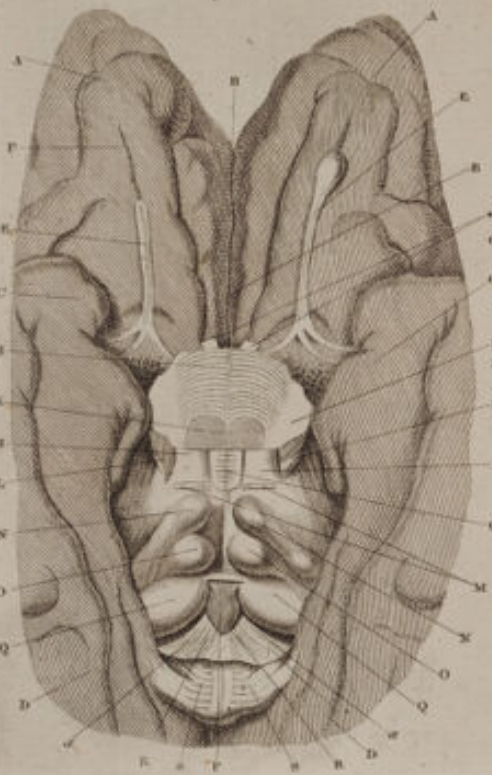


Fig. 3.



THE

Twentieth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

AN horizontal Section of part of the Brain and Cerebellum.

A The remains of the anterior part of the corpus callosum.

B The inferior part of the septum lucidum.

C C The corpora striata.

D A section of the anterior crura of the fornix.

E E The anterior cornua of the lateral ventricles.

F The anterior commissure of the brain.

G The posterior commissure.

H H The thalami optici.

a Their posterior tubercles.

I I The tænia semicircularis, detaching threads behind, which are not constant.

K K The peduncles of the pineal gland at the upper and inner side of the thalami optici.

L The cavity of the third ventricle, the sides of which are separated by force.

b The opening of the infundibulum.

c c The remains of the commissura mollis of the optic thalami which have been lacerated.

M The pineal gland.

N N The nates.

O O The testes.

P The valvula Vieussenii.

Q Q Medullary columns, called by Haller, "Processus ad Testes."

R R The cortical or cineritious part of the cerebellum, where the circumvolutions do not run parallel, but in different places cut each other in sharp angles.

S A portion of the superior vermiform process of the cerebellum.

T T The centrum medullare cerebelli, in which is seen a middle portion uniting the two lateral ones, as in the brain.

FIGURE II.

Part of the Brain remaining in the base of the Cranium, to shew the Fornix, Cornua Ammonis, and parts connected with them.

A A The cut edge of the cranium.

B B The frontal sinuses, with their openings into the nose.

C C The cortical substance of the lateral lobes of the brain.

D D The same of the posterior lobes.

E E The medullary substance, with numerous small dots, which are the orifices of cut arteries.

F F The orbitar plates of the frontal bone, upon which the anterior lobes of the brain were placed.

G The glandula pituitaria, in the middle of which is the end of the infundibulum.

H H The optic nerves.

I I The internal carotid arteries.

K The bifurcation of the vertebral or basilar artery. The anterior branches communicate with the internal carotids.

L The origin of the third pair of nerves.

M M N A section continued obliquely downwards and forwards, through the tuber annulare and crura cerebri, in all of which parts a mixture of cineritious and medullary matter is observed.

M M The crura cerebri.

N The tuber annulare, in which there are four cineritious parts, which answer in a great measure to the tubercula quadrigemina.

O A section to the Iter ad quartum ventriculum.

P The pineal gland.

Q Q The inner edge of the tentorium.

R The plexus choroides of the pineal gland and third ventricle, supported by a thread.

S The fornix cut at its fore-part, and turned back.

T The two anterior crura of the fornix.

U U The two posterior crura of the fornix.

V V The lyre,—transverse medullary lines upon the under surface of the fornix.

W W The tænia or bands of the great hippocampi: The outer edge is fixed to the great hippocampi, the inner edge is loose.

X X The plaited or serrated portion of the great hippocampi.

Y Y The cornua ammonis, or great hippocampi.

Z Z Z The inferior prolongations of the lateral ventricles.

a a Deep convolutions of the brain with small blood-vessels running upon them. The author of this figure considers these convolutions as a sort of inferior floor to the great hippocampi.

b c d The digital cavity of the lateral ventricles, in which are placed c, The ergot of former authors, and hippocampus minor of Vicq. d'Azyr. The surface of this cavity, as well as that of the cornu ammonis, is covered with medullary substance, which also prevails in the superior prolongations of the lateral ventricles.

FIGURE III.

FIGURE III.

A view of part of the Base of the Brain, after the Dura Mater and Cerebellum have been removed. The Tuber Annulare and Tubercula Quadrigemina are raised and brought forwards, so that their situation is inverted.

A A The anterior lobes.

B The inner sides of these lobes contiguous.

C D Part of the lateral and posterior lobes.

E E The olfactory nerves, in which are seen three medullary cords forming each of them; their body large at its origin, smaller in the middle, and forming a large bulb anteriorly, composed chiefly of cineritious matter. The right nerve is cut across, to show its triangular form.

F A depression in which the nerve is placed: In the natural situation, these nerves converge a little anteriorly; here, they diverge, because the anterior lobes are somewhat separated from each other. At the inner side of the olfactory nerves, the convolutions run parallel to them and to the anterior lobes.

G The valve of Vieussens, or middle medullary lamina of the cerebellum.

H H The crura cerebri.

I I A vertical section of the tuber annulare, in which is seen the raphe running longitudinally, and medullary and cineritious lines placed transversely.

K Two rounded spaces of cineritious substance, forming the bottom of the fourth ventricle.

L L Two projections at the sides of the crura cerebelli.

M M The fourth pair, or pathetic nerves, each beginning by two or three diverging roots.

N N The tubercula quadrigemina inferior, or testes, which are contracted in their middle, and terminate behind by rounded eminences.

O O The tubercula quadrigemina superior, or nates.

P The pineal gland, which is here in a pendent state, while naturally it is situated obliquely upon the nates. At the root of the gland are placed some transverse medullary striæ which belong to the commissura posterior.

Q Q The posterior enlargements or tubercles of the optic thalami.

R R The posterior part of the fornix.

a a The beginning of the serrated portion of the cornua ammonis. The continuation is seen in Fig. 2. x. This disposition distinguishes the human brain from that of quadrupeds in general, in which this part of the cornu ammonis is of great size. The ape kind, however, are an exception, for in them it is somewhat similar to that in man.

S S The posterior part of the corpus callosum, in the middle of which is its raphe.

FIGURE IV.

A view of the Base of the Brain, and of the Nerves, which take their origin from it.

A A The anterior lobes of the brain.

B The division of the anterior lobes.

C C The lateral lobes. Between the lateral and anterior lobe is the fissure of Sylvius.

D D The posterior lobes. The separation between the posterior and lateral lobes is uncommonly distinct in this figure.

E E The olfactory or first pair of nerves, which, contrary to other nerves, converge in running along the base of the brain.

a The external root which comes from the fissure of Sylvius, and is at first hid by the lateral lobe of the brain.

b The middle root which is longer than the former, and comes also from the fissure of Sylvius.

c The internal root, not a thread like the two preceding, but a prolongation of the medullary substance. The body of the nerve is thick at its beginning, and smaller some way farther forwards, with the under surface slightly depressed.

d The anterior extremity, forming a bulb of soft cineritious matter, mixed with some streaks of medullary substance, and in the natural situation, supported upon the cribriform plate of the œthmoid bone.

e Extremity of the fissure in which the nerve is placed.

F F A perforated part of the brain for the passage of many small arteries.

G G Circumvolution answering to the cornu ammonis.

H H The optic or second pair of nerves: Their union is partly concealed by the infundibulum. They are cut across near their entry into the orbits.

I The corpora albicantia, medullary without and cineritious within.

K The infundibulum, formed of medullary substance, continued from the sides of the third ventricle, and covered with the pia mater. It is impervious at its under extremity, where it is inserted into the glandula pituitaria.

L L The crura cerebri formed of fibrous medullary substance. At their inner edge the cut extremities of blood-vessels are seen.

M M The nerves called Oculo Musculares, or third pair.

N N The protuberantia annularis, or pons Varolii.

f An impression made by the arteria basilaris.

g g The transverse medullary tracts which compose the inferior surface of the protuberantia.

O O The pathetic or fourth pair of nerves.

P P The nervi trigemini, or fifth pair arising from the crura cerebelli, where they join the tuber annulare. Each nerve is composed of two portions or nervous fasciculi, an anterior small one, and a posterior large.

Q Q The corpora pyramidalia.

R R The corpora olivaria.

S S The nervi abductores oculorum, or sixth pair, the origin of which varies a little in different subjects; but, in general, they grow from the beginning of the corpora pyramidalia, and sometimes also from the tuber annulare, near this place. The sixth pair has a small thread at its inner side, separate from the principal trunk.

I I The seventh pair of nerves arising from a fossa between the corpora olivaria, crura cerebelli, and tuber annulare.

h The portio dura of the seventh pair.

i The portio mollis of the seventh pair, or auditory nerve, properly so called.

k *Wrisberg's* Portio media inter communicantem faciei et auditivum nervum. Vicq. d'Azyr finds this portion commonly formed of two, but sometimes of three small intermediate trunks.

U U The eighth pair of nerves, composed of glosso-pharyngeus and par vagum.

l l The nervus glosso-pharyngeus. It is distinct from the par vagum, and passes through a hole in the dura mater proper to itself.

m The par vagum of the eighth pair, composed of several small threads united into fasciculi.

V V The lingual, or ninth pair, formed of three fasciculi of small threads, which at first are distinct from each other.

W W The nervus accessorius of the eighth pair, the beginning of it is cut away with the spinal marrow, X X.

Y A section of the spinal marrow, in which is seen medullary substance externally, and cineritious matter within, under a cruciform appearance.

& & The cerebellum.

n Separation of the lobes of the cerebellum.

o o A furrow of the crura cerebelli, which is continued with the lateral and circular, or great furrow of the cerebellum.

p p Projections which may be called Lobules of the medulla oblongata.

q q Elevations which may be called Lobules of the par vagum.

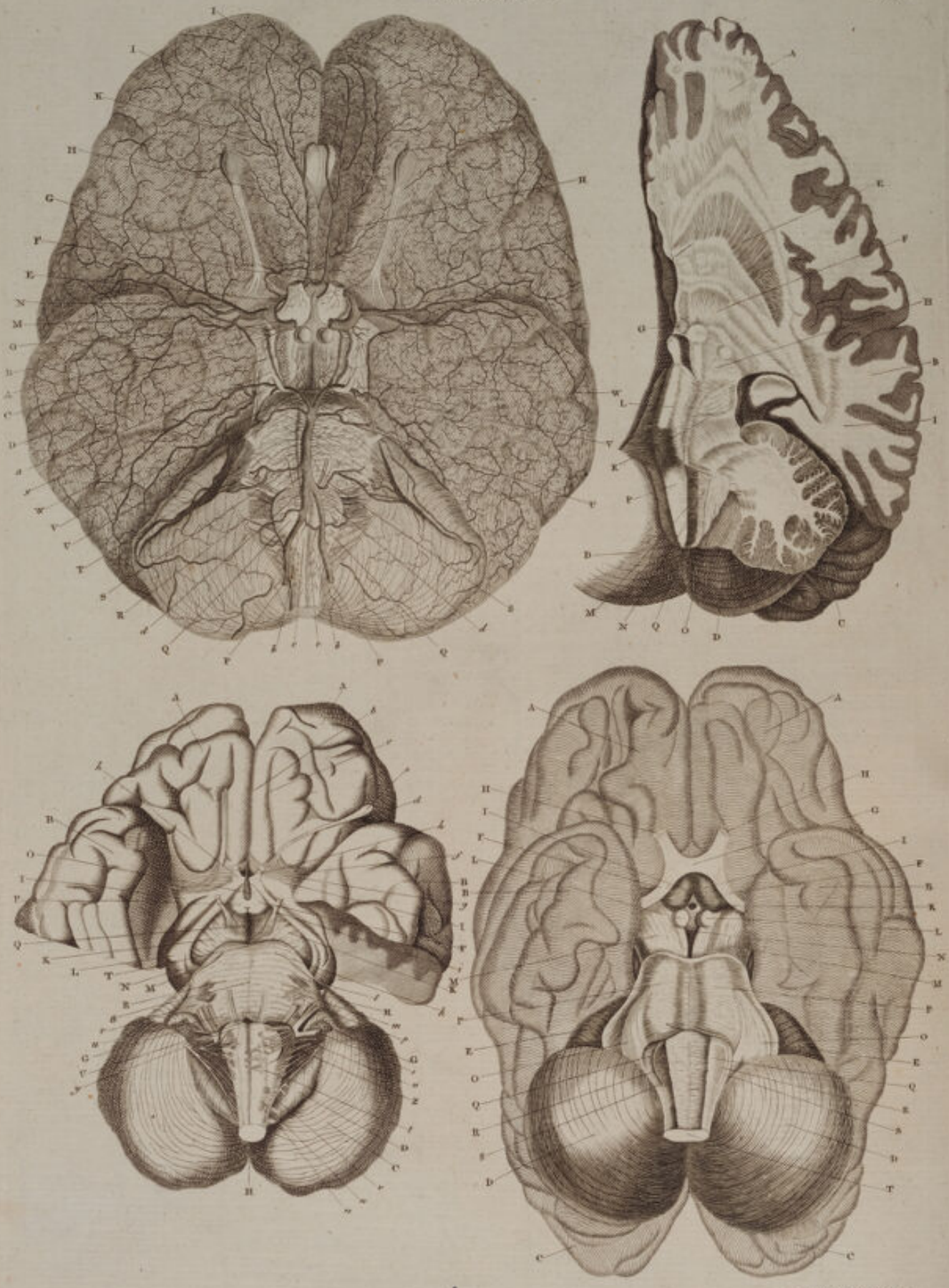
r r Superior and internal lobule of the cerebellum.

s s The superior and external lobule of the cerebellum.

t The temporal surface of the cerebellum.

u The occipital surface of the cerebellum.

THE



THE

Twenty-first Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

A View of a large ſhare of the Baſe of the Brain: The Poſterior Lobes are removed to ſhew the Courſe of the Thalami Optici, &c. The Cerebellum is left entire. By *Soemmerring*.

A A The anterior lobes of the brain.

B B The lateral lobes.

C C The cerebellum.

D D Portiones cerebelli proceſſus vermiformes æmulantes of *Ruyſch*. Tubercula lateralia anteriora interiora cerebelli of *Tarin*. Lobules de la Moelle allongee of Vicq. d'Azyr.

E E Proceſſes of the cerebellum to which Soemmerring gives the name of Partis anterioris ſuperioris cerebelli portio quædam ſulcis notata. By others they are divided into the ſuperior and external, and ſuperior and internal lobules of the cerebellum.

F F Lobules of the par vagum, upon which are ſituated this pair, and the plexus choroides of the fourth ventricle.

G G The choroid plexus of the fourth ventricle.

H The ſeparation of the lobes of the cerebellum.

I I A part common to the anterior and lateral lobes of the brain, and where the fiſſure of Sylvius begins.

K K The crura or pedunculi cerebri.

L M N The poſterior tubercles of the thalami optici.

O The infundibulum.

P P The eminentiæ mammillares, or candicantes.

Q An excavation called by Vicq. d'Azyr, the Foſſa of the Nervi Oculo-muſculares. The medullary ſubſtance forming the bottom of this cavity is called by authors, Pons Tarini.

R R Pons Varolii or tuber annulare.

S A depreſſion made by the arteria baſilaris. Numerous tranſverſe medullary tracts are ſeen upon the ſurface of the tuber.

T Foramen cæcum anterius.

U Foramen cæcum poſterius. This and the former penetrate a little into the tuber annulare, and receive a plexus of veſſels.

V V The right crus cerebelli.

W The end of the medulla oblongata, and beginning of the ſpinal marrow.

X X The corpora pyramidalia.

Y Y The corpora olivaria.

Z Z The corpora pyramidalia lateralia.

a A medullary tract obſerved by Sanctorinus, which in many ſubjects extends from the upper end of the corpora pyramidalia, to the under end of the corpora olivaria.

b Separation of the anterior lobes of the brain.

c Furrow made by the olfactory nerve.

d The left olfactory nerve turned aſide.

e The bulb of this nerve.

f The long and external root.

g The long internal root. The internal and ſhort root is not here repreſented. The right olfactory nerve is cut acroſs to ſhew its triangular form.

h The optic nerve continued from the tractus opticus.

i The oculo-muſcularis.

k The pathetic nerve. In its courſe it adheres to the ſuperior internal lobule of the cerebellum.

l m The nervus trigeminus, divided into two portions, of which the anterior is the ſmaller.

n The nervus abductor oculi, formed of a large external and ſmall internal part.

o The facial nerve, or portio dura of the ſeventh pair.

p The auditory nerve, or portio mollis of the ſeventh pair.

q Wriſberg's Fibrillæ nerveæ ad par communicans faciei acceſſoriæ.

r s s s The eighth pair of nerves.

r r The ramus glotto-pharyngeus. The right nerve is in its natural ſituation, the left one is turned inwards.

s s s The par vagum of the eighth pair. In the right-ſide the nerve is in its natural ſituation, in the left-ſide ſome of the branches are turned inwards.

t t The lingual nerve, the right one in its proper place, part of the left turned inwards, to ſhew the roots of the nervus acceſſorius.

u u u The nervus acceſſorius ad par vagum.

v Firſt cervical nerve, or ſub-occipital nerve.

w Second cervical nerve.

FIGURE II.

The Arteries of the Baſe of the Brain, the Lobes of which are a little ſeparated from each other, the more diſtinctly to ſhew the Veſſels. Moſt of the Parts ſhewn in the two preceding Figures are alſo repreſented here; but a deſcription of them, in this place, is thought unneceſſary.

A The right internal carotid artery cut acroſs at its laſt curvature within the cranium.

B The origin of the ophthalmic artery.

C Two little branches ſent off from the convexity of the curvature of the internal carotid artery. The poſterior is the choroid branch of the carotid; it communicates with the choroid plexus of the lateral ventricles.

D The communicating artery which forms a large ſhare of the Circle of Willis. This artery ſends numerous ſmall branches to the eminentia mammillaris, infundibulum, tractus opticus, nervus oculo-muſcularis, and foſſa of this nerve.

a A branch more remarkable than the reſt, which runs to the

the inferior extremity of the choroid plexus, and may be called the Choroid branch of the communicating artery. The carotid artery afterwards divides into two principal branches, the one anterior, the other posterior.

E The anterior branch running between the optic nerve and brain, and then continued forwards under the name of Arteria Callosa.

F A branch by which the carotids communicate with each other.

G Branches to the optic and olfactory nerves, and to the neighbouring circumvolutions.

H The inferior cerebral branches of the arteria callosa. They give branches to the olfactory nerve, and communicate with the extremities of the Sylvian artery.

I I The anterior and internal cerebral branches of the arteria callosa, dispersed upon the internal surface of the anterior lobes.

K The arteria callosa reflecting upon the corpus callosum, which it follows almost to its posterior extremity. In this course it gives branches to the inner side of the cerebral hemispheres. The falx, and the anterior part of the tentorium receive numerous branches from it. One branch penetrates into the third ventricle, and gives small branches to the fornix, commissura anterior, and fore-part of the septum lucidum; from it also the choroid plexus of the lateral ventricle receives some branches.

L The external branch of the carotid, and which may be considered as the trunk: It is called by some, Sylvian artery, from its situation in the fossa of that name. The first branches sent from it are very delicate, they go to the substance of the brain at the roots of the olfactory nerves.

M N O The three branches into which the Sylvian artery commonly divides. The middle one N, is placed in the bottom of the fissure of Sylvius, and makes a separation between the anterior and lateral lobe of the brain. These branches afterwards divide into numerous smaller ones, which plunge into the substance of the brain. Anteriorly they communicate with branches of the arteria callosa, and posteriorly with those of the deep cerebral arteries.

P P The vertebral arteries at their entry into the cranium.

b b Small branches sent to the spinal marrow and its nerves.

Q Q The large deep or inferior arteries, called by Haller, Arteria Cerebelli Profunda. They commonly differ from each other, either in their size or direction in the opposite sides. After giving branches to the surface of the medulla oblongata and cerebellum, they turn round between these bodies, and penetrate to the fourth ventricle, sending branches to it, to its choroid plexus, and to the cerebellum itself.

c c The anterior spinal arteries arising near the preceding, and sending off a communicating branch near their origin.

d d Many small arteries sent from the vertebral arteries, to the top of the medulla oblongata and its nerves.

R The arteria basilaris, formed of the two vertebral arteries.

S S The small deep or inferior arteries of the cerebellum, on each side, called by Haller, Ramus Cerebelli inferior alius.

T The division of the basilar artery into four principal branches.

U U The arteria cerebelli superior; the Ramus anterior of Haller.

FIGURE III.

The Brain inverted, on which are seen the Crura Cerebri and Cerebelli, the Tuber Annulare, and Medulla Oblongata, the Arachnoid Coat and Pia Mater being removed, in order to show the general direction of their Medullary Fibres.

A A B B C C The anterior, middle, and posterior lobes of the brain, slightly sketched.

D D The hemispheres of the cerebellum.

E E The superior and anterior vermiform processes of the cerebellum.

F F The two optic nerves cut horizontally.

G The intimate intermixture of their medullary substance.

H H The optic nerves cut across near the foramina optica.

I I Cineritious substances intimately connected to the optic nerves, and furnishing some part of their medullary substance: Between these there is a fissure, through which the pia mater and blood-vessels pass.

K A section of the infundibulum.

L L The corpora albicantia behind the infundibulum.

M M The crura cerebri, consisting on their surface, of bundles of medullary fibres.

N A cineritious substance joining the crura cerebri, and corpora albicantia of opposite sides of the brain.

O O The principal crura cerebelli.

P P The tuber annulare, or Pons Varolii, the surface of which consists of medullary fibres laid chiefly in transverse bundles.

Q Q Anterior, oblong, and somewhat pyramidal bodies, composed, on their surface, of medullary fibres, disposed transversely, and passing from one side to the other of the medulla oblongata, or joining these two pyramidal bodies intimately together. Between these pyramidal bodies, there is a fissure above a quarter of an inch deep, into which the pia mater enters, and, still deeper, vessels pass between the decussating bundles of medullary fibres.

R R The bodies commonly called Olivaria.

S S A small part seen of oblong, medullary and somewhat pyramidal bodies, which form the back-part of the medulla oblongata.

T The end of the medulla oblongata, or top of the spinal marrow.

FIGURE IV.

Represents a Section of the Brain and Cerebellum, with their Crura, the Tuber Annulare, and Medulla Oblongata, in order to show a great intermixture of cineritious substance with the Medullary, and very various directions and interlacing of the bundles of the Medullary Fibres.

A B The anterior and middle lobes of the brain cut.

C The posterior lobe of the brain entire.

D D The hemisphere of the cerebellum.

E The corpus striatum.

F The thalamus nervi optici.

G One of the corpora albicantia, composed of a medullary crust containing cineritious matter.

H The crus cerebri.

I The crus cerebelli.

K The tuber annulare cut perpendicularly from right to left.

L The tuber annulare cut perpendicularly from before backwards, to more than the depth of a quarter of an inch.

M N O The medulla oblongata cut perpendicularly from right to left.

P The medulla oblongata entire on the left-side of the fissure into which the pia mater enters.

Q The end of the medulla oblongata, or top of the spinal marrow.

THE

Fig. 1.

Fig. 5.

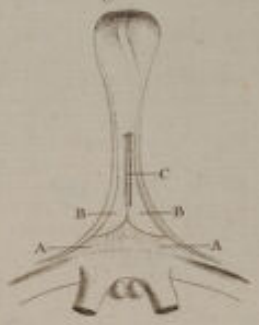


Fig. 4.

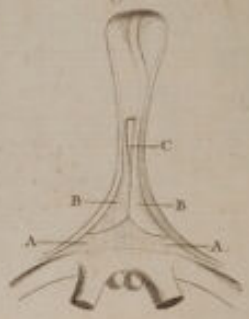


Fig. 2.

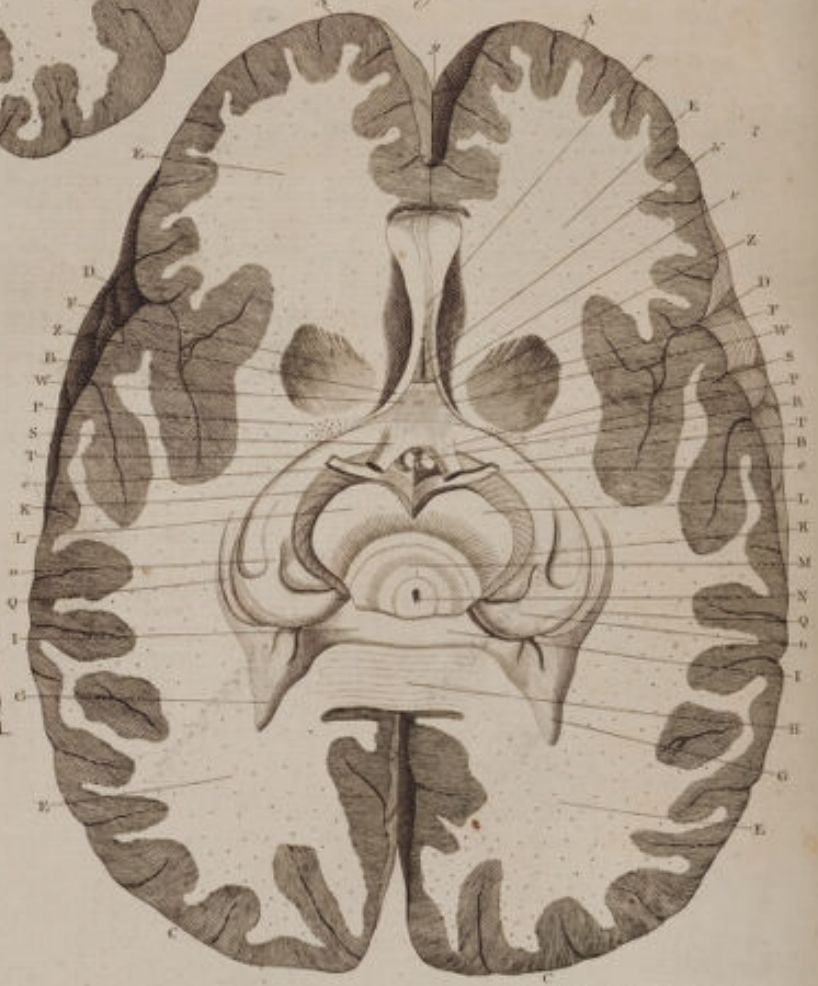


Fig. 3.

Ad Bell Pinx et del. Sculptor fecit.

THE

Twenty-ſecond Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

REPRESENTS the Brain viewed on its Baſe, and diſſected in ſuch a manner as to ſhew an horizontal inciſion of the Cornua Ammonis, or great Hippocampi. The gray and white ſubſtances, and the indented portion of theſe productions, are ſeen. Each of the Optic Thalami have been cut obliquely from without internally, and from top to bottom, and the inferior ſurface of the vault, is diſcovered.

A A A A Anterior lobes of the brain.
B B B B The middle lobes.
C C C C The poſterior lobes.
D Anterior boundary of the corpus calloſum.
E E Peduncles of the corpus calloſum.
F F Olfactory nerves, right and left, the latter of which is not *in ſitu*.
* Long olfactory furrow, in which the left nerve of that name was ſituated.
G G The optic nerves.
H The junction of theſe nerves.
I I I I The *tractus* opticus.
K Poſterior enlargement, or tubercle of the optic thalami.
L L L Optic thalamus cut obliquely from top to bottom, and from right to left, in that place where the crura of the brain are inſerted.
M M Horizontal ſection of the mammillary eminences.
N Commiſſura anterior.
O O Anterior pillars of the medullary triangle, or vault with three pillars.
P P Continuation of the ſame columns or pillars, which become enlarged.
Q Q Poſterior and inferior portion of the medullary triangle, or vault with three pillars; where may be ſeen a minute embroidery, or ſmall fibres, which may be compared to the cords of a lyre.
R R R R Poſterior columns or pillars of the medullary triangle, terminating in a white medullary ſmall fillet, named *Tænia Hippocampi*, and, improperly, *Corpus Fimbriatum*.
S S Enlargement of the great hippocampus, which is found towards the anterior and inferior part of the brain, where is ſeen a mixture of a white and gray ſubſtance forming irregular ſpires.
T T Poſterior boundary of the corpus calloſum.
U A portion of the raphe of the ſame corpus, which is curved behind and below.
V V Origin of the cornu ammonis, or great hippocampus on the ſides of the corpus calloſum.
W W White cover of the cornua ammonis, which ſhews their ſection under the form of a ſmall medullary fillet. This white ſubſtance is continued along with that of the neighbouring cerebral circumvolutions.
X X X X Great hippocampi cut horizontally, and very near their middle.
Y Y The tract of the cortical ſubſtance which accompanies the great hippocampus towards its internal margin, and which white ſubſtance of the corpus calloſum is contiguous to the cortical ſubſtance of the neareſt cerebral circumvolutions.
Z Z Inner edge, concavity, or indented margin, of the great hippocampus. This margin is formed of a gray ſubſtance, and is contiguous to the tænia hippocampi.
a a Anterior and inferior portion of the caſe of the great hippocampus, which forms the inferior prolongation of the lateral ventricles.
b b Portion of the poſterior prolongation of the ſame ventricles, or of the ancyroid cavity.
c c Poſterior portion of the choroid plexus of the lateral ventricles.

FIGURE II.

This Figure repreſents the Brain diſſected through its Baſe, and cut almoſt horizontally at the height of the Nerves and Optic Tract. This preparation is intended to bring into view the anterior and inferior part of the Corpus Calloſum; the Medullary partition of the third Ventricle; the paſſage of the Optic Nerves into the Baſe of the Brain; the inferior extremity of the *Tænia ſemicircularis*, and a ſection of the Crura of the Brain, near the Annular Protuberance.

A A The anterior lobes of the brain.
B B The lateral lobes.
C C The poſterior lobes.
D D Ridge of *Sylvius*, with its diviſions.
E E E E Medullary ſubſtance of the brain, in which are obſerved points of a red colour, which are occaſioned by the ſection of the ſmall arteries.
F F Deep portion of the corpora ſtriata.
G G Part of the poſterior prolongation of the lateral ventricles, in which the *ſpur*, or ſmall hippocampus, is ſhut up.
H Horizontal ſection of the poſterior boundary of the corpus calloſum. Here the white tranſverſe fibres are ſeen.
I I A ſomewhat oblique ſection of the corpora quadrigemina.

K K The

K K The crura of the brain, which a little farther off are diſſected from right to left, in the region where theſe productions are blended with the annular eminence, and under the oculo-muſcular nerves.

L L Medullary portion of the crura of the brain.

M Various ſegments of a white, aſh, or red colour, ſomewhat concentric, which are diſpoſed round the opening marked N.

N Section of a narrow conduit, which paſſing under the tubercula quadrigemina, reaches to the third or fourth ventricle.

O O Oculo-muſcular nerves, or thoſe of the ſixth pair. They ariſe in a foſſa, ſituated between the crura of the brain.

P P Perforated ſubſtance into which numerous veſſels enter. It is found near the fibres where the olfactory nerves partly ariſe.

Q Q Inferior portion of the tænia ſemicircularis. The ſmall threads which compoſe the extremity, are obſerved ſometimes ſeparate from one another, inſtead of being reunited.

R Mammillary eminences, called *Eminentiæ Candicantes*.

S S Optic nerves cut at their entrance into the orbit, and turned backward, to obtain a view of the partition of the third ventricle.

T T *Tractus* opticus in the form of a rounded cord, which on one part is continued with the optic nerves S S, and which on the other becomes enlarged at U U. It becomes ſtill larger behind, where it forms three kinds of projectures or eminences. The *tractus* opticus is blended with the thalami which bear the ſame name.

V Commiſſura anterior.

W W Pulpous partition of the third ventricle. Tarin (Adverſ. Anat. Pag. 3.) has diſtinguiſhed it by the name of *Pars infundibuli anterior ſua peculiari ſubſtantia circumſcripta*.

X Place where the corpus calloſum becomes ſmaller.

Y Anterior boundary of the corpus calloſum.

Z Z White cords or tracts, which proceed in a diverging direction from the corpus calloſum, towards the perforated ſubſtance, near the origin of the olfactory nerves, called Peduncles of the Corpus Calloſum.

& A very ſtrait longitudinal excavation, which is formed by two ſmall imboſſes, or cords, ſituated between the peduncles of the corpus calloſum.

FIGURE III. IV. V.

The explanation of the letters is in general the ſame as in Figure II.

Notice is taken only of ſome varieties in the ſize and direction of the fibres of the lamina, which ſhuts up the third ventricle. This lamina covers entirely the anterior commiſſure in Figures IV. V.

The anterior and inferior portion of the corpus calloſum varies much alſo in Figures III. IV. and V.

The peduncles of the corpus calloſum are here ſeen as in Figure II, Z Z.

The cords ſituated between theſe two peduncles are much more voluminous than in Figure II.

They are ſeen in B B, Figure III. IV. and V.

The cavity of the caſe of the ſeptum lucidum, is alſo very different in theſe three ſubjects.

In C, Fig. III, it is ſo narrow as to exhibit only the appearance of a ſimple line.

In C, Fig. V. it is lengthened and ſtrait; and in C, Fig. IV. it is triangular.

In Fig. II. III. this excavation extends to the anterior commiſſure.

In Fig. IV. V. it is ſeparated from it by a ſpace more conſiderable in Fig. IV. than in Fig. V.

When a vertical ſection of the brain is made into two parts, the one right and the other left, it is neceſſary to make the incision with much caution, in the ſame direction as in Figures II. III. IV. V. in order to ſeparate the two laminæ of the ſeptum lucidum, in ſuch a manner that they may be left one on each ſide. This Anatomical problem is certainly of very difficult ſolution. It is on this account it has been thought neceſſary to deſcribe all theſe various circumſtances.

THE

Fig. 1.

Fig. 3.

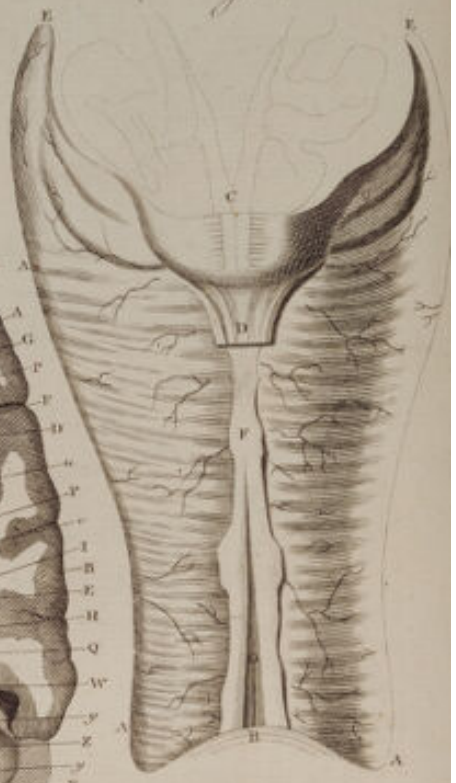


Fig. 2.

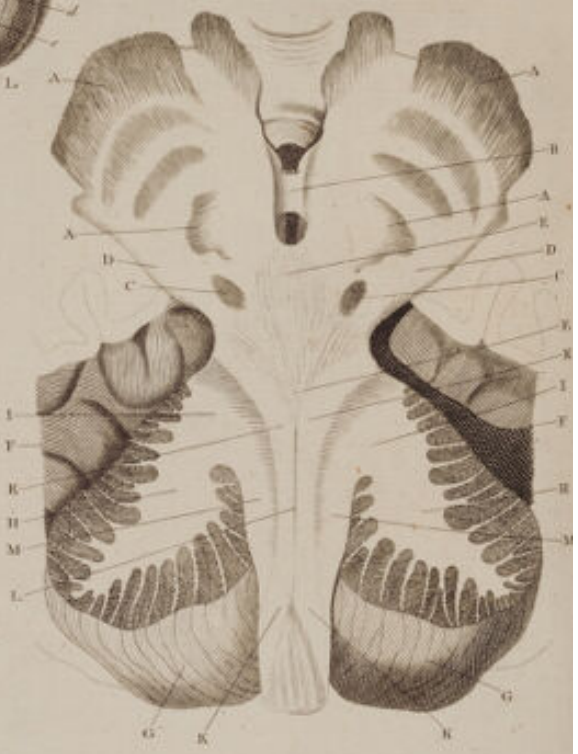
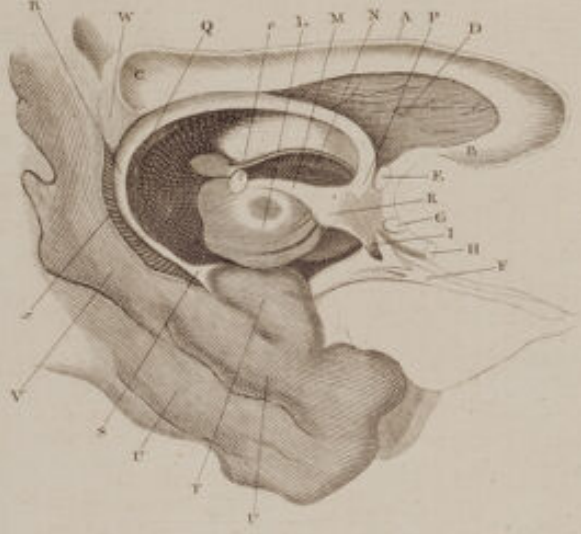


Fig. 4.



Albert Prinz & Debaufre fecit.

THE

Twenty-third Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE Brain being reverſed ſo as to preſent the Baſe uppermoſt; if a horizontal inciſion be made, commencing in a level with the corpora pyramidalia, and continued along the thickneſs of the Tuber Annulare, of the Crura of the Brain, of the Corpora Striata, laterally, anteriorly, and backwardly, and of the correſponding parts of the two Hemiſpheres; ſuch a preparation as this is obtained.

The ſtudy of this plate is intereſting, as it repreſents to better purpoſe than any poſſible deſcriptions the relations of the Medulla Oblongata, and Corpora Pyramidalia with the Tuber Annulare, with the Crura and the whole Medullary ſubſtance of the Brain. The Corpora Striata, the third Ventricle open beneath, and the Anterior Portion of the Corpus Calloſum, are here ſeen.

A A A A Anterior lobes of the brain.

B B Lateral.

C C Poſterior lobes of the brain.

D Cortical ſubſtance of the brain forming different windings in the circumvolutions of this viſcus.

E E E E White ſubſtance of the brain, on which are obſerved red points, produced by the ſection of the blood-veſſels.

F F Ridge of Sylvius, with the circumvolutions which accompany it.

G G Very faint cortical tracts, which are found between the ridge of Sylvius and the corpora ſtriata.

H H Section of the cornu ammonis, the exterior of which is formed of a white thalamus, and the interior of an aſh-coloured ſubſtance.

I I Portion of the choroid plexus of the great ventricles, which has been cut in this preparation.

K K K K Circumference of the cerebellum.

L L M O View of the under part of the cerebellum; where its circumvolutions are obſerved, forming various ſmall elevations decuſſating each other in ſeveral points.

M M Lobule of the nervus vagus.

N N Groove of the crura cerebelli.

O O Portion of the anterior and inferior ſurface of the cerebellum, the circumvolutions of which proceed in a different direction to thoſe L L.

P P P P P P P P Various arches of the corpora ſtriata, the thalamus nervi optici, the crura cerebri, compoſed of an intermixture of cineritious and medullary ſubſtance.

Q Q The *Locus niger crurum cerebri.*

R Section of the anterior boundary of the corpus calloſum, the bands of which are ſituated tranſverſely.

S S Inferior ſurface of the anterior portion of the corpus calloſum.

T T Diviſion of the ſeptum lucidum, the two blades of which are very diſtinct; they are very narrow, eſpecially before.

U Cavity of the third ventricle open below, and which is bounded ſuperiorly by an interlacement of veſſels, named the Choroid plexus.

V Commiſſura poſterior, ſeen inferiorly.

W W The crura cerebri.

X X White ſubſtance of the crura cerebelli, cut horizontally.

Y Y Y Y The tuber annulare cut horizontally, in a level with the corpora pyramidalia, e e.

Z A *Raphe*, which ſeems to divide the tuber annulare into two parts, the one right, the other left.

a a Origin of the medulla oblongata.

b The medulla ſpinalis, ſeparated into two cords by the ſmall ridge, c.

d d Eminentiæ olivariæ.

e e Corpora pyramidalia, ſituated on the anterior part of the medulla oblongata.

FIGURE II.

This inciſion made upon the Brain, a view of the Baſe of which is given, is deeper than the preceding. The Medulla Oblongata has been cut to the middle, and the Section continued horizontally throughout the whole extent of the Brain. The greater part of the *tracts*, bands, or arches, which are ſeen in the foregoing Figure, are found here. This diſſection of the Brain, made either from above or from below, by ſucceſſive cuts from its ſurface towards its centre, ſhows the ſtructure of each of the parts which compoſe the Brain. The Brain employed for this preparation, was hardened by the action of a mixture of Spirit of Wine and Marine Acid. A detailed explanation of thoſe parts only, which are peculiar to this Figure, is here given.

A A A A Internal parts of the corpora ſtriata, compoſed of an intermixture of medullary and cineritious ſubſtance, variouſly ſtriated.

B Commiſſura mollis of the optic thalami, ſeen below.

C C The black ſpot, or *locus niger* of the crura of the brain.

brain. They are here much ſmaller than in the preceding figure.

D D The crura cerebri.

E E Filaments intermixed with the white and aſh-coloured ſubſtance, reſembling a pencil. They are found about the middle of the annular protuberance.

F F Poſterior lobes of the brain.

G G Occipital ſurface of the cerebellum.

H H White ſubſtance ſituated in the middle of the cerebellum.

I I And white ſubſtance of the crura cerebelli, cut horizontally.

K K K K White *tracts* ſeen on the two ſides of the chink, or very narrow groove of the anterior ſurface of the medulla oblongata.

L Chink or groove of the anterior region of the medulla oblongata.

M M Lateral ſpaces of the medulla oblongata, which correſpond to the part where the corpora olivaria were, and a part of the corpora pyramidalia. The tranſverſe filaments are ſeen here.

FIGURE III.

Repreſents the under-part of the Corpus Calloſum, the remainder of the *Septum lucidum*, and of the medullary triangle, the ſuperior part of the Lateral Ventricles, and a Portion of the Poſterior Prolongation of the ſame Cavities.

A A A A The corpus calloſum.

B Anterior margin of the corpus calloſum, the tranſverſe fibres of which are ſeen blended in the horizontal ſection of the brain.

C Poſterior edge of the corpus calloſum, with a portion of its raphe, and the tranſverſe fibres ſituated laterally.

D Poſterior portion of the medullary triangle, which is attached to the poſterior and inferior region of the corpus calloſum.

E E Poſterior prolongation of the lateral ventricles.

F G The courſe of the ſeptum lucidum, the two laminæ of which are diſtinctly ſeen, eſpecially in G.

FIGURE IV.

In this Figure is ſeen a perpendicular Section of the Brain, made through its Baſe, and repreſented in an oblique direction, for the purpoſe of ſhewing how the inferior prolongations of the Lateral Ventricles may be penetrated without injuring any part of the Brain. It is ſufficient to raiſe up carefully in the Baſe of this viſcus that part which is called the *Crochet* of the Great Hippocampi. In this Figure the indented or plaited margin of theſe productions is diſtinctly ſeen.

The Optic Thalamus is cut deep, the Poſterior Pillar of the Medullary Triangle is removed from the Pineal Gland; a great extent of the Choroid Plexus is ſeen, and the inferior prolongation of the Lateral Ventricles is more open than in the natural ſtate, to obtain a view of all the parts of this deſign.

A B C The corpus calloſum cut vertically and horizontally through the middle.

D Left limb of the ſeptum lucidum, upon which are ſeveral ramifications, which are furniſhed by the great choroid plexus.

E Section of the anterior commiſſure.

F Olfactory nerve, with its roots.

G Section of the optic nerves at the place of their junction.

H Left optic nerve.

I Section of the infundibulum, or pituitary ſtalk.

K Left mammillary eminence.

L Reddiſh ſpot environed with a circle of white ſubſtance, in the thickneſs of the optic thalamus, which is here cut obliquely in a level with the mammillary eminence.

M Whitiſh ſpace, which extends from the mammillary eminence to the poſterior commiſſure.

N Remainder of the commiſſura mollis of the optic thalami.

O The poſterior commiſſure.

P Anterior pillar of the vault, or medullary triangle.

Q Portion of the great choroid plexus.

R Poſterior pillar of the medullary triangle, which extends on one part in P, and on the other, in S, to the extremity of the cornu ammonis.

S This laſt portion of the pillar of the medullary triangle, called *Tænia hippocampi*, and improperly *Corpus fimbriatum*, is formed of a white ſubſtance, and expands over a portion of the cerebral ſubſtance, which forms the baſe of the great hippocampus, or cornu ammonis.

T Cerebral circumvolution, which forms what is called *Crochet* of the great hippocampus.

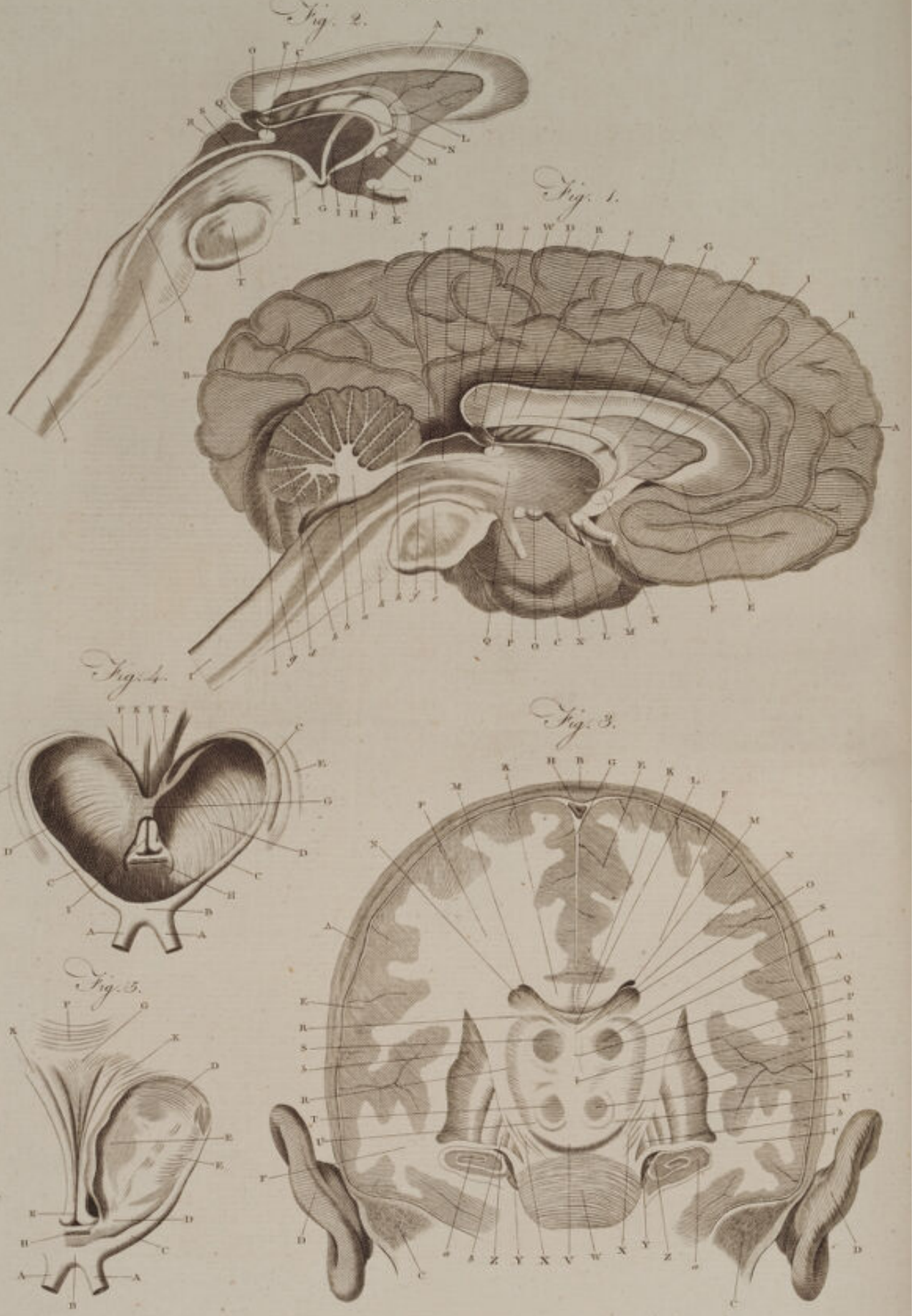
U Cerebral circumvolutions ſituated near the *Crochet* of the great hippocampus.

V Circumvolutions ſituated near the great hippocampus, or cornu ammonis, and which ſerve to form its Caſe, or Sheath.

W Origin of the great hippocampus in a tract of aſh-coloured ſubſtance.

X Indented border or notched portion of the great hippocampus.

THE



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THE

Twenty-fourth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

REPRESENTS the left half of the Brain. This preparation is extremely difficult to make. It has been designed from a Brain viewed on its Base, the convex surface of which was turned downward. This position was necessary to prevent the numerous projectures which the Base of this organ presents to view, from being deformed by pressure.

A Anterior lobe of the brain.

B Posterior lobe of the brain.

C Deep portion of the middle lobe, which is received into the middle *fossa* of the brain.

D Middle lobe of the brain.

E A circumvolution, the windings of which are parallel.

F G H The corpus callosum cut vertically and horizontally through the middle. In G is seen a portion of its superior surface and raphe,

I Left limb of the septum lucidum, upon which are several ramifications which are furnished by the great choroid plexus.

K Section of the commissura anterior.

L Section of the optic nerves at the place of their junction.

M Left optic nerve.

N Section of the infundibulum, or pituitary stalk.

O Left mammillary eminence.

P Motor-oculi, or nerve of the third pair.

Q Internal surface of the optic thalamus.

R R Left portion of the medullary triangle, or vault with three pillars.

S Very small portion of the tænia semicircularis.

T Portion of the great choroid plexus; where also is seen the anterior and internal tubercle of the optic thalamus.

U The pineal gland, in which is observed a small white tract produced by the posterior part of the peduncle.

V The peduncle of the pineal gland. It becomes rounded anteriorly, and disappears near the anterior pillar of the medullary triangle.

W Posterior commissure.

X Y *Tubercula quadrigemina*, superior and inferior.

Z Communication of the third ventricle, or ventricle of the optic thalami, with the fourth ventricle, or ventricle of the cerebellum.

a Trunk and principal branches of the medullary substance in the interior of the cerebellum, from which

b b b The medullary ramifications are seen to issue, the reunion of which forms what is commonly called the Arbor vitæ.

c Posterior margin of the cerebellum.

d Portion of the choroid plexus of the cerebellum.

e f Various tracts of the more or less white substance, and which are extended over the medulla oblongata.

FIGURE II.

Presents a view of the same parts with the centre of the preceding Figure: But the organs are prepared in such a manner, as to represent the proportions of the different cords or tracts, with the Medullary eminence and intermediate space. A portion of the internal partition of the Optic Thalamus has been elevated, to obtain a view of the prolongation of the Medullary tracts. The Anterior Pillar of the Medullary Triangle has been detached and cut, to obtain a view of the whole extent of the Tænia Semicircularis, of which there is only a small portion seen in the preceding Figure. Here the Corpus Callosum is raised up, and the Posterior and narrow portion of the Septum Lucidum is seen, which is not perceivable in Figure I.

A The corpus callosum cut vertically and horizontally through the middle, and raised up so as to show the posterior and narrow portion of the septum lucidum.

B Anterior portion of the septum lucidum, upon which are several ramifications supplied by the choroid plexus.

D Section of the anterior commissure.

E Left optic nerve.

F Section of the optic nerves at the place of their junction.

G Left mammillary eminence.

H Stalk of the medullary substance, which proceeds from the junction of the anterior pillar of the medullary triangle, cut in M, with the peduncle of the pineal gland.

I A white cord which rises from the mammillary eminence G, and proceeds in a curved direction to the anterior and internal tuber of the optic thalamus. In the mammillary eminence it mixes with the stalk H, and with

K K Some white tracts of the medulla oblongata.

L Anterior portion of the tænia semicircularis, the fibres of which divide and disappear towards the anterior and internal part of the corpora striata, in the white substance which it there meets with, and before the commissura anterior.

M The anterior pillar of the medullary triangle dissected.

The subsequent letters pointing to parts already explained in the preceding figure: the Reader is therefore referred to it.

FIGURE III.

Represents a perpendicular Section of the Brain, from right to left, in the middle region of this organ.

A A Vertical section of the bones of the cranium, which are composed of two osseous laminæ and of the *diploe*.

B Section

B Section of the same bones in the part which corresponds to the crown of the head, or vertex.

C C Section of the temporal bone in the mastoid region.

D D Cartilages of the ears.

E E Circumvolutions of the brain, composed of cortical substance, which forms various hollows in the medullary.

F F F F The medullary portion of the hemispheres of the brain.

G H Section of a vertical production of the dura mater, called the Falx of the brain. In H is seen a section of the superior longitudinal sinus, of an irregular triangular form. Different black points observed in the thickness of the falx, mark the veins which spread between the membranes of this production. Their orifices possess this peculiarity, that almost all of them are of an oval, instead of a round form. It may be farther observed, that the inferior extremity of the falx does not reach the corpus callosum, marked K K; which shows how ill-founded is the assertion of those who have advanced, that the use of the falx was to support this corpus.

K K Vertical incision of the corpus callosum.

L Perpendicular section of the medullary triangle.

M M Oblique and narrow chink, formed by the lateral or superior ventricles.

N N Superior and anterior portion of the corpora striata.

O P Q Vertical incision of the third ventricle, also called Ventricle of the optic thalami. In O Q is the superior, and in P, the inferior portion of this ventricle.

R R R R S S Vertical incision of the optic thalami, seen exteriorly and interiorly. Their circumference is marked in R R R.

In S is a reddish spot environed with a white circle.

T T U U V Vertical incision of the crura of the brain, near the tuber annulare.

In T is a reddish spot; and in V is a semicircular trace of the black spot, or *locus niger crurum* cerebri.

W Section of the tuber annulare, the transverse fibres of which are seen.

X X Very faint filaments of an ash-coloured substance, which rises from the tuber annulare along the external border of the crura of the brain, and of the optic thalami.

Y Y Posterior cerebral artery divided.

Z Z Section of the choroid plexus which is situated along the great hippocampi.

a a Perpendicular section of the cornu ammonis, or great hippocampus; in which is seen a medullary lamina of a spiral shape, terminating in a small hook, and also a cortical substance distributed in the interior of this production.

b b b b Triangular section of the corpora striata, on which different arches are seen, some of a cortical, and others of a medullary substance.

FIGURE IV. V. *and* FIG. I. *of the following Table.*

These three Figures represent the Internal Structure of the Optic Thalami, and the intimate origin of the nerve of the same name.

This Dissection has been made by excavating the Optic Thalami the whole length of the Nerve, and of the Optic tract itself.

The Fifth Figure, and Fig. I. of Tab. XXV. express the hollow incisions at a greater depth than the fourth.

These Figures are intended to demonstrate how the Thalami Optici contribute to the formation of the Nerves of the Second Pair.

A A The optic nerves dissected very near their entrance into the orbit.

B The junction of these nerves.

C C C The optic tract, which becomes smaller in proportion as it proceeds backward. It is along the course of this tract that a hollow section of the optic thalamus has been made, to obtain a view of the roots of the nerve with which it is connected.

D D White filaments which, from the interior of the optic thalamus, extend in a winding direction to the optic tract, which increases in size in proportion as it receives them.

E E Posterior and inferior extremity of the *Tænia semicircularis*.

F F Posterior view of the whitish and exterior portion of the thalami optici.

G The commissura mollis of the thalami optici.

H Anterior commissure.

I Anterior view of the two pillars, or columns of the medullary triangle.

K K The same two pillars viewed posteriorly.

FIGURE V.

A A B C As in the foregoing figure.

D D E E Excavation of the optic thalamus, made along the tract of the same name.

F Transverse fibres of the corpus callosum.

G Filaments which have been compared to a harp, between the posterior pillars of the vault K K K.

H As in Figure IV.

THE

Fig. 13.
Fig. 12.
Fig. 14.
Fig. 11.
Fig. 10.
Fig. 9.
Fig. 8.
Fig. 7.
Fig. 6.
Fig. 5.
Fig. 3.
Fig. 2.
Fig. 1.
Fig. 4.

THE

Twenty-fifth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE letters point out the ſame parts as in the two laſt Figures of the preceding Table. Here the excavation made along the Tractus Opticus, is more conſiderable than in Figures IV. & V. Tab. XXIV. to which this Figure belongs. A view is likewiſe given of the Medullary Fibres D E, which run in different directions.

FIGURE II. III.

Having explained in ſeveral deſigns the diſpoſition and exterior ſtructure of the great Hippocampi, or Cornua Ammonis in their entire ſtate, it is thought neceſſary to explain their interior ſtructure by different Sections. Figures II. & III. of this Plate repreſent a Longitudinal Section, from top to bottom, along the great Hippocampus of the right-ſide. Figure II. repreſents the external, and Figure III. the internal portion of this production.

A The inferior and anterior extremity: It is too large.

B The poſterior extremity, which is ſomewhat too elevated, and is too ſmall.

C The ſuperior margin.

D The inferior margin.

E E A portion of the neighbouring cerebral circumvolutions.

F F Medullary ſubſtance which forms the ſheath of the great hippocampus on the ſide of the ſuperior margin.

G H Two white tracts which follow longitudinally the direction of the great hippocampus, in the interior of which they are ſituated. They are curved at the bottom; they become thinner towards the ſmall, and larger towards the thick extremity of the great hippocampus; and it is in this region, and between theſe two tracts, that a ſmall excavation is found. This excavation opens beneath the enlargement of the great hippocampus, and is analogous to the narrow and irregular cavities which are ſeen between the circumvolutions of the brain.

I K A gray or cortical ſubſtance, ſituated between the tracts or medullary fibres, G H.

L The rounded enlargement of the cornu ammonis.

M Neighbouring cerebral circumvolutions.

FIGURES IV. V. VI. VII.

Theſe deſigns are meant to repreſent inciſions made vertically from right to left, along the great Hippocampus. The Section repreſented in Figure IV. has been made very near the origin of this production, backward, where it is narroweſt. Figure VII. repreſents this production, divided towards its inferior extremity in the very enlargement of the great Hippocampus. The Sections of Figures V. & VI. have been made in the intermediate ſpace; that of Figure V. nearer the ſmall extremity, and that of Figure VI. nearer the enlargement or thick extremity of this production.

A The inferior,

B The ſuperior,

C The internal,

D The external margins.

E Vertical ſection of the *Tænia hippocampi*, or corpus fimbriatum.

F A portion of the indented border of the great hippocampus, conſiſting of a gray or cortical ſubſtance.

G G A tract or white fibre, which forms the ſheath of the great hippocampus, and which is interiorly of a ſpiral form.

H Cortical ſubſtance, which compoſes the greater part of this production.

I White or medullary ſubſtance of the neighbouring circumvolutions.

K Cortical ſubſtance of the ſame circumvolutions.

FIGURE V.

With regard to this Figure, it need only be remarked, that the ſpace included between E F, that is, between the Tænia Hippocampi, and indented border, is ſomewhat larger than in Figure IV.

FIGURE VI.

Here the external and internal Medullary Spiral lines are more extended than in the preceding Figures, as may be ſeen in E G.

FIGURE VII.

In this Vertical Section of the enlargement of the great Hippocampus, is ſeen the ſame excavation as in Figure II. & III. marked I.

In L is the oval and irregular circumference of the enlargement of the great Hippocampus.

FIGURE VIII.

This deſign ſhews the place occupied by the Crura of the Brain, the Nerves and *Tractus Optici*, the inferior part

part of the *Tænia Semicircularis*, and the inferior surface of the Medullary Triangle.

A B B The inferior surface of the medullary triangle. In A are seen the transverse fibres which are the remains of the corpus callosum; and towards the middle of this surface, between B B, are the small threads resembling the cords of a lyre.

C C Part of the superior prolongations of the lateral ventricles.

D D The optic nerves.

E The union of the optic nerves.

F F F F *Tractus* opticus.

G G G G Posterior tubercles of the optic thalami.

H H H H Internal margin of the optic thalami.

I I I Circumference and section of the crura of the brain. Through the space which the crura occupy, the thalami optici are seen to extend, from whence they proceed to the annular protuberance. In I I is also seen the locus niger, of which mention has been formerly made.

K K The mammillary eminence.

L L A portion of the lateral lobes situated near the hook, or crochet of the hippocampi, which is not here seen.

M M M M Inferior portion of the striated bandelette, or tænia semicircularis.

N N Olfactory nerves.

O The roots of the same nerves. A perforated substance is observed between the optic nerves and the external and long roots of the olfactory nerves.

FIGURE IX.

This Figure represents a Section of the Brain viewed on its Base, and prepared in such a manner as to shew the whole extent of the Commissura Anterior.

A Medullary portion belonging to the corpus callosum.

B B B B Posterior part of the lateral ventricles.

C C A fragment of the middle lobes of the brain.

D D The choroid plexus seen in the sheath of the great hippocampi, along the external margin of the *tractus* opticus.

E E The optic nerves pulled backwards, to shew the anterior pillars of the vault, or medullary triangle.

F Union of the optic nerves.

G *Tractus* opticus.

H H The mammillary eminences, which are here much farther separated from one another than in the natural state, on account of the forced position of the optic nerves.

I Section of the conduit which proceeds under the tubercula quadrigemina of the third ventricle, towards the fourth.

K K The *locus niger* of the crura of the brain.

L The choroid plexus of the third ventricle, a portion of which is here seen.

M Anterior columns or pillars of the vault, or medullary triangle.

N N A portion of the corpora striata, which are found between the commissura anterior and the *tractus* opticus.

O O O The commissura anterior, which in the middle is narrow and fibrous, and becomes gradually larger, till it is blended with the medullary substance found above the cornu ammonis.

P The commencement of the furrow which, inferiorly, separates the two anterior lobes of the brain.

Q Q Section of the olfactory nerve, cut perpendicularly from right to left.

FIGURE X.

Shews the Cornu Ammonis, or great Hippocampus of the right-side, with part of the Case which contains it, and which is opened laterally.

A B C The great hippocampus, the origin of which is found in A, the enlargement in B, and the convex margin in C.

D D Tænia hippocampi, or corpus fimbriatum. It is situated in the concave or internal margin of the cornu ammonis.

E F G H The sheath or case of the great hippocampus open on the side E. The concavity of this cell or case is formed, in some parts of a gray, and in others of a white substance. Various *striæ*, composed of these substances, cross one another in various directions; and in H are *laminæ* of different gradations of colours.

The design of this figure is to make known the internal structure of this sheath or case of the great hippocampi.

FIGURE XI. XII.

A perpendicular and longitudinal Section of one of the Mammillary Eminences. Each of these two Figures represents one of the Proportionate Parts which result from this Section.

A The rounding of the eminentia mammillaris, the outside of which is composed of a white substance.

B B The margin which corresponds to the base of the brain.

C Section of the optic nerve.

D The posterior extremity.

FIGURE XIII.

This Figure is intended to represent a View of the small Calculi of the Pineal Gland.

A Anterior columns of the medullary triangle.

B Anterior commissure.

C C *Tænia semicircularis*.

D D Thalami optici.

E E Anterior tubercles of these thalami.

F F Tubercula quadrigemina superiora.

G G Tubercula quadrigemina inferiora.

H A medullary lamina, improperly called Valve of Vieussens.

I I Nerves of the fourth pair, or pathetic.

K K Internal margins of the optic thalami, which form the third ventricle.

L L Peduncles of the pineal gland.

M The pineal gland.

The peduncles of this gland, in the place of their enlargement, frequently form a sort of small funnel, in which (or near which) is placed

N A collection of small calculi, called by Soemmerring, "Acervulus Cerebri."

The small calculi of the pineal gland are distributed in three different ways.

1. They are united and grouped so as to form the Acervulus of Soemmerring, at the base of the pineal gland, near the posterior commissure, and under the choroid plexus.

2. They are sometimes observed scattered at the sides of the pineal gland, where they form some small peculiar acervuli.

3. They are also frequently planted in an irregular manner, in the substance of the gland itself.

FIGURE XIV.

This design shews the Interior Structure of the Corpus Striatum, and the manner in which the Olfactory Nerve issues from it. The Section which it represents was made on the Base of the Brain, longitudinally and perpendicularly, following the direction of the Olfactory Nerve.

A Section of the *tractus* opticus.

B Section of the commissura anterior.

C C C Various rows of *striæ* running in different directions.

D Section of a part of the optic thalamus, the colour of which is reddish.

E E Portion of the cavity of the lateral ventricles, which corresponds to the superior margin of the corpus striatum.

F G Olfactory nerve, the enlarged extremity of which is seen in G, and the tuber triangulare in I. It is blended in I and H, with the medullary substance with which the base of the corpora striata is encompassed. This substance penetrates into the interior of these corpora, where it appears under the form of irregular filaments, intermixed with different fibres of a gray substance. Such is one of the principal origins of the olfactory nerve.

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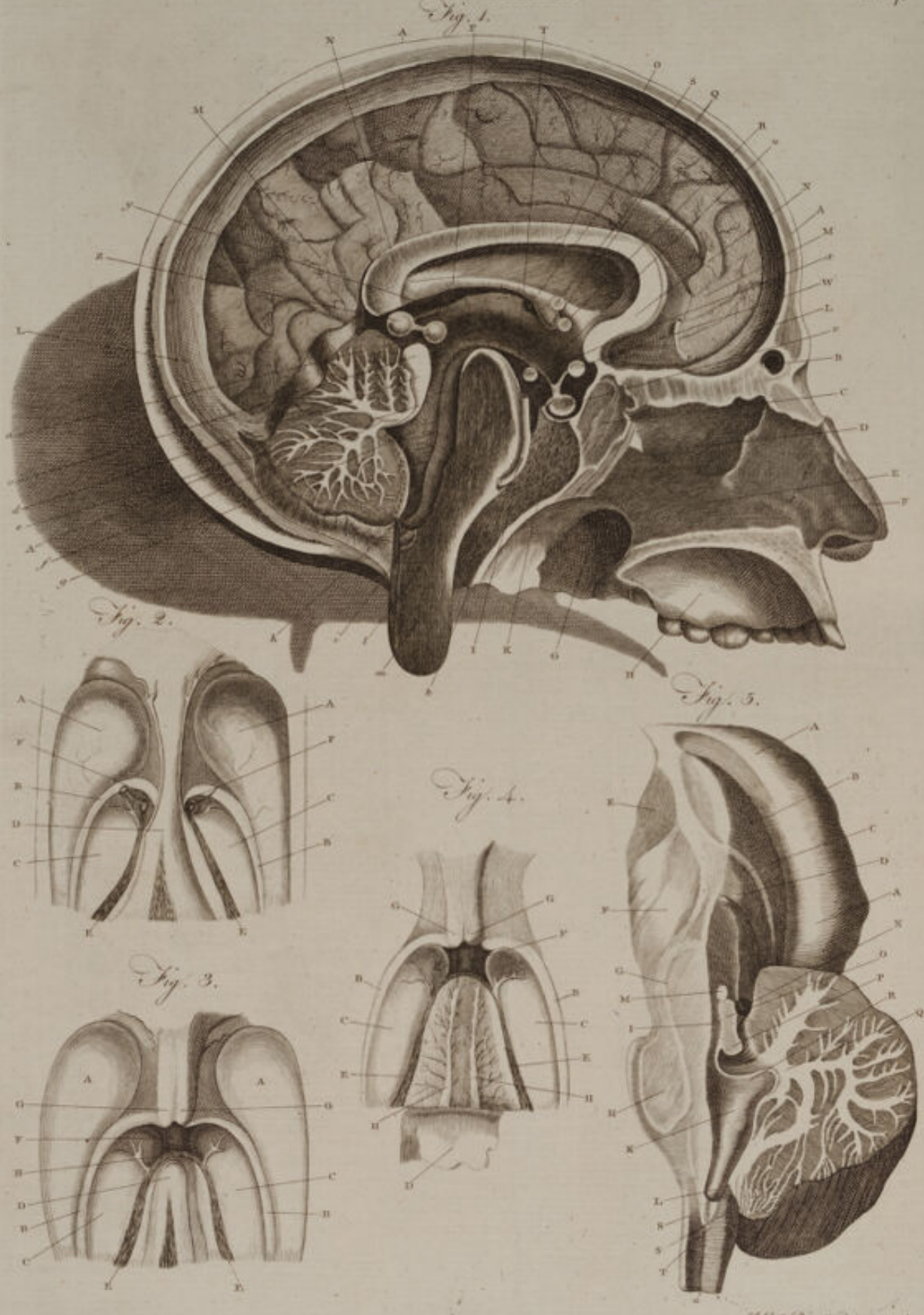

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THE

Twenty-ſixth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE Cranium, Brain, and Noſe, cut perpendicularly, cloſe to the right ſide of the Falx Cerebri, and Septum Narium.

A A A The ſection of the cranium.
B Part of the right frontal ſinus.
C Part of the right ſphenoidal ſinus.
D The naſal lamella of the ethmoid bone.
E The vomer; and F a cartilage compoſing the ſeptum narium.
G The opening from the left-ſide of the noſe into the throat.
H The roof of the mouth, and teeth of the left-ſide of the upper throat.
I Cancelli of the cuneiform proceſs of the occipital bone, and from it, upwards to the ſella turcica K, numerous and large cancelli were continued in this ſubject.
L L The root of the falx.
M M The inner ſide of the left hemiſphere of the brain.
N N A ſection of the corpus calloſum.
O The ſeptum lucidum.
P The body of the fornix.
Q The two anterior crura of the fornix.
R A ſection of the commiſſura anterior.
S The paſſage by which the lateral ventricles of the brain communicate with each other, and with the third ventricle.
T The left-ſide of the third ventricle, ſituated under the left thalamus nervi optici.
U The infundibulum at the bottom of the third ventricle.
V The glandula pituitaria, lodged in the ſella turcica.
W A ſection of the right optic nerve.
X A ſection of the right corpus albicans, behind the infundibulum.
Y Part of the choroid plexus.
Z The pineal gland, with two peduncles, one of which connects it to the ſide of the third ventricle, and the other to
a which is a ſection of the commiſſura cerebri poſterior.
b The iter ad quartum ventriculum.
c d A ſection of the nates and teſtes.
e The Valvula Vieuſſenii.
f The arbor vitæ of the cerebellum.
g The cavity of the fourth ventricle.
h The bottom of the fourth ventricle, ſhut by the vaſcular, or choroid plexus and pia mater.
i A ſection of the tuber annulare.
k The baſilar artery.
l A ſection of the medulla oblongata.
m A ſection of the upper part of the ſpinal marrow.

FIGURES II. III. IV.

Communication of the Lateral Ventricles of the Brain with each other, and with the third Ventricle.

FIGURES II. III.

A A A A Repreſents the fore-part of the corpus ſtriatum.
B B B B The centrum ſemicirculare geminum.
C C C C The thalami nervorum opticorum.
D D The body of the fornix.
E E E E The choroid plexuſes.
F F Figure II. A crooked pin conveyed through the paſſage, by which the lateral ventricles communicate with each other.
F Figure III. Shows the hole or paſſage, under the middle of the communication of the lateral ventricles with each other, by which the lateral ventricles communicate with the third ventricle.
G G Figure III. The anterior crura of the fornix.
H The union of the two choroid plexus, ſituated at the back-part of the paſſage between the two lateral ventricles.

FIGURE IV.

In this Figure the Fornix, which was repreſented in Figure III. cut acroſs, is repreſented raiſed and turned backwards.

B B The centrum ſemicirculare geminum.
C C The thalami nervorum opticorum.
D The under-part of the body of the fornix, which was cut acroſs and turned back.
E E The choroid plexuſes of the two ventricles.
F The paſſage by which the lateral ventricles communicate with the third.
G G The anterior crura of the fornix.
H H A membrane with many veſſels containing red blood, which covers and conceals the third ventricle, ties together the choroid plexuſes, and adheres ſo cloſely to the thalami nervorum opticorum, as to allow under it no communication of the lateral ventricles with the third ventricle. The letters H H are placed at two principal veins of this membrane, and which, farther back, unite to form a vein which terminates in the torcular Herophili, and which was obſerved by Galen, and has been named after him, Vena Galeni.

FIGURE

FIGURE V.

A perpendicular Section of the Corpus Striatum, Thalamus Nervi Optici, Crus Cerebri, Tuber Annulare, Pineal Gland, Commiſſura Cerebri Poſterior, Nates, Teſtes, Cerebellum, and Fourth Ventricle, with the back-view of the Medulla Oblogata.

A A The under or inner ſide of the corpus calloſum.
B The top of the corpus ſtriatum.
C The centrum ſemicirculare geminum.
D The top of the thalamus nervi optici.
E F A perpendicular ſection of the corpus ſtriatum, and thalamus nervi optici.
G A perpendicular ſection of the crus cerebri.
H A perpendicular ſection of the tuber annulare.
I The *Iter, a tertio ad quartum ventriculum.*
K The middle of the fourth ventricle.
L The bottom of the fourth ventricle, ſhut by the vaſcular or choroid plexus.
M The ſection of the commiſſura cerebri poſterior.
N The ſection of the pineal gland which adheres to the brain by two medullary peduncles.
O P The nates and teſtes.
Q The medullary part of the cerebellum, called Arbor vitæ.
R The Valvula Vieuſſenii, a medullary ſubſtance covered with cineritious matter.
S S The two poſterior oblong, ſomewhat pyramidal parts, which compoſe the medulla oblongata, and which are ſeparated from each other to about the depth of a quarter of an inch, by a fiſſure, into which the pia mater enters.
T Tranſverſe medullary bundles, joining the two pyramidal columns.
U The bottom of the medulla oblongata, or upper end of the ſpinal marrow.

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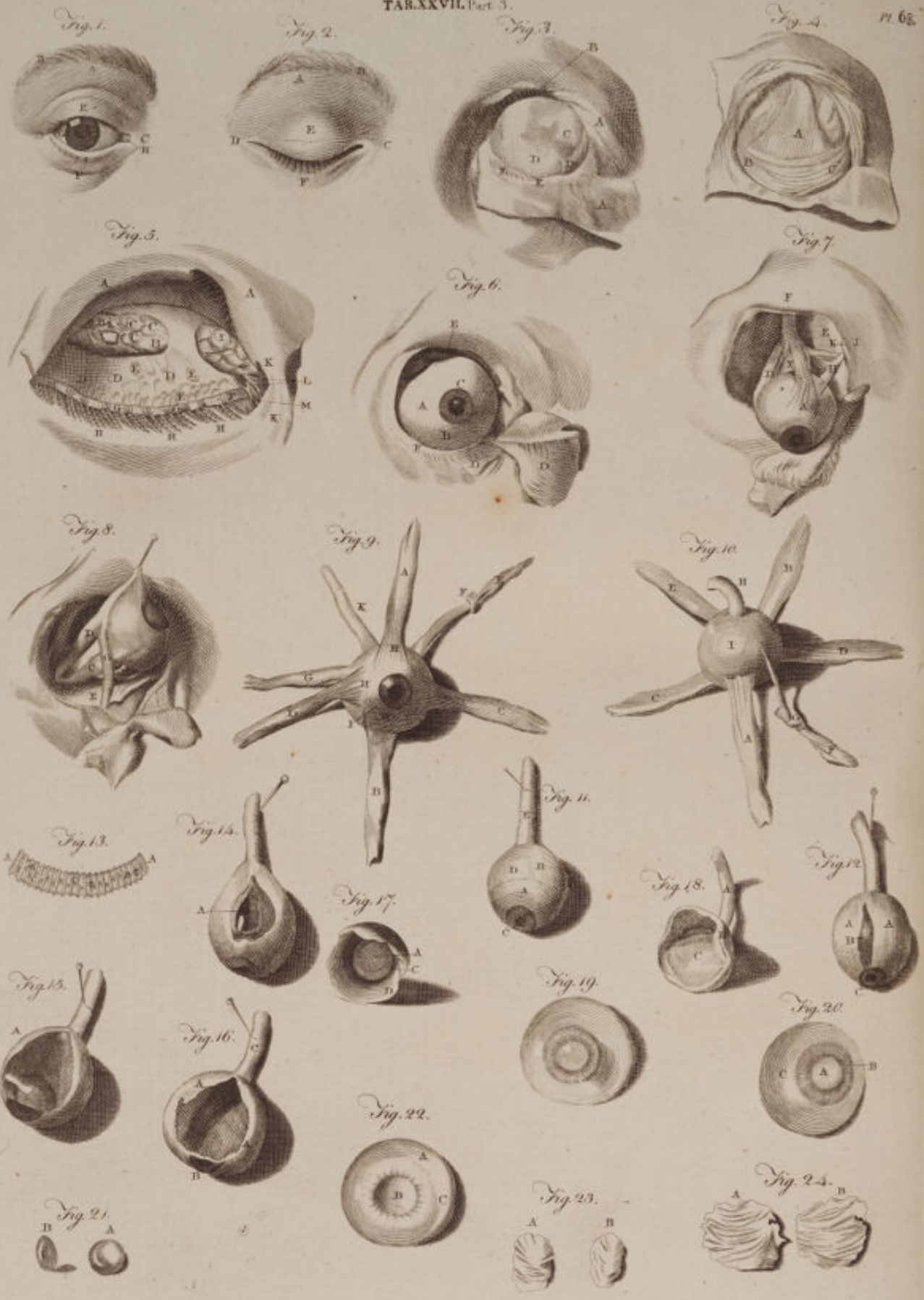


A. Bell S.A.F.S. Prof. Anat. & Wil. Sculpt.

THE

Twenty-ſeventh Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE external parts of the Eye, as they appear when the Eye-lids are opened.

A B The eye-brow: B The various diſpoſition of its hairs.
C The canthus major of the eye, or that next the noſe.
D The canthus minor.
E The upper eye-lid.
F The under.
G The white of the eye, covered with the tunica adnata, or conjunctiva.
H The caruncula lacrymalis.

FIGURE II.

The Eye-lids ſhut.

A B The eye-brow, as in the former figure.
C The canthus major of the eye.
D The canthus minor.
E The upper,
F The under eye-lid.

FIGURE III.

A A The ſkin, with the orbicularis palpebrarum muſcle removed.
B The bone of the upper part of the orbit of the eye laid bare.
C The lacrymal gland involved with fat.
D D A faint view of the excretory ducts of the lacrymal glands.
E E Several ſmall glands placed between the laſt-mentioned ducts.

FIGURE IV.

Parts of the Muſcles of the Eye-lids.

A Part of the levator palpebræ ſuperioris muſcle, at its inſertion into the upper eye-lid.
B C A portion of the upper part of the orbicularis palpebrarum, turned down, and ſtill adhering to the upper eye-lid.

FIGURE V.

Repreſents parts which are certainly not to be met with in nature. We ſhall, however, give the Author's deſcription.

The Lacrymal Glands, &c. within the Orbit of the Eye, repreſented larger than the life.

A A The upper part of the bones of the orbit.
B B C C The lacrymal gland.
D D D The vaſa lacrymalia.
E E E Several lacrymal glands placed between theſe glands.
F F G G The cartilages of the cilia, joined together by numerous membranes, C.
H H The hairs of the eye-lids turned upwards.
I Part of the lacrymal gland.
K K The bones of the noſe broken off, to obtain a view of the following ducts.
L M Ducts which convey the ſuperfluous moiſture of the vaſa lacrymalia from between the eye-lids, and ball of the eye, into the foramina narium.

FIGURE VI.

The Ball of the Eye lying within the Orbit, after the upper Eye-lid is removed.

A B The tunica adnata, placed on the fore-part of the ſclerotis.
C The iris, in the centre of which is the pupil.
D D The under eye-lid in ſitu, together with the upper diſſected.
E The bone of the orbit.
F The margin of the under eye-lid, from which the hairs grow.

FIGURE VII. VIII.

The Muſcles of the Eye, as they appear within the Orbit, when cleared of the Fat and adjacent parts.

A The attollens muſcle.
B Figure VIII. The adducens muſcle.
C The deprimens.
D Abducens.
E E The internal part of the bones of the orbit.
H The tendon of the obliquus ſuperior muſcle, paſſing through the trochlea K, to its inſertion behind the attollens muſcle.
I The external part of the bones of the orbit next the noſe.
K The trochlea, or ſmall cartilage, on which the tendon of the obliquus ſuperior muſcle is reflected.
X The optic nerve.

FIGURE IX.

The anterior parts of the Muſcles of the Right-Eye, taken out of the Orbit, expanded, and cleared of the Fat, Membranes, Glands, &c.

A Attollens.
B Deprimens.
C Adducens.
D Abducens.
E The trochlearis muſcle, with the trochlea.
F The cartilage of the trochlea, expreſſed *in ſitu*, Figure VII. K.
G The obliquus inferior muſcle.
H H H The tunica adnata, together with another membranous tegument derived from the tendons of the four ſtraight muſcles.
I The pupil.
K Optic nerve.

FIGURE X.

Poſterior view of the Muſcles of the ſame Eye, when taken out of the Orbit, &c.

A The abducens muſcle.
B Adducens.
C Obliquus inferior.
D Attollens.
E Deprimens.
F Obliquus ſuperior.
G The cartilage of the trochlea.
H A portion of the optic nerve.
I The back-part of the ball of the eye, formed by the tunica ſclerotica.

FIGURE XI.

The Ball of the Eye and Optic Nerve, freed from the Muſcles and their common Membranes, that the proper Membranes on their ſurfaces may be ſeen.

A Part of the tunica adnata, which is continued to the internal part of the eye-lids.
B D The tunica ſclerotica.
C The tunica cornea covering the iris, in the centre of which is the pupil.
E The optic nerve, covered by a continuation of the dura mater.

FIGURE XII.

A A The ſclerotis opened, to ſhew the tunica choroides immediately under it.
B The tunica choroides.
C The cornea, &c. as in the preceding figure.

FIGURE XIII.

Part of the Ligamentum Ciliare, viewed with a microſcope.

A A B B The ligamentum ciliare, conſiſting of two ſorts of fibres, one extending through its whole breadth A A, the other terminating in the mid-way B B.

FIGURE XIV.

The Ball of the Eye, together with a portion of the Optic Nerve, where the Tunica Sclerotica and Choroides are divided, to obtain a view of the Tunica Retina.

FIGURE XV.

Part of the Optic Nerve, together with the Coats of the Eye (Figure XIX. and XX.) taken out.

A The internal ſurface of the tunica retina.

FIGURE XVI.

Another view of the External and Internal Coats of the Eye, after the Humours are diſcharged.

A A The tunica ſclerotica.
B The cornea.
C Part of the optic nerve.

FIGURE XVII.

The internal and fore-part of the Coats of the Eye, the back-part of the Ball and Humours being removed.

A The tunica cornea.
C The inner ſurface of the iris, next the ligamentum ciliare.
D The tunica retina, choroides, and ſclerotica.

FIGURE XVIII.

The Inner Surface of the back-part of the laſt-mentioned Coats of the Eye.

A The optic nerve cut off, in which the diſtribution of its blood-veſſels are expreſſed.
B The tunica ſclerotica.
C The tunica retina, *in ſitu*.

FIGURE XIX. XX.

The Vitreous and Cryſtalline Humours of the Eye, when taken out of the Coats.

A The cryſtalline humour.
B The impreſſions of the ciliary proceſſes on the vitreous humour, and margin of the cryſtalline.
C The vitreous humour.

FIGURE XXI.

A B The cryſtalline humour taken out.
A Its fore-part next the aqueous humour.
B As it appears laterally.

FIGURE XXII.

A The anterior external part of the vitreous humour.
B A cavity in the vitreous humour, which receives the cryſtalline.

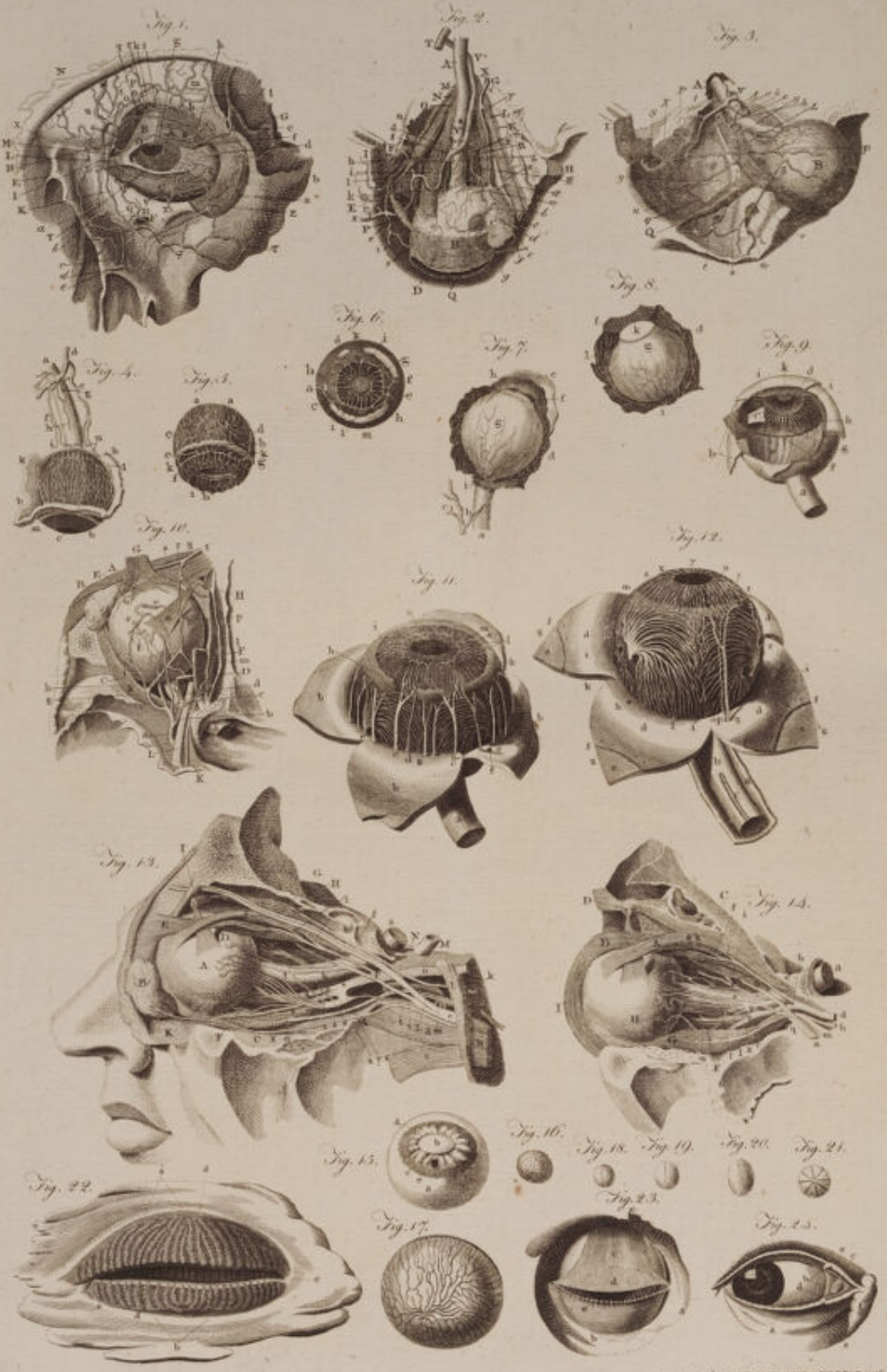
FIGURE XXIII.

A B The cryſtalline humour dried.

FIGURE XXIV.

A B The vitreous humour dried in like manner, leaving the ſuppoſed inveſting membrane only.

THE



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THE

Twenty-eighth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

THE EYE.

FIGURE I.

THE External Veſſels of the Eye. A great part of the Orbicular Muſcle is removed; the Noſe and its Veſſels not very accurately added, as they do not belong to this place.

A The ciliaris ſuperior muſcle, which belongs to the orbicularis palpebrarum.
B Part of the upper eye-lid, from which that ciliary muſcle is diſſected.
C The ciliaris inferior muſcle.
D The ligament of the eye-lids.
E The extremity of the naſal bone.
F The foramen infra-orbitarium.
G A branch of the temporal artery.
H The trunk of the ocular artery.
I A branch of the ocular artery going to the eye-lids.
K Its cutaneous branch forming an arch with the infra-orbitar.
L A branch running to the under eye-lid.
M A branch from the upper palpebral to the joining of the eye-lids.
N The ſuperciliary branch of the ocular artery.
O The upper tarſal arch.
P A branch emerging from the infra-orbitar to the lower tarſal arch.
Q A branch from the infra-orbitar to the ſame arch.
R The trunk of the infra-orbitar, paſſing through the foramen infra-orbitarium.
S The deſcending branch.
T Its continuation forming the tranſverſe artery of the face.
V A branch from the infra-orbitar to the lower tarſus.
X Its ſmall trunk cut off at the orbicularis muſcle.
Y The lower tarſal arch.
Z A mixed branch from the temporal and tranſverſe artery of the face to the lower tarſal arch.
a Part of the orbicularis beyond the orbit.
b An inferior branch from the temporal artery to the eye-lids.
c A branch from the lacrymal artery to the inferior tarſal arch.
d A branch from the ſame to the ſuperior tarſal arch.
e The upper branch from the temporal artery to the eye-lids.
f A branch to the conjunctiva.
g The upper tarſal arch.
h The ſuperciliary branch of the ſupra-orbitar artery, joined with a branch of the temporal.
h h An anaſtomoſis between the palpebral artery h, and the ſuperciliary n.
i The deep branch of the ſupra-orbitar artery.
k The ſuperficial ſupra-orbitar branch joined with the temporal.
l A deep branch ariſing from the temporal artery, joined in the eye-brow with the upper branch of the ocular artery.
m The ſuperficial branch of the temporal artery.
n Its anaſtomoſis, with a twig of the ocular artery.
o Another branch of the ſupra-orbitar artery, paſſing through the foramen of that name.
p The deep frontal branch of the ſupra-orbitar artery.
q Another branch of the ocular artery, to the orbicularis muſcle.
r A ligament completing the foramen ſupra-orbitale.
s Branches of the ocular artery to the tendon of the trochlearis muſcle.
t The deep frontal branch from the ocular artery.
u The ſubcutaneous frontal branch from the ſame.
x A branch deſcending from the naſal artery.
y A branch from the naſal artery to the ſpace between the eye-brows.
z The ſecond external branch deſcending from the naſal artery.
a The origin of a branch going to the inſide of the noſtrils.
b An anaſtomoſis, with the labial artery.
c d Two other anaſtomoſes.
e The labial artery.

FIGURE II.

The Orbit laid open by breaking off its arched roof; the Levator Palpebræ and Rectus Superior Muſcles moved from their place, every thing elſe remaining *in ſitu*.

A The optic nerve a little curved as uſual.
B The bare globe of the eye.
C The lacrymal gland.
D The orbicular muſcle of the upper eye-lid.
E The pulley of the obliquus ſuperior muſcle.
F The foramen orbitarium internum anterius.
G A foramen in the fiſſura lacera, for the lacrymal artery.
H The thick part of the os malæ.
I Part of the os frontis.
K The levator palpebræ muſcle laid back.
L The levator oculi muſcle.
M Part of the periſteum of the orbit.
N The trochlearis muſcle.
O The adductor muſcle.
P The tendon of the trochlearis muſcle.
Q The upper and under eye-lid.

R The

R The abductor muſcle of the eye.
S The depreſſor.
T The internal carotid artery.
V The ocular artery.
X The lacrymal artery.
Y The external ciliary artery.
Z A branch to the levator palpebræ, and abductor muſcle.
a The central artery of the retina.
b c Small branches cut off at the rectus ſuperior and levator palpebræ.
d A branch to the adductor muſcle.
e The upper ciliary artery.
f The origin of the lower artery of the eye.
f f Its branches to the depreſſor.
g The inferior ciliary branches ariſing from thence.
g Some branches of it.
h Another branch to the adductor muſcle.
i Another.
k The internal ciliary artery.
l The ſupra-orbitar artery.
m The anterior ethmoid artery.
n A branch to the perioſteum.
o A branch to the adductor muſcle and ſclerotica.
p q Two branches to the trochlea and its tendon.
r The common trunk of the palpebral artery.
s The upper tarſal arch.
t Its communication at the lower palpebral artery.
u The ſuperciliary branch cut off.
x The naſal branch.
y A branch from the lacrymal artery to the levators of the eye-lid and eye.
z A branch to the perioſteum of the orbit.
a The perforating branch.
b A branch to the orbicularis muſcle and tunica ſclerotica.
c A branch to the lower eye-lid.
d Another inoculated with a twig of the temporal artery.
e Branches to the eye-brows and orbicularis muſcle.
f A branch from the temporal artery to the upper tarſal arch.

FIGURE III.

The Eye ſtripped of its upper Muſcles, and pulled outwards, that its inferior veſſels may be ſeen.

A The optic nerve.
P The poſterior ethmoid cell.
I The os frontis.
S The anterior ethmoid cell.
X The diviſion of the cells.
Q The inferior obliquus muſcle.
S The rectus inferior.
B The tunica ſclerotica.
V The ocular artery very much diſtorted, that the anterior ethmoidal may keep it back to the os planum, while the extremity of the trunk is pulled outward along with the eye.
f The lower branch of the eye.
e The upper ciliary artery.
L Branches to the obliquus inferior.
m A branch to the obliquus ſuperior.
l The inferior internal ciliary branch.
o The external ciliary artery.
p A branch to the tunica ſclerotica.
q An anaſtomoſis of the branch t, with w, a branch of the inferior artery of the eye.
r An artery from the inferior tarſal to the naſal ſac anaſtomotic, with
s A branch of the infra-orbital.
t Another branch of the ſame towards the naſal ſac.
u Another anaſtomoſis of the ſame, with the inferior artery of the eye.
w The trunk of the infra-orbitar artery.
y The bottom of the naſal ſac laid open.

FIGURE IV.

a The optic nerve.
b b b The ſclerotica laid open.
c The cornea.
d The ocular artery.
e One of the ciliary arteries.
f Another.
g The central branch of the retina.
h A branch to the dura mater of the optic nerve.
i The ring at the inſertion of that nerve.
k One of the long ciliary arteries.
l The other.
m The four anterior ciliary arteries.
n The poſterior ciliary arteries, perforating the tunica ſclerotica.

FIGURE V.

The Tunica Sclerotica being wholly removed, the Choroid Coat appears, and the greater part of the Ciliary Circle, with the Iris.

a a The vorticoſe veins.
b The ciliary circle.
c One of the long ciliary arteries.
d Another of the ſame.
e The inſertion of the artery c into the ring of the iris.
f The ring of the iris.
g The inſertion of the artery d into the ring of the iris.
h The other half of that ring.
i Branches to the iris.
k The anterior ciliaries inſerted into the ring of the iris.

FIGURE VI.

The Cornea being removed, the Iris is ſeen with its Ring, and Seat of the adjacent veſſels.

a One of the long arteries.
b c Its two divaricated branches, inſerted into the circle of the iris.
d A ſmall artery paſſing over that circle, and going into the iris.
e The circle, or poſterior part of the iris.
f The other long artery.
g Its branch, inſerted into the ring.
h Another of the ſame, inſerted into the circle.
i The ciliary circle.
k The anterior artery, inſerted into the circle.
l Another of the ſame.
m The cryſtalline lens.

FIGURE VII.

The Choroides removed, but in ſuch a manner that the Ciliary Ligaments and Cornea may be preſerved.

a The optic nerve.
b The central artery of the retina.
c The ocular artery.
d The choroid coat opened.
e Part of the ſclerotica.
f The ciliary proceſſes.
g The retina, which is here imperfectly repreſented as extending to the lens.
h Streaks formed by the ciliary proceſſes.
i The central artery of the retina.

FIGURE VIII.

Almoſt the ſame with the Seventh ;—but the Cornea, and Ciliary Proceſſes removed, ſo that the Cryſtalline Lens and Retina only remain.

d f g i As in Figure VII.
k The cryſtalline lens, and its anterior plain ſurface.
l Streaks formed by the ciliary proceſſes.

IGURE IX.

The three Coats of the Eye removed on one ſide, that the Humours may be ſeen in their natural ſituation.

a The optic nerve.
b The three coats of the eye turned back.
c The vitreous humours.
d The cryſtalline lens.

e The

e The retina lying under the vitreous humour.
f The anterior termination of the retina, according to the author.
g The posterior and striated part of the ciliary processes.
h The plaits of the ciliary processes, with white radii.
i i The place where, on each side of the lens, the white rays appear at a distance from it.
k The pupil.

FIGURE X.

The Veins of the Eye.

A A portion of the upper Eye-lid slightly delineated.
B The lacrymal gland.
C The musculus abductor.
D The back-part of the levator muscle cut through.
E The fore-part.
F The posterior part of the levator palpebræ cut off.
G The fore-part.
H The superior oblique muscle, with the trochlea.
I The optic nerve entering the foramen opticum.
K The fourth pair of nerves.
L The first branch of the fifth pair of nerves.
a The trunk of the ophthalmic vein entering its receptacle.
b The small posterior ethmoidal vein.
c A small branch from the optic nerve.
d The little upper ciliary vein.
e Three twigs coming out of the sclerotica.
f Small branches from the sclerotica.
g The lower muscular branch.
h The lacrymal branch.
i An anastomatic branch between the lacrymal and inferior.
k The trunk passing above the bulb.
l A small branch from the musculus levator.
m The interior branch.
n A branch of the trunk, from
o The anastomatic branch between the trunk and lacrymal branch.
p The anterior ciliary vein.
q The anterior ethmoidal vein.
r A trunk going out of the orbit, communicating with
s The superior palpebral, and with
t The nasal vein.
u The small anterior ciliary vein, entering the muscular branch, after perforating the sclerotica.

FIGURE XI.

The Structure of the Iris and Ciliary Nerves, the Eye being somewhat magnified.

a The optic nerve.
b The tunica sclerotica turned back.
c, &c. The ciliary nerves; the largest divided anteriorly into branches.
d Others smaller, with scarcely any branches.
e e Two of the veins of the eye, commonly called Vasa Vorticosa, slightly delineated.
f A hole in the sclerotica, through which the vein passes.
g A smaller vein.
h The ciliary circle.
i The larger ring of the iris.
k The serpentine parallel fibres of the iris.
l The larger fibres joined among themselves by arches, of which a great number constitute the smaller circle of the iris.
m The smaller anterior ring of the iris.
n Straight fibres, stretching from the convexity of the arches to the pupil.
o The pupil.

FIGURE XII.

Veins of the Choroides and Iris.

a The sheath of the optic nerve cut off from the dura mater, and turned back.
b The optic nerve.
c The central vein emerging from the substance, and then running along the surface of the optic nerve.
d d d d The four corners of the sclerotica turned back.
e e e The angles of the cornea.
f f f A black circle, which distinguishes the cornea from the sclerotica.
g g g Small holes of the sclerotica near the cornea, for the passage of the anterior ciliary arteries and veins.
h A larger hole for the vorticose vein.
i i Two other larger vorticose vessels, divided on each side into numerous branches.
k Small branches going backward, of which some meet with
l l The posterior ciliary veins perforating the sclerotica, near the insertion of the optic nerve.
m The anterior small branches going to the iris.
n The smaller vorticose vessel, less elegant.
o The small intermediate accessory vein, joined with both the larger vorticose vessels, divided into many branches.
p The long ciliary little vein.
q The ciliary nerve, the perpetual companion of the long small vein.
r Two small branches, into which the long ciliary vein is divided below the ciliary circle.
s s The three small anterior ciliary veins cut off.
t t The lateral branches, by which the small veins, passing out of the choroides into the iris, communicate with each other.
u The small serpentine parallel veins of the iris.
x The anterior lamella of the iris turned back.

FIGURE XIII.

The Nerves of the Bulb and Muscles of the Eye.

A The bulb of the Eye.
B The lacrymal gland.
C The musculus abductor.
D The levator muscle.
E The levator palpebræ.
F The depressor Muscle.
G The adductor muscle.
H The obliquus superior.
I The trochlea.
K Part of the superior oblique muscle.
L The course of the carotid in its receptacle.
M The carotid penetrating into the cavity of the skull.
N The ocular artery derived from the carotid.
a The optic nerve passing through its hole.
b The fifth pair of nerves in the cavity of the skull.
c The third branch of the fifth pair of nerves.
d The second branch of the same.
e The first branch.
f The frontal branch of the first branch e, again divided into two.
g The nasal branch of the first branch e.
h h Small ciliary branches of the branch g, proceeding above the nerve.
i The lacrymal branch of the branch e.
k The fifth pair of nerves.
l The sixth pair of nerves, double in its receptacle.
m The double root of the intercostal nerve, from the sixth pair.
n The insertion of the sixth pair into the adducens muscle.
o The trunk of the third pair of nerves.
p The upper and smaller branch of the third pair.
q Small branches of the branch p, to the attollens muscle.
r A small branch of the branch p, to the levator palpebræ.
s The inferior and larger branch of the third pair of nerves.
t A branch of the branch s, to the adducens muscle.
u A branch of the branch s, to the deprimens muscle.
x A branch of the branch s, to the obliquus inferior.
y The ophthalmic ganglion, looked from its connection with the optic nerve, and turned outward, that the division of the third pair of nerves may appear.
z The shorter root of the ophthalmic ganglion, from the nerve of the obliquus inferior.
1. The longer root of the ganglion, from the nasal branch of the fifth pair.
2. The upper bundle of ciliary nerves, formed by four little nerves in this place.
3. The lower bundle.
4. A small branch of the lower bundle a little to the outside of the rest.

5. A ſmall branch to each twig, derived from the naſal nerve, inſerted at the outſide of the optic nerve, aſcending below the upper bundle.

6. The lower interior ciliary nerve of the lower bundle.

FIGURE XIV.

The Ophthalmic Ganglion, with the Small Ciliary Nerves.

A The attollens muſcle turned a little round, that its lower ſurface, in which the nerve is inſerted, may appear.

B The levator palpebræ.

C The fleſhy portion of the trochlearis.

D The tendon of the trochlearis, with the trochlea.

E A portion of the muſculus adducens, with a branch of the third pair of nerves.

F A portion of the deprimens, with a nervous branch inſerted into it.

G The abducens muſcle ſeen on its internal ſurface.

H The inſertion of the obliquus inferior.

I A portion of the upper eye-lid ſlightly delineated.

a The optic nerve.

b The fourth pair of nerves cut off.

c The ſixth pair of nerves inſerted into its muſcle.

d The third pair of nerves.

e The upper branch.

f f Twigs of the branch e, to the attollens muſcle.

g A branch of the branch e, to the levator palpebræ.

h The lower branch of the third pair of nerves.

i A branch to the deprimens.

k A branch to the adducens muſcle, both ſlightly delineated.

l A branch to the obliquus ſuperior muſcle.

m The frontal branch of the fifth pair of nerves cut off.

n The frontal branch of the ſame.

o o Two ſmall ciliary nerves derived from the naſal.

p The ophthalmic ganglion, annexed to the exterior ſide of the optic nerve.

q The longer root, from the naſal branch of the fifth pair.

r The ſhorter root, from the nerve l, of the oblique inferior muſcle.

ſ The upper bundle of ſmall ciliary nerves, compoſed of three ſmall nerves.

t The lower and larger bundle.

u A Twig always bent outwards, and paſſing by a long circuit to the bulb.

x The lower and inner branch of this bundle, inſerted into each branch derived from the naſal.

FIGURE XV.

The Membranula Coronæ Ciliaris, by the aſſiſtance of which the Cryſtalline Lens is joined with the Vitreous humour, and the Canal of Petit inflated.

A The vitreous humour.

b The cryſtalline lens.

c A ſerrated ring compoſed of a black pigment, laid upon the anterior part of the vitreous humour and corona ciliaris.

d d Small veſicles, in which the membranula coronæ ciliaris is elevated by air blown into it.

e A ſmall perforation by which the air was introduced.

FIGURE XVI. XVII.

An Artery of the Cryſtalline Lens conſpicuous in its Poſterior Surface.

Figure I. Of its natural ſize.

Figure II. Magnified by a microſcope.

FIGURE XVIII. XIX. XX.

Three Figures of the Cryſtalline Lens, from ſubjects of different ages.

Figure 18. From a child newly born.

Figure 19. From a child of ſome years, and

Figure 20. From a grown up perſon of about twenty years of age, by which it appears, that the younger the perſon is, the more convex is the lens.

FIGURE XXI.

The Cryſtalline Lens, which, when macerated in Water, begins to ſplit into Triangular Scales.

FIGURE XXII.

The Glandulæ Sebaceæ Meibomianæ, ſeen from the Poſterior Surface of the Eye-lids.

a The tarſus of the upper eye-lid.

b The tarſus of the lower eye-lid.

c The inner canthus.

d d Glandular plexus which are commonly called Meibomian, or Sebaceous glands.

e e The orifices of theſe plexuſes, in the edge of the eye-lids.

FIGURE XXIII.

The inſertion of the Levator Palpebræ Superioris.

a The internal canthus of the eye.

b The lower eye-lid.

c The aponeuroſis of the levator muſcle of the eye-lid.

d The Meibomian glands, ſeen through the aponeuroſis.

FIGURE XXIV.

The Paſſages of the Tears.

a The orifices of the ſebaceous glands.

b The membrana ſemi-lunaris before the lacrymal caruncle.

c The caruncula lacrymalis.

d The puncta lacrymalis.

e e The two lacrymal ducts, near the naſal ſac, joined together.

f The lacrymal ſac.

THE

Fig. 2.

Fig. 1.

Fig. 7.

Fig. 4.

Fig. 3.

Fig. 5.

Fig. 6.

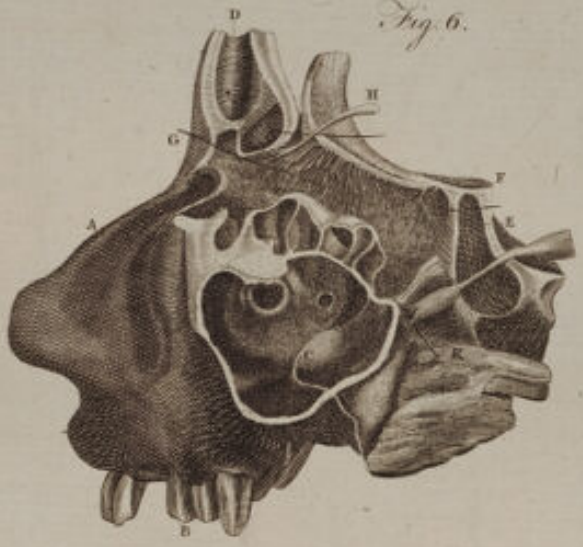


Fig. 8.

Fig. 9.

A. Bell S.A.S.S. Princ. Pal. sculpsit et fecit.

THE

Twenty-Ninth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

REPRESENTS the Left Eye.

a The internal angle of the palpebræ, in which is the caruncula lacrymalis.

b The membrana semi-lunaris of a reddish colour, partly seen, together with the caruncula, and margins of the palpebræ, as much of them as this natural position of the eye-lids admits: This membrane, though it corresponds neither in use nor size, answers in its situation to that of the membrana nictitans of Brutes.

c That portion of the margin of the upper eye-lid in which the prominence is situated, in the extremity of which prominence is the punctum lacrymale.

FIGURE II.

Shews the Palpebræ of the Right Eye, viewed from the Posterior or Interior part, and the Glandulæ Meibomianæ of the same, besides the Caruncula, and Puncta Lacrymalia, and passages by which these reach to the Nostrils.

A A The interior coat of the palpebræ.

B The cilia.

C The upper tarsus, with its sebaceous glands, each terminating in a peculiar small foramen at the margin of the eye-lid.

D The under tarsus with similar glands.

E E The puncta lacrymalia, each in a peculiar prominence, and continued into their passages.

F The ductus major, into which these two passages run; and also that oblong tubercle, which is placed between each passage: It is called the Caruncula Lacrymalis, which is pulled backward and outward, and is covered with small tubercles, from which very fine and short hairs stick out.

G The continuation of the same ductus major open in the cavity of the nose,

H A small portion of the coat of which is left around it.

FIGURE III.

Represents the Upper Eye-lid of the Right Side, with the Glandula Innominata Galeni, or Lacrymal Gland.

a The inner side of the upper eye-lid.

p The two puncta lacrymalia, into which the different ends of a bit of wire are introduced.

b Part of the under eye-lid.

c The external canthus.

d The thicker conglomerated part of the lacrymal gland.

e A number of smaller lacrymal glands, lying between d, and the conjunctiva, which, for distinction's sake, are called (by our author), Glandulæ Lacrymales congregatæ.

f Four bristles introduced into the ducts of the lacrymal gland.

g One of these ducts, into which quicksilver was injected, which is hid where it passes between the glandulæ congregatæ e, but appears again, where it comes out of the glandula innominata, composed of three branches.

h A part of the tunica conjunctiva, at which, before the preparation was immersed in spirits, the orifices of two or three very small lacrymal ducts could be perceived.

FIGURE IV.

Represents the Like Parts on the Left Side, viewed from the upper and outer side.

a The outer side of the tunica conjunctiva of the left eye.

b c d d e e The same as in figure 3.

f The artery of the lacrymal gland injected.

g The end of a bristle put into one of the lacrymal ducts h, after the duct had been injected with quicksilver.

i i Two branches joining to compose the duct h.

FIGURE V.

Shews an Anterior Section of the Head, dissected almost perpendicularly from the Base of the Cranium, to the first Dentes Molares.

A A Part of the os frontis forming the anterior base of the cranium.

B B The frontal sinuses, very large, open on both sides.

c The process of the same bone, rising like a spine along the middle of its internal surface.

d The foramen situated in the interval lying between this process, and Crista Galli: Though this foramen was of a circular figure, yet as it is here viewed obliquely, it appears elliptical.

e The process of the os ethmoides, frequently called Crista Galli.

f f The ethmoid sinuses.

G G The orbits.

H H The maxillary sinuses.

i i The septum nasi.

k The thickest part of the same septum.

l l The right and left cavity of the nose, with a bristle in each, pointing out, rather than giving a distinct view of the foramina Stenonis into which they are fixed.

m A place in the anterior region of the palate, to which there is a passage from these foramina Stenonis.

Some

Some way above n n, at the outer ſide of the oſſa turbinata inferiora, are ſeen the orifices of each of the large lacrymal ducts.

o o The oſſa turbinata inferiora.

p p Oſſa turbinata ſuperiora.

q q Oſſa turbinata ſuprema, or minima.

FIGURE VI.

Repreſents the diſtribution of the Branches of the Firſt, or Olfactory Pair of Nerves, and of the Naſal Branch of the Fifth Pair, upon the Membrane of the Noſe.

A The ridge of the noſe.

B The teeth of the left ſide.

C The left antrum maxillare cut open.

D The left frontal ſinus cut open.

E The left ſphenoidal ſinus cut open.

F G The ends of a briſtle paſſed between the membrane which lines the left ſide of the noſe, above the upper part of the os ſpongioſum ſuperius, (from which the bone has been cut off), and the branches of the firſt pair, or olfactory nerves. Theſe branches join and ſeparate again repeatedly, forming a very elegant net-work on the outſide of the membrane, or between it and the bones.

H Repreſents the naſal branch of the firſt branch of the fifth pair of nerves, ending partly in the ſeptum narium, and partly in the membrane which lines the outer ſide of the noſe.

I The naſal branch of the ſecond branch of the fifth pair of nerves.

K Its diviſion into branches, which are diſperſed on the membrane which lines the outer ſide of the noſe.

FIGURE VII.

This Figure repreſents a principal part of the Naſal Branch of the Firſt Branch of the Fifth Pair, ending on the Septum Narium.

FIGURE VIII.

The Olfactory, or Firſt Pair of Nerves, as they are ſeen upon the Membrane of the Septum Narium.

The Bony Septum is removed to expoſe the Nerves of the right Noſtril, as they paſs at firſt between the Membrane and Bone.

A The os frontis.

B The frontal ſinus.

C The cartilaginous part of the ſeptum narium.

* * * * The cut edge from which the ſeptum has been ſeparated all around.

D The ſurface of the common ſkin, where it is loſt in the membrane of the noſe.

E The upper lip.

F Part of the alveolar proceſs of the maxillary bone next the ſymphyſis.

G The roof of the mouth.

H The bony palate.

I The uvula, and palatum molle.

K The upper part of the fauces.

L The opening of the euſtachian tube.

M The cuneiform proceſs of the os occipitis.

N The inſide of the cuneiform proceſs, near the foramen magnum occipitale.

O The poſterior clinoid proceſs.

P The ſphenoid ſinus, with its ſeptum.

Q The ſella turcica.

R The criſta galli.

S S The membrane of the right noſtril, which lined the ſeptum; the ſeptum being removed.

T A branch of the fifth pair of nerves, which comes through the foramen commune, ſpheno-palatinum.

U U U The firſt pair of nerves, having paſſed through the cribriform plate of the ethmoid bone, ramifying on the membrane of the ſeptum.

FIGURE IX.

The Olfactory, or firſt pair of Nerves, as they are ſeen upon the membranes of the noſe, which covers the turbinated bones;—the exterior part of the Face being removed.

This engraving was taken from the ſame head as Figure VIII.

A The os frontis.

B The os naſi.

C The cartilaginous and membranous part of the noſe.

D The ala naſi, with the ſkin left on.

E The ſeptum narium.

F The upper lip.

G Section of the upper lip.

H H H The alveolar proceſs of the ſuperior maxillary bone.

I Part of the antrum.

K The os occipitis.

L The body of the ſphenoid bone.

M The groove made by the carotid artery.

N The poſterior clinoid proceſs.

O The ſphenoid ſinus.

P The criſta galli.

Q The membrane of the noſe.

R The membrane a little more convex, where the inferior turbinated bone is ſituated.

S The ſame, where the ſuperior turbinated bone is ſituated.

T The branch of the fifth pair of nerves, which was ſuppoſed to be loſt on the membrane of the noſe.

U U U The trunk of the firſt pair of nerves, which is afterwards loſt upon that part of Sneider's membrane which covers the turbinated bones.

Fig. 1.

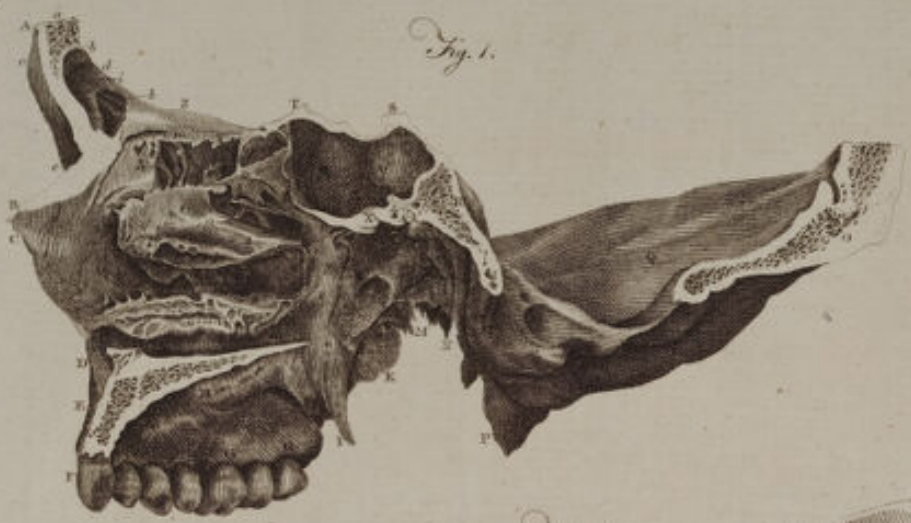


Fig. 3.

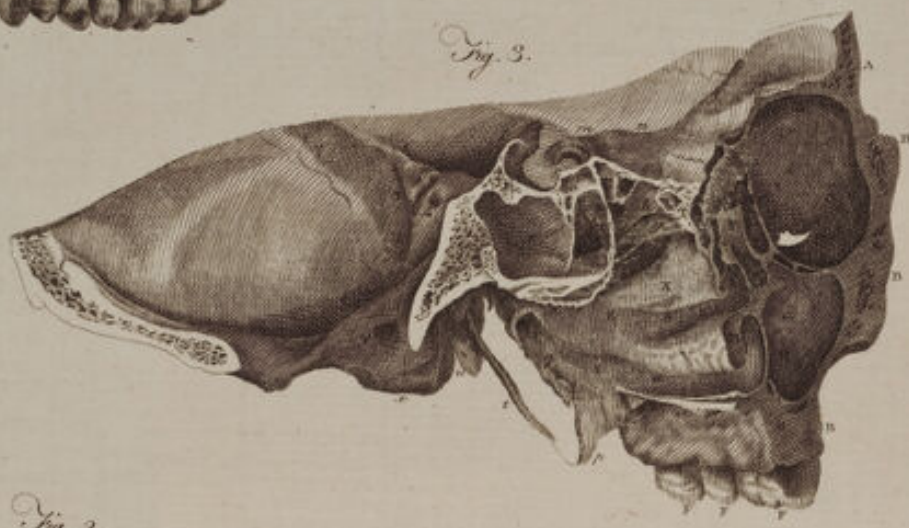


Fig. 2.

Fig. 4.

A. Bell S.A.S.A.F.R.S.E. & J. Ferguson Sc. Sculpt.

THE

Thirtieth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE Right Portion of the Base of the Head, divided from the Septum Narium, by a perpendicular Section, proceeding in a straight direction from before, backward.

A Part of the os frontis, which is in the space between the eye-brows.

a A great deal of diploe there.

b The lamina which separates the diploe from the frontal sinus.

c The anterior thick lamina of the os frontis.

d The posterior thin lamina, called *Vitrea*.

e Suture dividing the os frontis from the os maxillare superius.

B The part of the superior maxillary bone called the Nasal process.

C The interior part of the same bone, which forms the middle passage of the nostrils, painted with vessels, which arise from those of the os spongiosum inferius.

D Part of the same bone, which forms the origin of the lower passage of the nostrils.

E The alveolar part.

f The diploe of this part.

F Dens incisivus. The other teeth are the dens caninus and dentes molares.

G Descending or alveolar part of the osseous palate.

H The upper part of the palate or cœlum.

I The uncus of the os sphenoides.

K The ala pterygoidea interna.

L The tube, with some part of the membrane which surrounds the fauces preserved.

M The spinous process of the os multiforme.

N Part of the os temporum forming the anterior wall of the meatus auditorius.

O O O Part of the os occipitis.

P The mammillary process of the os temporum.

Q Some part of the os occipitis, in the cavity of the cranium.

R Section of the cuneiform process, into which the os occipitis and multiforme run.

S Posterior process of the sella equina.

T Right part of the anterior processes of the same.

V The whole right sphenoid sinus opened.

g One half of the orifice, by which it opens into the posterior and upper passage of the nostrils.

X That part of the os sphenoides which shuts up the sinus above, and below hangs over the back-part of the fauces.

Y A portion of the os cribrosum, which completes the ethmoid cells.

Z The adjacent portion of the os frontis.

h The wall of the ethmoidal cell, principally of the anterior, entire.

i The lower part of the right frontal sinus.

k A portion of the left frontal sinus.

l The first free or open part of the ethmoid cell.

m The wall by which it is separated from the second.

n The second ethmoid cell divided at the middle, by

o A half-partition.

p The third ethmoid cell.

q The partition by which it is separated from the second.

r Part of the os cribrosum, which completes the third cell below.

s The process of the os ethmoides.

t The excretory orifice of the third ethmoid cell.

u The last and upper passage of the nostrils.

x The mouth of the ethmoid cell, of an unusual appearance.

y The nasal vessels in that foramen through which they pass from the spheno-maxillary fissure to the nostrils.

z Part of the os cuneiforme.

1. The upper, inner, and entire part of the os spongiosum superius.

2. Part of the same bone resembling the shell of a snail.

3. Its anterior obtuse, and

4. Posterior acute extremity.

5. The middle passage of the nostrils.

6. The lamina descendens of the os spongiosum superius.

7. A part before it, by which the membrane of the maxillary sinus is completed,

8. And the posterior part, also membranous.

9. Part of the palate bone, which shuts up that sinus.

10. Os spongiosum inferius.

11. The anterior extremity.

12. The posterior extremity.

13. The seat of the opening of the lacrymal duct.

14. The lowest passage of the nostrils.

FIGURE II.

The Anterior part of the Bones of the Head, which is taken off by one longitudinal Section by which it is separated from the Septum, and by another Transverse Section by which it is separated from the Posterior part. The two surfaces of this Figure are delineated. The inner belongs to the internal part of the Nostrils, and agrees with the Anterior part of the former Figure, excepting that the Pituitary Membrane is wholly preserved.

A The anterior lamina of the os frontis.
B The posterior.
C The frontal sinus.
D The orifice of the frontal sinus by which it opens into the first ethmoid cell.
E E The first ethmoid cell.
F Part of its internal wall, (fig. I. h).
G The nasal process of the upper maxillary bone.
H A section of the os spongiosum.
I The wall of the middle passage of the nostrils, by which it is separated from the superior appendix of the maxillary process.
K That appendix which is continued to V, with the maxillary sinus.
L M The internal wall of the orbit. Part of it, as far as L, belongs to the os ethmoides,
M Part to the upper maxillary bone.
N An osseous wall terminating the appendix of the maxillary sinus.
O O O Cells in the thickness of the upper maxillary bone and its orbitary part, not yet described. The uppermost of these opens into the anterior or first ethmoid cell.
P A section of the orbit.
Q Part of the orbit belonging to the os frontis.
R Part belonging to the os malæ.
S The outside of the maxillary sinus.
T The cavity of the maxillary sinus.
V The foramen by which it is continued, with its appendix.
X The osseous bridge by which this appendix is separated from the maxillary sinus, but so as to communicate with the cavity.
Y A section of the os spongiosum inferius.
Z The partition by which the maxillary sinus is separated from the cavity of the nostrils.
a The orifice of the lacrymal duct.
b The lowest passage of the nostrils.
c The middle.
d The thickness of the upper jaw-bone.
e Part of the palate.
f The lateral dens incisivus.
g Dens caninus.
h h The two anterior molares.

FIGURE III.

The Posterior and larger part of the left half of the Bones of the Head, of which there are also two surfaces, the Anterior and Internal. The one is adapted to and corresponds with the Posterior part of the former Figure; the other completes the cavity of the Nostrils.

The Anterior Structure.

A Part of the os frontis.
B B Part of the os maxillare inferius.
C Part of the os malæ.
D Part of the os multiforme.
E The inferior orbitar fissure.
F F F The three dentes molares postici.
G The sinus Highmori opened.
H The partition by which it is separated from the nostril.
I The wall between the appendix of the maxillary sinus and nostril.
K The appendix of the maxillary sinus. (fig. II. I K.)
L L L The orbitar cells, (fig. II. O O.)
M Their communication with the first ethmoidal cell.
N The partition between the first and second cells of the os ethmoides.
O The wall of the orbit.
P The partition between the orbitar cells and the appendix of the sinus Highmori.
Q A section of the os spongiosum superius,
R And of the os spongiosum inferius.

The Internal Surface of this Figure.

S The second ethmoidal cell.
T The wall which closes the third.
V The surface of the os spongiosum inferius, which respects the septum narium.
X The same in the os superius.
Y Its posterior extremity.
a The lowest passage of the nostril.
b The middle.
c The uppermost.
d A great part of the sphenoid sinus of the left side.
e Part of the same sinus on the right.
f The division of the sinuses.
g The os spongiosum supremum of Morgagni.
h Part of the fourth ethmoidal cell.
i A portion of it open.
k A duct from the left sphenoid sinus to the nostrils.
l The posterior process of the sella equina.
m The anterior.
n Part of the cavity of the cranium.
o o o The thickness and diploe of the os multiforme, seen in various places.
p The cuneiform process of the pterygoid wing.
q The external wing.
r The mouth of the eustachian tube.
s Part of the fauces contiguous to the nostrils.
t The styliform process.
u The mammillary process.
x The condyle of the os occipitis.
y Foramen for the ninth pair of nerves.
z A prominent line in that bone.
1. The os petrosum.
2. The anterior semicircular canal.
3. The posterior.
4. The foramen auditorium.
5. The osseous margin of the palate.
6. Margin of the Membrana Sneideriana.

FIGURE IV.

The left surface of the Septum Narium.

A The os frontis and diploe.
B Part of the frontal sinus.
C The Crista Galli.
D Part of the os planum on the left side, which is free of ethmoid cells.
E The foramina cribrosa.
F The lamina of the ethmoid bone which forms the septum narium.
G The place where it is joined with the Vomer.
H The Vomer.
I The cartilaginous part of the septum.
K Part of the upper jaw-bone.
L L The interior incisivi.
M The posterior line of the vomer, covered with a membrane.
N Part of the cuneiform process.
O Part of the left sphenoid sinus belonging to the part (fig. III. e.)
P The posterior clinoid process.
Q The anterior.
R The sella turcica.
S S Portions of the septum between the two sphenoid sinuses.
T Margin between that sinus and the nostrils.

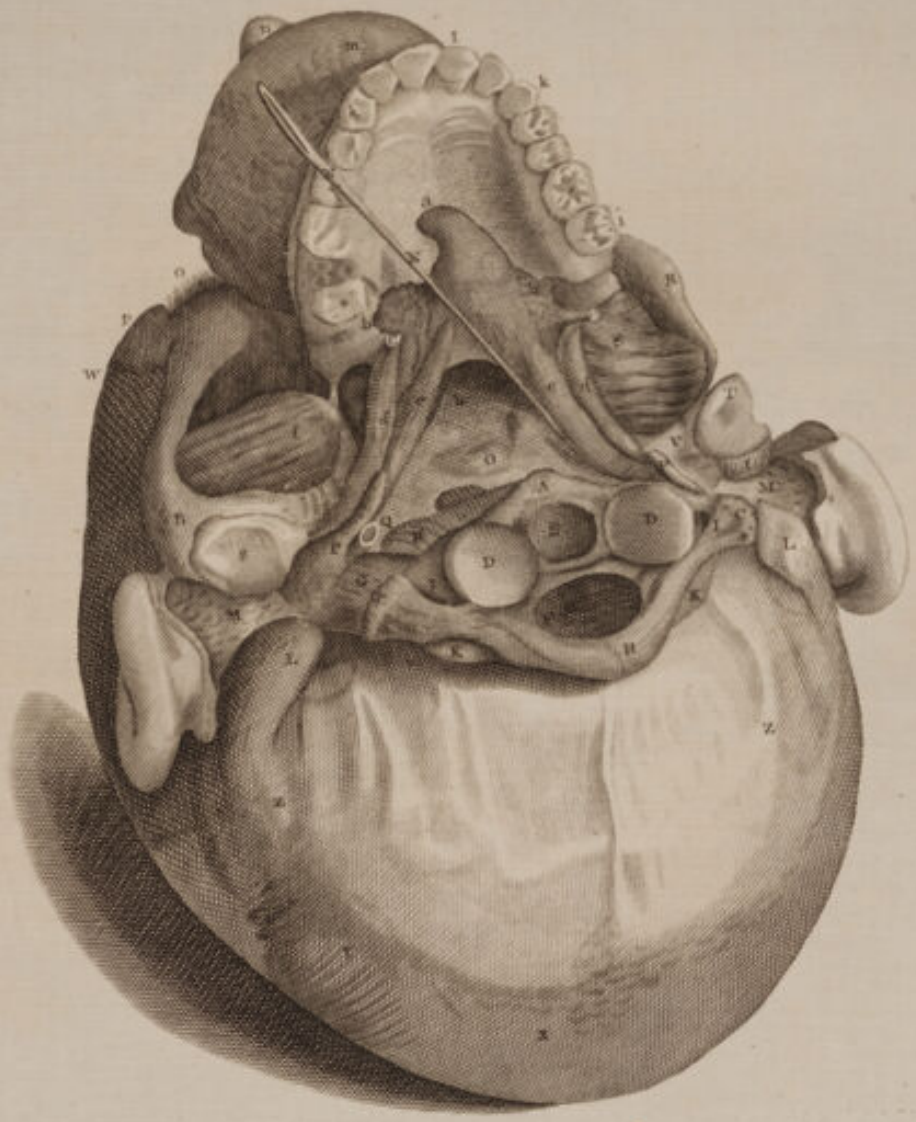
THE

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.



Alex. Fris. Scot. Sc. Sculptor fec.

THE

Thirty-firſt Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

THE EAR, &c.

FIGURE I.

A A The external margin of the outward ear, called Helix, and Capreolus, from its tortuous ſtructure.

B B Anthelix auriculæ.

C Hircus auriculæ, by ſome called Antitragus.

D E Theſe letters circumſcribe the concha. D The tragus auriculæ, below which is the lobe.

F The attollens auriculæ muſcle, deriving its origin, which is partly fleſhy and partly membranous, from above the temporal muſcle, and deſcending over it to its inſertion into the ſuperior part of the cartilage of the root of the auricle.

G H H The retrahens auriculæ muſcle, ariſing from the maſtoid proceſs. The whole muſcle is here expreſſed much larger than life.

I I Part of the parotid gland adhering to the external ear.

K L L The excretory ducts ariſing from that gland, and forming the ductus ſalivalis ſuperior.

M Portion of the ſuperior ſalival duct.

FIGURE II.

Repreſents the ſuperior part of the Auricle cut off.

A The ſkin, &c. divided from the hairy ſcalp, and freed from the cranium.

B The internal, or hind-part of the ear next the ſkull.

C The inferior part of the auricle.

D The meatus auditorius.

E The thickneſs of its cartilage.

FIGURE III.

Repreſents the Ramifications of the Salival Duct injected with wax, and freed from the Parotid Gland.

A The trunk of the ſalival gland, cut off at its paſſage over the maſſeter muſcle.

B B C The ramifications of the ſalival duct expoſed.

FIGURE IV.

The Baſe of the Skull, the firſt Vertebra of the Neck, various Muſcles, and other parts remaining on it.

A B C C D D The firſt vertebra of the neck: A Its anterior part, behind which the tooth-like proceſs of the ſecond vertebra is placed: B Its poſterior part, wanting the ſpinous proceſs: C C The tranſverſe proceſſes: D D Two proceſſes of the firſt vertebra, which move laterally on the correſponding proceſſes on the upper part of the ſecond vertebra of the neck.

E A cavity immediately behind the fore-part of the firſt vertebra, furniſhed with a ſtrong ligament, backwards next the medulla ſpinalis, in which the tooth-like proceſs of the ſecond vertebra is received.

F The foramen magnum, through which the medulla ſpinalis paſſes.

G A ſmall muſcle, which, from its ſituation, is called by the author, Rectus Lateralis.

H The rectus anterior minor muſcle.

I I Perforations in the tranſverſe proceſſes of the firſt vertebra, through which the trunks of the vertebral arteries and veins paſs.

K K The trunks of the vertebral arteries, in their contorted paſſage between the tranſverſe proceſſes of the firſt vertebra, and foramen magnum, F, of the os occipitis.

L L The mammillary proceſs.

M M Cartilages of the meatus auditorius.

N N A probe inſerted into the Meatus a palato ad aurem.

O The glandular membrane, continued from the foramina narium to the inſide of the fauces.

P P The ſtyloid proceſs.

Q The carotid artery, cut off near its entry into the os petroſum.

R R Inferior parts of the oſſa jugalia.

S A cartilaginous body in the depreſſion of the os temporum, where the proceſſus condyliformis of the lower jaw is articulated.

T The ſame intermediate cartilage of the articulation raiſed.

V The ſmooth ſinus in the temporal bone, which received the laſt-mentioned cartilage.

t Part of the mucilaginous gland of this articulation, adhering to the above-mentioned cartilage.

W The upper part of the temporal bone cut off.

X The os occipitis in like manner ſawed off.

Y The occipitalis muſcle.

Z Z The thinner part of the os occipitis, where the muſcles of the head are inſerted.

a The Uvula, ſupported by the probe N N, inſerted into the Iter a palato ad aurem.

b Small glands which appear on cutting off the fauces.

c c The extremities of the pterygoid proceſs.

d d The ſpheno-pterygo-ſtaphylini muſcles, ſo called from their origin, progreſs, and inſertion.

e e The ſpheno-ſtaphylini.

f The muſculus pterygoideus externus.

g The muſculus pterygoideus internus.

h Some appearance of the ſeptum narium backwards.

i i The dentes molares.

k k The canini.

l The inciſores.

m The glands of the lips, as they appear in the inſide of the upper lip.

n The tip of the noſe.

o The eye-laſhes.

THE

THE

Thirty-ſecond Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

REPRESENTS the Ear in its natural ſituation.

A B C D The Ear.
A B C Its three folds.
D The end or lobe of the ear.
E The concha. Near E, the orifice of the auditory paſſage is ſeen.
F The ſituation of the tympanum: The two dotted lines ſhew the length of the paſſage.
G G The ſquamous part of the temporal bone.
H The attollens aurem, which is here repreſented as lying upon the ſquamous part of the os temporis, becauſe it is diveſted of the temporal muſcle.—For a better view of this muſcle, ſee Part I. Table I. *C D.*
I The proceſſus zygomaticus.
K The proceſſus ſtyloides.

FIGURE II.

Repreſents the Ear reverſed, to ſhew its ſecond Muſcle and its Integuments.

A The ear reverſed.
B The retrahentes auris muſcles, the fibres of which have been diveſted of their membranes, to render their origins and inſertions the more diſtinct—See Plate 77. Figure IV. c c c.
C The place where the ſecond muſcle is inſerted, ſtripped of the ſkin.
D The ſkin of the ear, furniſhed in the lower part with a little fat.
E The cellular membrane.
F The pars ſquamoſa.
G The proceſſus mammillaris.

FIGURE III.

Repreſents the Arteries which are diſtributed on the fore-part of the Ear.

A The external carotid, cut off above the angle of the jaw.
B The branch which paſſes behind the ear.
C The temporal artery.
D A branch of this artery, which is diſtributed to the lobe of the ear.
E A branch of an artery, which perforates the cartilage from the back to the fore-part, and is diſtributed to the inſide of the concha.

FIGURE IV.

Repreſents the back-part of the Ear, to ſhew the Arteries which are behind it.

A The ſame trunk of the carotid.
B D The branch which paſſes behind the ear, and furniſhes it with many ramifications.—It is repreſented too large.
C Branch which is diſtributed to the cells of the mammillary proceſs.
E The branch which paſſes through the cartilage, to be diſtributed to the inſide of the concha.

FIGURE V.

Repreſents the Cartilage of the Ear, and the Cartilaginous paſſage, diveſted of all their Integuments.

A The cartilage of the ear, with its folds.
B The cartilaginous paſſage, ſomewhat flattened.
C The part of the cartilage which forms the entrance of the paſſage, and which makes a projection at the fore-part of the concha.
1. 2. 3. The three interruptions, or fiſſures, of the cartilaginous paſſage.

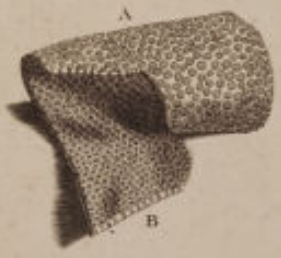
FIGURE VI.

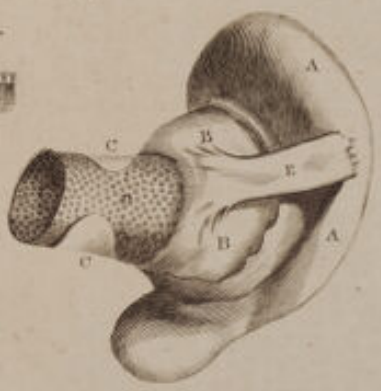
Repreſents the back-part of the Ear, and the upper part of the Cartilaginous Paſſage, and the Ligament which ties the Concha to the Temporal Bone.

A A The back-part of the ear.
B B The back-part of the concha, diveſted of the ſkin.
C C The appendices which terminate the cartilage in the upper part.
D The ſuperior part of the paſſage, which is formed of a merely glandular membrane.
E The ligament of the Ear reverſed.

FIGURE VII.

Repreſents the Glandular Membrane which inveſts the Cartilaginous Paſſage. It appears in this place three times





A. & H. PRIN. SCULT. & SCAL. SCULPTORES.

times larger than nature, the better to diſtinguiſh the parts.

A The exterior part of the glandular membrane.

B The paſſage opened, in which the ſmall hairs, and the orifices of the excretory ducts of the glands, called Glandulæ Ceruminoſæ, are viſible.

FIGURE VIII.

Repreſents the diameter of part of the Paſſage, to ſhew that the glands are half-buried in the thickneſs of the membrane: Some of them are drawn out, to point out more plainly how deep they are ſituated.

FIGURE IX.

Repreſents the Os Temporis.

A The pars ſquamoſa.

B B The proceſſus zygomaticus.

C The little cavity, into which the ligament of the ear is inſerted.

D The entrance of the bony paſſage of the ear.

E The inequalities which are on that ſide of the entrance next the face.

F The membrana tympani in ſitu.

G The proceſſus mammillaris.

H The proceſſus ſtyloides.

I The tube which incloſes the internal carotid.

K A ſmall ſinus, which is between the bony paſſage and the pars ſquamoſa, through which the external muſcle of the malleus penetrates into the tympanum.

L The extremity of the bony part of the Euſtachian tube.

M The cavity which receives the condyloid proceſs of the lower jaw.

FIGURE X.

Repreſents the Bony Paſſage taken off from the Temporal Bone.

THE

Thirty-third Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

REPRESENTS the Temporal Bone, twice as large as nature, in which all the ſquamous part is cut off, and only as much of the bony part taken away as was neceſſary to ſhew the Membrana Tympani bare.

A The membrana tympani in its natural ſituation, viewed externally.
B The handle of the malleus, which is joined to the back-part of this membrane.
C The long branch of the incus, which appears acroſs this membrane, but is at a little diſtance from it.
D The head of the malleus.
E The body of the incus, with its ſhort branch
F, which in this ſection appears plainly.
G The bony paſſage, half of which is cut off.
H The proceſſus mammillaris.
I The proceſſus Styloides.
K The external muſcle of the malleus in ſitu.
L A punctured line, which ſhews the thin proceſs of the malleus, into which this muſcle is inſerted.

FIGURE II.

Repreſents the Membrana Tympani, to ſhew the obliquity of its natural ſituation.

FIGURE III.

Repreſents the Membrana Tympani in the ſame view, and fixed in the extremity of the Bony Paſſage; it alſo ſhews in what manner the ſide of this Paſſage next the Face recedes, at the lower part, from the Membrana Tympani, and how it approaches inſenſibly nearer to it as it aſcends.

A A A The inſide of the bony paſſage next the face.

FIGURE IV.

Repreſents a Lateral View of the Incus and Stapes in ſitu.

A The body of the incus.
B The ſhort branch of the incus, which, in this ſituation, appears exactly in front.
C Its long branch.
D The head of the ſtapes, which is joined with the long branch of the incus, by the intervention of the os orbiculare.

FIGURE V.

Repreſents part of the Bones of the former Figure, four times larger than nature.

A The beak of the long branch of the incus.
B The os orbiculare.
C The head of the ſtapes, with its cavity.

FIGURE VI.

Repreſents the Stapes, five times larger than nature.

A The head of the ſtapes.
B Its collum, or neck.
C C Its branches, which are grooved upon the inſide.
D Its baſis.
E The membrane of the ſtapes.

FIGURE VII.

A ſimilar View of the Baſis of the Stapes.

D The baſis of the ſtapes.

FIGURE VIII.

Repreſents the Stapes, with its Muſcle, in ſitu.

A The ſtapes.
B Its muſcle: The whole repreſented twice as large as nature.

FIGURE IX.

Repreſents the Officula, ſeen as if the Eye were placed poſteriorly, or in that paſſage which penetrates into the Proceſſus Mammillaris.

A The body of the incus.
B Its ſhort branch, ſeen in front.
C Its long branch.
D The back-part of the handle of the malleus.
E The upper part of the ſtapes.

FIGURE X.

Repreſents the Officula in ſitu, viewed from the oppoſite ſide, the Eye being placed in the poſterior extremity of the Euſtachian Tube.

A The

TAB. XXXIII. Part 3.

A The head of the malleus, which covers the body of the incus and its ſhort branch.
B The handle of the malleus.
C The long branch of the incus.
D The ſtapes ſeen laterally.—The virgula which croſſes the officula is placed here, to diſtinguiſh which are ſituated before, and which behind, in theſe different views.

FIGURE XI.

Repreſents the ſame Bone as Figure I. and cut in the ſame manner. The whole is alſo twice as large as nature;—only, the membrana tympani is taken off, to ſhew the Officula in ſitu, and the inſide of the Tympanum, with its contents.

A The malleus.
B The incus.
C The ſtapes ſeen in front, its head covered by the beak of the long branch of the incus, and its baſis ſtopping up the feneſtra ovalis.
D The bottom of the tympanum, which is formed by the ſurface of the os petroſum.
E The feneſtra rotunda.
F G The ſemi-canal, which incloſes the internal muſcle of the malleus,—the anterior part being ſeen without, and the poſterior part within the tympanum.
H I The bony part of the Iter a palato ad aurem, or Euſtachian tube; half of it being cut off, to ſhew its cavity.
i The end of the tube which incloſes the muſcle of the ſtapes.

FIGURE XII.

Repreſents the Incus, on that ſide where it is articulated with the Malleus.

A The body of the incus.
B The ſhort branch placed almoſt in front.
1. The firſt cavity.
2. The ſecond.
3. The eminence between the other two cavities.

FIGURE XIII.

Repreſents the Malleus, on the ſide where it is articulated with the Incus, to ſhew its eminences and cavity, which ſerve for its articulation.

A Its head.
B Its handle.
C The large proceſs.
1. The firſt eminence.
2. The ſecond.
3. The cavity which is between them.

FIGURE XIV.

Repreſents the Malleus with two Muſcles, the Eye being placed in the Euſtachian Tube, to ſhew the extent of the two Muſcles, particularly that of the Internal, which croſſes the Tympanum in its progreſs to be joined to the Malleus.

A B The malleus.
C The external muſcle.
D The internal muſcle.

FIGURE XV.

Repreſents the circumference of the Tympanum, and the fore-part of the Malleus, with its Muſcles, in ſitu.

A The head of the malleus.
B The handle.
C The external muſcle of the malleus.
D Its inſertion.
E The internal muſcle.
F The place where it bends to be inſerted into the handle of the malleus, below the external muſcle.
G H The circumference of the tympanum.
1. The large proceſs of the malleus ſeen in front.
2. The thin proceſs into which the external muſcle is inſerted.
3. 4. The cellular coat of the internal muſcle opened, to ſhew the muſcle.

This figure ſerves to explain the manner in which two muſcles of the malleus act, in the contraction and relaxation of the membrana tympani:—For their inſertions make it eaſy to be conceived, that when the external muſcle C D acts alone, the extremity of the handle, marked B, is drawn outwards, becauſe the head of the malleus reſts againſt the tympanum, at the part G;—but when the two muſcles act together, the extremity of the malleus being drawn inwards, by the internal muſcle E F, cauſes a tenſion in the membrana tympani; becauſe the external muſcle C D draws, or at leaſt ſupports the head of the malleus, which does not reſt againſt the tympanum at H, as it does at G.

FIGURE XVI.

Repreſents the Back-part of the Temporal Bone, with as much of it cut off as was neceſſary to ſhew the Membrana Tympani, upon which the back-part of the Malleus and Incus is ſeen,—with the ſmall branch of a Nerve, called the Chorda Tympani, and the Tendon of the external Muſcle of the Malleus, beſides the cavity upon which the head of the Malleus, and the body of the Incus reſts,—all in their natural ſituation.

A The back-part of the ſquamous proceſs of the temporal bone.
B The proceſſus mammillaris in the ſame view.
C C The os petroſum cut off.
D The membrana tympani.
E The malleus.
F The incus, with its ſhort branch, reſting upon the entrance of the paſſage into the cells of the maſtoid proceſs.
G The foramen of the auditory nerve.
1. The tendon of the external muſcle of the malleus.
2. 3. The chorda tympani.

FIGURE XVII.

Likewiſe repreſents the Back-part of the Os Temporis, twice as large as nature, all the Squamous Proceſs of which is taken away, and it is ſawed from top to bottom in ſuch a manner, that it is divided through the middle of the Maſtoid Proceſs: By this is ſhewn the Groove which receives the Membrana Tympani, and the place where this Groove is wanting: It alſo ſhews how the ſide of the Bony Paſſage next the Face grows flat near its bottom, and covers a part of the Membrana Tympani: And, laſtly, it diſcovers all the Cells of the Maſtoid Proceſs.

A A The groove.
a a The part where it is wanting.
B The ſide of the bony paſſage next the face, which grows flat in this place.
C The malleus.
D The chorda tympani, which is drawn inwards, to ſhew how it paſſes over the external muſcle.
2. 3. The ſmall ſinus which is excavated out of the bone above the groove, and which ſerves as a pulley to the muſcle.
E The external muſcle, which is alſo drawn inwards.
F F The bony part of the Euſtachian tube.
G The paſſage which leads into the maſtoid proceſs.
H H H The cells of the ſame proceſs.

FIGURE XVIII.

Repreſents the Temporal Bone, twice as large as nature, the Squamous Proceſs being removed, and part of the Bony paſſage taken away, and in general all the parts of the Tympanum which might obſtruct the view of the Surface of the Os Petroſum, which makes one of the Parietes of the Tympanum.

A Part

A Part of the bony paſſage.

B The protuberance which is on the ſurface of the os petroſum, and which covers the lamina ſpiralis.

C The feneſtra ovalis.

d The feneſtra rotunda.

e The bony canal which incloſes the muſcle of the ſtapes, from which the tendon is ſhewn extruded, to be inſerted into the head of the ſtapes.

f The canal which incloſes the portio dura of the auditory nerve.

g A punctured line to ſhew the circumference which the membrana tympani takes up, and the ſize of the tympanum.

H I The ſemi-canal which incloſes the internal muſcle of the malleus.

H That part of this ſemi-canal which is extruded from the tympanum.

I The part which is in the tympanum.

K Half of the bony paſſage which leads from the ear to the palate.

FIGURE XIX.

Repreſents the Temporal Bone nearly in the ſame view as the preceding Figure, but not larger than nature, to ſhew the ſtapes in ſitu and the Euſtachian Tube in its natural direction.

A The ſtapes in ſitu.

B C The bony part of the canal.

D Its cartilaginous part, which grows thicker and larger at its extremity.

E Its membranous part turned back.

FIGURE XX.

Repreſents the Temporal Bone, twice as large as nature, all the Squamous Proceſs being removed, and ſawed perpendicularly down, a little diſtance before the Groove, to ſhew the depth of the Tympanum, and the Cells of the Maſtoid Proceſs, to diſcover their Veſſels, and thoſe which are ſpread upon the Membrane which lines the Tympanum.

A A conſiderable artery, which is a branch from that of the dura mater.

B A vein which is ſent off at the entrance of the internal jugular, which is at the bottom of the tympanum.

C The veſſels which are ſent off from the cells of the maſtoid proceſs to be diſtributed to the tympanum.

FIGURE XXI.

Repreſents the Right-ſide of the Upper Jaw, one third leſs than nature. All the upper part of the Cranium is taken off, and the reſt cut perpendicularly through the middle of the Noſe, to ſhew the Orifice of the Euſtachian Tube.

A A The cavity of the noſe, with its laminæ.

B The bottom of the palate.

C The orifice of the Euſtachian tube.

I Its cartilaginous ſide, which forms a border in the ſhape of a creſcent.

D The uvula cut through the middle.

THE

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.

Fig. 9.

Fig. 10.

Fig. 11.

Fig. 12.

Fig. 13.

A. Bell R.A.S.E. Print. Engr. & Publ. Oct. 1. 1802.

THE

Thirty-fourth Anatomical Table

OF THE

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EXPLAINED.

FIGURE I.

REPRESENTS the Temporal Bone, twice as large as nature. It is prepared in ſuch a manner as to ſhew the Cochlea and the Semicircular Canals in ſitu.

A The vault of the veſtibulum.
B The feneſtra ovalis marked by a punctured line.
C The feneſtra rotunda open.
D The lamina ſpiralis marked by a punctured line, diveſted of the ſpiral canal which covers it, and of the membrane which connects it to the ſurface of this canal.
1. 2. 3. The three ſemicircular canals in their natural ſituation.
1. The ſuperior.
2. The middle.
3. The inferior.
The middle and inferior are open, to ſhew their cavities.

FIGURE II.

Repreſents the inſide of the covering of the Cochlea taken off, to ſhew the Semi-oval Spiral Canal.

FIGURE III.

Repreſents the height of the Cochlea much larger than nature. To obtain this view of it, the fore-part of its covering only is taken off by a perpendicular Section: This ſhews how the Lamina makes two turns and a half round the Axis; how it is fixed to the ſurface of the Canal, which ſerves as an arch to it; and how the ſides of this Canal, which are connected to the Axis, become as thin as the Lamina.

A The inferior portion of the veſtibulum, left to ſhew how the lamina ſpiralis proceeds out of its cavity, and paſſes before the feneſtra rotunda.
B The feneſtra rotunda cloſed up by a thin membrane, like the membrana tympani.
1. 2. 3. The two circumvolutions and a half of the lamina ſpiralis round the axis.
4. 5. 6. The two turns and a half round the ſpiral canal.

FIGURE IV.

Repreſents the Lamina Spiralis ſeparated from the ſurrounding bone, much larger than nature, with the Membrane which connects it to the ſurface of the Canal.

1. 2. 3. The lamina ſpiralis.
4. 5. 6. The membrane which is fixed to it, and which is diſtinguiſhed from it by a line which is drawn between both.

FIGURE V.

Repreſents the Axis much larger than nature, upon which the Traces of the Circumvolutions of the Lamina Spiralis and of the Spiral Canal are obſervable.

1. 2. 3. The traces of the windings of the lamina ſpiralis, which are perforated by a great many minute holes, affording a paſſage to the filaments of the auditory nerve.
5. 6. The traces of the ſide of the ſpiral canal.

FIGURE VI.

Repreſents the Cochlea ſtanding, and half of it cut perpendicularly off, much like Figure III. excepting that here the Bone is entirely removed. This Figure is meant to illuſtrate the Third; and for its explanation, it is ſufficient to remark, that the Lamina appears here diſengaged from the ſurface of the Canal, that it may ſhew the inſide of this ſame Canal, and how its ſides are elongated, to be connected to the Axis.

FIGURE VII.

Repreſents the Veſtibulum and the three Semicircular Canals laid open, to ſhew the diſtribution of their Veſſels.

a The branch of an artery which enters the veſtibulum.
b A ramification of this artery, which paſſes through the common orifice of the veſtibulum, and which is diſtributed into the ſuperior and inferior canals.
c The ſmall branch which belongs to the middle canal.

FIGURE VIII.

Repreſents the Arteries of the Cochlea, Veſtibulum, and three Semicircular Canals.

A The feneſtra rotunda.
B The orifice of the paſſage which gives entrance to the veſſels, and which is ſituated at the entrance of the ſcala inferior of the cochlea: It ſhews that one part of theſe veſſels is diſtributed to the cochlea, and the other to the veſtibulum and the three ſemicircular canals.

FIGURE IX.

Represents a Portion of the Vestibulum and the three Semicircular Canals, to shew their natural situation and their Orifices.

A The inferior portion of the vestibulum.
B The superior semicircular canal.
C The inferior.
D The middle.
1. The orifice of the superior semicircular canal.
2. The first orifice of the middle canal.
3. The orifice of the inferior canal.
4. The other orifice of the middle canal.
5. The common orifice to the superior and inferior canal.
6. The first foramen, which gives entrance to one of the branches of the portio mollis.
7. The second foramen, which gives entrance to another branch of the same nerve.

FIGURE X.

Represents the Vestibulum in the same disposition as in the preceding Figure, with the Nerves of the three Semicircular Canals.

a A branch of a nerve which enters the vestibulum by a foramen marked 6. in Figure IX. It is divided into three branches, the first of which enters into the orifice of the superior semicircular canal; the second into the superior orifice of the middle canal; and the third, which is the least, descends into the common orifice.

b The branch which enters by the foramen marked 7. in Figure IX. and is divided into two ramifications, the inferior of which enters the orifice of the inferior canal, and the other passes into the common orifice, and unites with the third ramification of the branch marked a.

These nerves are represented somewhat larger than nature.

FIGURE XI.

Represents the Basis of the Brain, divested of all its Vessels, to shew the Origin of the Ten Pair of Nerves, which proceed from the Medulla Oblongata. The Posterior Lobes are cut off, i. e. the Incision passes through the part where a great Lateral Branch of the Carotid Artery is sent off upon the substance of the Brain into the Interstices of its Lobes.

A A The fore-part of the brain reversed.
B B The cerebellum.
C C The place where a part of the brain has been cut off.
D D The corpora striata. Their posterior part is here shown, and a portion of them is cut off with the brain.
E E The Thalami nervorum opticorum.
F The crura of the brain, uniting at the fore part of
G The tuber annulare.
H H The first pair of nerves, named the Olfactory, which take their origin from the basis of the corpora striata, by medullary fibres, marked h h, and which increase in size in the place where they wind about near the optic nerves.
I I The optic, or second pair of nerves, from their origin from the thalami, to their exit out of the brain.
K K The third pair of nerves, called Oculorum Motorii.
L L The fourth pair of nerves, called Pathetic.
M M The fifth pair of nerves.
N N The sixth pair of nerves.
O O The auditory nerves, which form the seventh pair. They are divided from their origin into two branches, the largest and uppermost of which is the *Portio Mollis*.
P P The eighth pair of nerves, arising from the medulla oblongata.
Q Q The ninth pair of nerves, marked on one side only of the medulla, and removed out of its natural situation. On the other side the origin only is shewn.
R R The tenth pair of nerves, which likewise proceed from the medulla oblongata.
S The medulla cut off at its entrance into the spinal canal.
T T The nervi accessorii, which arise from the upper part of the spinal marrow.
u The infundibulum.
x x The corpora albicantia.
y y Two eminences of the medulla oblongata, called Corpora Pyramidalia.
z z Two small filaments of nerves, arising from the medulla, which contribute to the formation of the nervi accessorii.

FIGURE XII.

Represents the back-part of the Os Petrosum, much larger than nature, and as much of it taken off as was necessary to discover the three Semicircular Canals, and the extremity of the Canal of the Auditory Nerve, together with the Foramina there situated.

A The canal of the auditory nerve taken off.
B The semicircular canals.
C The basis of the axis of the cochlea, pierced by numerous small holes, which give entrance to the nervous filaments which are distributed to all the turnings of the lamina spiralis.
D The entrance of the canal which incloses the portio dura.
e The foramen which gives entrance to the branch marked e, in Figure XIII.
f Another foramen which gives entrance to the third ramification of the portio mollis, marked f in Figure XIII.

FIGURE XIII.

Represents the Auditory Nerve much larger than nature, which appears as if it were torn off from the Os Petrosum, to shew how it is divided at the bottom of the Passage.

A The auditory nerve divided into two branches.
B B The portio mollis.
C C The portio dura, part of which is placed at the top of the figure, to shew the filaments of one of the branches of the portio mollis. The trunk of the portio dura enters into the foramen marked *D*, in Figure XII.
D A large branch of the portio mollis, which is divided into a great many small filaments which enter the little holes situated at the basis of the axis of the cochlea, and are distributed to all the circumvolutions of the lamina spiralis.
e Another branch of the portio mollis, which enters the foramen marked f, in Figure XII. See the distribution of these two last branches in Figure X. of this plate. The branch e is there marked by the letter a, and the branch f by the letter b.

N. B. *The Figures of the above Table are accurately copied from the original;—but several of them deviate, very considerably, from nature.*

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Fig. 9.
Fig. 10.
Fig. 11.
Fig. 12.
Fig. 13.
Fig. 14.

THE

Thirty-fifth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

REPRESENTS the ſurface of the Os Petroſum, twice as large as nature, to ſhew the Bony Canal through which the Portio Dura paſſes, and that through which the Chorda Tympani deſcends to be joined to the Portio Dura.

A The maſtoid proceſs.

B C The bony canal in the tympanum.

C D Part of the ſame canal, which is ſituated without the tympanum, and is excavated out of the os petroſum. Its extremity lies between the maſtoid proceſs and the ſtyloides.

E The little canal of the os petroſum, through which the ſmall nerve of the tympanum paſſes to be joined to the portio dura.

FIGURE II.

Repreſents the Portio Dura extracted from its Canal, and likewiſe the Chorda Tympani.

A B Part of the portio dura which is incloſed in the tympanum.

B C Part of the portio dura which is concealed in the os petroſum.

D E That part of the chorda which croſſes the tympanum.

E F Part of the ſame chorda, which, paſſing out of the tympanum, is concealed in the little canal marked E, in the preceding figure, and which is joined to the portio dura.

FIGURE III.

Repreſents the Ear drawn forward, to ſhew the ramifications of the Portio Dura which are diſtributed upon it.

A The ear drawn forward.

B The maſtoid proceſs.

C The trunk of the portio dura, paſſing out of the os petroſum.

D D The firſt branch of this nerve, which aſcends behind the ear, and diſtributes a great many filaments to it and the maſtoid proceſs.

E The diviſion of the portio dura into two branches.

F The ſuperior.

G The inferior branch.

FIGURE IV.

This repreſents the whole Temporal Bone as large as nature, ſomewhat reverſed, and the under part ſhewn, with the branch of the fifth pair of nerves, which is diſtributed to the Lower Jaw, to ſhew the origin and courſe of the Chorda Tympani, and the diſtribution of another ramification of the ſame Nerve, which goes to the External Ear.

A The ſquamous proceſs of the temporal bone.

B The maſtoid proceſs.

C The ſtyloid proceſs.

D The zygomatic proceſs.

E The paſſage which goes from the ear to the palate.

F The branch of the fifth pair, called the Inferior Maxillary Nerve, becauſe it is particularly diſtributed to the lower jaw, and to the part which ſurrounds it.

1. 2. 3. 4. Four ramifications which this branch furniſhes immediately after its exit from the cranium.

1. That which goes to the temporal muſcle.

2. To the external maſſeter.

3. To the buccinator, and to the glands of the cheek.

4. To the pterygoideus internus.

G Another ramification, which it alſo ſends off at its exit.

H A branch of this ramification, which goes to that of the portio dura, which deſcends by the angle of the lower jaw.

I The diſtribution of the ramification G to the external ear, the branches of which are cut off.

K The branch which enters into the lower jaw cut off.

L L The branch which goes to be diſtributed to the point of the tongue.

M M The chorda tympani, which comes from the portio dura of the ſeventh pair, to join the lingual branch.

N The external muſcle of the malleus in ſitu.

The nerve F and its branches are repreſented too large.

FIGURE V.

A The maſtoid proceſs.

B The back-part of the Ear.

C The trunk of the ſecond vertebral pair of nerves.

1. 2. 3. 4. 5. 6. 7. Many branches cut off, which this nerve ſends to the neighbouring muſcles and nerves.

D D The branch of the nerve which aſcends to the external ear.

E E The

E E The branch which is loſt in the lobe of the ear, and cartilaginous paſſage.

FIGURE VI.

Repreſents the Ear of a Child one year old.

A The upper part of the ear.
B Its cartilaginous paſſage.
C The membrane which connects the cartilaginous paſſage to the bony ring, and afterwards indurates to form the beginning of the oſſeous part of the meatus auditorius externus.
D The bony ring.
E The zygomatic proceſs.

FIGURE VII.

Repreſents the fore-part of the Temporal Bone of a Fœtus.

A The ſquamous proceſs, the ſmall bony fibres of which are eaſily diſtinguiſhed, as they alſo are in all the other bones which compoſe the cranium of a fœtus.
2. 3. The ſides of its circumference, which are yet cartilaginous.
B The zygomatic proceſs.
C The membrana tympani.
D The bony ring, which receives the membrana tympani.
E The ſtyloid proceſs, which is as yet cartilaginous.
F The maſtoid proceſs, which is yet very ſmall.
4. The foramen, through which the portio dura paſſes out.
G Marks an obſcure line, which is the part where the ſquamous is ſeparated from the maſtoid proceſs.—Theſe two bony parts are firmly united in adults.
H The canal which incloſes the internal carotid.
I The foramen, where the tube which goes from the ear to the palate is connected.

FIGURE VIII.

Repreſents the back-part of the Temporal Bone.

A The ſquamous proceſs.
B B The part were it is ſeparated from the os petroſum.
C The ſuperior ſemicircular canal, which is ſeen without any preparation.
D The inferior.
E The place where they communicate.
F A conſiderable foſſa which is ſituated under the ſuperior canal, and which is filled up and effaced as the fœtus grows older.
G A foramen which is in the paſſage of the portio dura.
H The foramen of the auditory nerve.

FIGURE IX.

Repreſents the Bony Ring, ſomewhat reclined to ſhew the Groove.

A The bony ring inclined to one ſide.

FIGURE X.

Repreſents the ſame Ring, inclining in another direction, to ſhew the reſt of its Groove.

FIGURE XI.

Repreſents the Membrana Tympani, twice as large as nature, half of it diveſted of a Membrane which covers it.

A The membrana tympani.
B A mucilaginous matter, indurated into a membrane, which covers it in the fœtus.

FIGURE XII.

Repreſents the Ear, from the inferior part, or where it looks towards the Face, but turned a little towards the Occiput.

a The extremity of the fallopian aqueduct.

THE

Fig. 1.
Fig. 2.
Fig. 3.
Fig. 4.
Fig. 5.
Fig. 6.
Fig. 7.
Fig. 8.
Fig. 9.
Fig. 10.
Fig. 11.
Fig. 12.
Fig. 13.
Fig. 14.
Fig. 15.
Fig. 16.
Fig. 17.
Fig. 18.
Fig. 19.
Fig. 20.
Fig. 21.
Fig. 22.

THE Thirty-ſixth Anatomical Table OF THE HUMAN BODY EXPLAINED.

FIGURE I.

THIS Figure repreſents the External Surface of the Baſe of the Skull, raiſed anteriorly, in order to obtain a diſtinct view of the Euſtachian Tubes, Muſcles of the Palate, Fiſſures of the Meatus Auditorii, and the reſpective ſituations of each.

A A The os occipitis.
B B The lambdoid ſuture.
C C The mammillary proceſſes.
c c c c The ſutures of the oſſa temporum, with the os occipitis.
D The foramen magnum occipitis, through which the ſpinal marrow and vertebral arteries paſs.
d d Two paſſages, not very conſtant, for the tranſmiſſion of veins into the lateral ſinuſes.
E E The two proceſſes of the occipital bone, by which it is articulated with the firſt vertebra of the neck.
e e Foramina, through which the vertebral veins paſs from the diverticulum jugularium.
F F The external ears.
f f f f The cartilages of the meatus auditorii, with their fiſſures.
G G The ſtyliform proceſſes.
g g The foramina ſtylo-maſtoidea.
H H Holes through which the lateral ſinuſes paſs, to form the internal jugular veins.
h h Holes for the tranſmiſſion of the nerves of the ninth pair.
I I Holes for the entrance of the internal carotid arteries.
i i The membrane lining the interior parts of the noſtrils, reaching from thence to the pharynx, and left *in ſitu*.
K K, K K The Euſtachian tubes, two of which, K K, towards the ſtyliform proceſſes, point out their oſſeous part; and the other two, K K, mark their cartilago-ligamentous part.
L L The mouths of the tubes.
s s The internal wings of the pterygoid proceſſes, over the inferior part of which the circumflexores palati tranſmit their tendons.
M M The external wings of the pterygoid proceſſes.
m m The circumflexores palati, the tendons of which paſs over the inferior part of the wings, s s, and then again coming into view, terminate in the palate.
n n The levatores palati, the right of which is *in ſitu*, but the left cut off from its fellow, and drawn aſide, that the progreſs and termination of the tube placed under it may be more diſtinctly obſerved, and likewiſe to obtain a complete view of the inſertion of the former muſcle of the tube into the tube itſelf.

O The part where the above left-muſcle was cut from its fellow.
o o Holes for the entrance of the arteries of the dura mater, and immediately before theſe are ſeen, at
P P, Holes through which the greater branches of the fifth pair of nerves paſs.
p p p p Sutures of the temporal and ſphenoid bones.
Q Q The internal foramina of the noſe.
q q The zygomatic ſutures.
r r Sutures between the ſuperior maxillary and malar bones.
S S Holes for the paſſage of the blood-veſſels to the palate.
T Suture betwen the two palate bones.
V Suture between the ſuperior maxillary bones.
Between T and V is ſeen the tranſverſe ſuture of the palate.
u u u u u Dentes molares.
x x Dentes canini.
y y y y Inciſores.
z. The foramen inciſivum.

FIGURE II.

Repreſents the External Ear, with the Paroi d Gland and its Duct.

A A A The helix.
B B B The anthelix.
C The antitragus.
D The tragus.
E The lobe of the ear.
F F The Cavitas Innominata.
G The ſcapha.
H H The concha, divided, as it were, into two cavities, namely, the ſuperior and inferior.
I I The parotid gland.
K L The lymphatic glands.
M M The duct of the parotid.
N The orifice of the duct, opening into the cavity of the mouth, with part of the lining of the mouth.

FIGURE III.

Repreſents the Cartilage of the External Ear, and Meatus Auditorius, with its Fiſſures.

A A A The cartilage of the external ear.
B B The cartilage of the meatus auditorius.
C C Its fiſſures.
D The acute proceſs of the cartilage of the auricle.

E That portion of the ſame cartilage, which is ſeparated from the remaining cartilage of the auricle, at the extremity of the helix.

FIGURE IV.

Shews the Muſcles common to the Ear and Head.

A The ſuperior muſcle.
B B The helix turned towards the anterior parts, that the poſterior muſcles and tranſverſe fibres may be more diſtinctly brought into view.
C C C The poſterior muſcles.
D D The tranſverſe fleſhy fibres on the back part of the ear.
E The anterior muſcle.

FIGURE V.

Shews, along with the Ear, the Meatus Auditorius, and its Glands; the Membrana Tympani, and Cord, the Incus, the Malleus, and Euſtachian Tube;—all joined together in ſuch a manner, that the true connection of each with the other, and likewiſe their poſition, may be exactly ſeen. They are all viewed from the poſterior part, and alſo ſomewhat inclined towards the ſame part, in order that the two ſmall bones which are ſhewn may be more diſtinctly ſeen.

A The glands of the meatus auditorius, with its reticular body *in ſitu*.
B The incus.
C The malleus.
D The oſſeous portion of the diviſion of the maſtoid ſinuoſity, namely, that to which the ſhorter proceſs of the Incus is connected.
E The chorda tympani.
F The membrana tympani, raiſed towards the inſide, from the malleus.
G The Euſtachian tube.
H The origin of the tube.
I The end of the ſame.

FIGURE VI.

Shews the Malleus and its Proceſſes, larger than nature.

A That part of the head of the malleus, by which it is articulated with the incus.
B The Handle.
C The oppoſite part of the head of the malleus.
D The proceſſus minor.
E The proceſſus minimus.
F The proceſſus major; from which proceſſes the handle is formed.

FIGURE VII.

Shews the Incus, and Os Orbiculare, larger than nature.

G That part of the body of the incus which is articulated with the malleus.
H The long proceſs of the incus.
I The os orbiculare, which is united to the extremity of the ſame long proceſs.
K The ſhort proceſs of the incus.

FIGURE VIII.

Repreſents the Stapes, and Membrane, by which its Baſe is fixed round the Feneſtra Ovalis, alſo exceeding the natural ſize.

FIGURE IX.

Shews the Stapes, and Os Orbiculare, likewiſe the Baſe of the ſame Stapes, ſeen on its Internal and External ſurface;—all larger than nature.

P The Stapes.
Q The ſmall head of the ſtapes, over the ſmall cavity of which the os orbiculare is placed.
R The internal ſurface of the baſe of the ſtapes, or that which looks towards the veſtibulum, which is convex.
S The internal ſurface of the ſame baſe, or that which looks towards the crura of the ſtapes, which is concave.

FIGURE X.

Repreſents the Cavity of the Labyrinth entire, where it looks towards the Cerebrum.

a The ſemicircular canals.
b The veſtibulum.
c The foramina in the fornix of the veſtibulum, for the entrance of the nerves;—five in number.
d The canal of the cochlea.

FIGURE XI.

Repreſents the Semicircular Canals, on the part where they look towards the Cerebrum;—a little larger than nature.

e The canalis major.
f The canalis minor.
g The common canal.
h h The canalis minimus.
1. The proper orifice of the canalis major.
2. The proper orifice of the canalis minor.
3. The common orifice.
4. The narrow orifice of the ſmalleſt canal.
5. The larger orifice of the ſame.

FIGURE XII.

Repreſents the Labyrinth where it looks towards the Cerebrum, in the ſame manner as in Figure X.; but prepared, by the removal of the upper part of the Veſtibulum, in ſuch a manner, that the Cavity of the Veſtibulum itſelf, and in it the Orifices of the Canals of the Feneſtra Ovalis, and alſo of the Scala Veſtibuli, are all ſhewn *in ſitu*.

The Orifices of the Canals are not lettered, as they may be ſufficiently known from Figure XI.

i The feneſtra ovalis, ſeen open in the bottom of the veſtibulum.
k The orifice of the ſcala veſtibuli.

FIGURE XIII.

Shews the two Scalæ of the Cochlea, with their Progreſs and Orifices.

l The orifice of the ſcala tympani, or the feneſtra rotunda itſelf.
m The orifice of the ſcala veſtibuli.
n The ſcala tympani.
o The ſcala veſtibuli.

FIGURE XIV.

Shews the Septum Cochleæ, and its two Subſtances.

p Its harder ſubſtance, or lamina ſpiralis.
q Its ſofter ſubſtance, or zona cochleæ.

FIGURE XV.

Repreſents the Portio Mollis of the Auditory Nerves, ſeparated from the Bones of the Labyrinth.

FIGURE XVI.

Shews the Portio Mollis of the Auditory Nerves, and the Blood-veſſels deſcending along with it from the Cerebrum into the Labyrinth; likewiſe the Expanſion of the ſame Portio Mollis into the Membrana Veſtibuli, and from thence into the Zones of the Semicircular Canals.

FIGURE XVII.

Repreſents the Right Os Petroſum of an adult entire, ſeparated from the other adjacent Bones, and alſo from the pars ſquamoſa; viewed from the internal poſterior ſide,

ſide, which, anteriorly, forms the Camara, as it is commonly called, of the Cerebellum. In which view is ſeen the larger part, chiefly, of its inferior ſide.

a a a The ſuperior angle, formed by the meeting of the internal ſides, namely, of the poſterior and ſuperior; into which the anterior margin of the right tentorium of the dura mater is fixed. In this a furrow appears, incloſing the ſmall venous ſinus of the dura mater, which ſinus is named the Petroſus Superior, and is diſcharged into the lateral ſinus.

b The elevated portion of the upper ſide, under which is hid the ſuperior ſemicircular canal. Figure XX. c.

c c The poſterior ſide of the os petroſum.

d d That part imprinted in the os petroſum of the Fovea ſigmoidea dextra, in which the right lateral ſinus of the dura mater is lodged.

e e e The margin by which the os petroſum was united with the middle ſides.

f The interior ſurface of the larger mammillary proceſs.

g The ſmaller mammillary proceſs, contiguous, on the inſide, to the baſe of the larger.

h A furrow between the two proceſſes, which gives origin to the digaſtric muſcle of the under jaw.

i The ſtyliform proceſs.

k The orifice of the canal, by which the internal carotid enters the cavity of the cranium.

l l A furrow for the reception of the ſinus of the dura mater, called Petroſus inferior.

m m A fiſſure contiguous to the fovea ſigmoidea, in which the oſſeous part of the aqueduct of the veſtibulum terminates.

n The foramen for the paſſage of the veins from the interior part of the os petroſum, to the dura mater.

o o The foramen auditorium for the entrance of the nerves of the ſeventh pair, from which the common canal of the nerves ariſing, is extended within the os petroſum.

1. The ſuperior ſemi canal, placed in the anterior ſurface of the common canal of the nerves.

2. The inferior ſemi-canal of the ſame ſurface.

3. The intermediate ſpine.

p p An oſſeous arch, forming the entrance of the inferior orifice of the aqueduct of the cochlea.

q A ſemi-canal, contiguous to the ſame inferior orifice of the aqueduct of the cochlea, through which the anterior portion of the nerve of the eighth pair is conveyed without the cranium.

r The foramen, through which the vena cochleæ paſſes out.

ſ The internal orifice of the canal, through which the trunk of the occipital vein empties itſelf into the lateral ſinus.

t The external orifice of the ſame canal, to which the other remaining portion of the canal was joined in the os occipitis. For the occipital vein, in this ſubject, entered its canal by a foramen formed in the os occipitis.

u Some maſtoid cells diſcovered, not in conſequence of their being broken, but becauſe, in this ſubject, theſe going beyond the limits of the os petroſum extended within the very middle of the annexed os occipitis.

x The ſuperior margin of the furrow, by which the trunk of the ninth pair of nerves deſcends.

FIGURE XVIII.

Shews the Os Temporis of a Fœtus of nine months, entire, viewed from that part which looks to the Cavity of the Skull.

a The concave ſquamous portion.

b The extremity of the jugal proceſs.

c c The pars petroſa.

d The orifice of the common canal of the nerves.

e The ſuperior portion of the upper ſemicircular canal, which, in the fœtus, is diſtinctly elevated above the os petroſum.

f The ſuperior portion of the poſterior ſemicircular canal, which, in the fœtus, is in like manner frequently elevated.

g The oſſeous tube of the aqueductus veſtibuli, Figure XX. h i.

h A cavity imprinted in the bone, receiving the extremity of the oſſeous tube of the aqueduct.

i A briſtle introduced into the foramen of the aqueduct.

k A briſtle introduced into the foramen of the vena veſtibuli.

l l The entrance, or arched margin, of the inferior orifice of the aqueduct of the cochlea. Figure XVII. p p. Figure XX. k.

m A briſtle introduced into the aqueduct.

n A foramen, which is the opening of the Fallopian aqueduct within the cranium, for the paſſage of a branch of the nervus durus to the Vidian canal, over the top of which there is an acute impending proceſs of the bone, which ſhews the diviſion of the foramen.

o Foramina which are obſerved in the internal ſurface of the os ſquamoſum, over againſt the origin of the jugal proceſs, for the paſſage of blood-veſſels.

p A cavera under the ſuperior ſemicircular canal, which is found in the fœtus, formed of a production of the dura mater, contributing in a wonderful manner to the vertical increaſe of this canal. This in the adult is contracted into a foramen. Vid. Fig. XVIII. n.

q The anterior wing of the upper ſide of the os petroſum covering the cœlum of the cavity of the tympanum.

r r The joining of this wing with the pars ſquamoſa.

FIGURE XIX.

Repreſents part of the Left Os Petroſum of an adult, from which the Veſtibulum and Canals are removed: The firſt circle only of the Cochlea is left open, and the Anterior part of the Bone is ſcraped off in ſuch a manner, that the progreſs of the Aqueductus Veſtibuli, and Vena Cochleæ is moſt diſtinctly ſeen.

a a The firſt circle of the cochlea opened longitudinally.

b b The aqueductus cochleæ open through its whole length.

c The oſſeous ſemi-canal contiguous to the inferior orifice of the aqueduct, likewiſe divided longitudinally, Figure XVII. p. Figure XX. n.

d d The deſcent of the vena cochleæ.

e The place, within the ſemi-canal, in which the oſſeous canal, which conveys the vein, terminates.

f The ſuperior orifice of the aqueductus cochleæ, very near to the inſertion of the vein.

g Two branches of the vena cochleæ, which emerge from the trunk, and begin to proceed through the firſt circle of the cochlea.

h Another branch of the ſame vein belonging to the veſtibulum.

FIGURE XX.

This Figure ſhews the Right Labyrinth entire, with the common Canal of the Nerves, and Aqueducts, ſeen in ſitu on the part which looks to the Occiput, and laid open by the removal of the ſurrounding Bone. This Figure ought to be compared with Figure XVII. by which it will appear how each of the Parts of the Labyrinth within the Os Petroſum, repreſented in this Figure, are relatively placed.

a The orifice of the common canal of the nerves, Figure XVII. o o.

b The tuber under which part of the veſtibulum and cochlea are hid.

c The ſuperior ſemicircular canal, which was concealed under the tuber b b, Figure XVII.

d d The poſterior ſemicircular canal.

* The place where the ſuperior and poſterior canal run into the common canal.

e Part of the exterior canal viſible, in hoc ſitu.

f The common canal formed by the union of the ſuperior and poſterior.

g The firſt part of the aqueductus veſtibuli, which is narrower than repreſented in the figure, in which the tube forming the aqueduct is left entire, and the ſurrounding bone therefore appears thicker.

h Part of the ſame aqueduct gradually increaſing into a horn, and compreſſed in ſome places.

i The broad extremity of the oſſeous cornu of the aqueduct, correſponding to fiſſure, Figure XVII. m m.

k The arched entrance of the aqueduct of the cochlea correſponding to Figure XVII. p p.

l The

l The narrow part of the ſame aqueduct towards the ſcala tympani, going to the feneſtra rotunda, which is much thicker than in proportion to the contained cavity, on account of the bone left around, as will appear by comparing this Figure with Figure XIX. b b.

m The inferior orifice of the aqueduct of the cochlea.

n The ſemi-canal deſcending through the anterior and inferior part of the above orifice, correſponding to Figure XVII. q.

o A ſmall foramen, through which the vena cochleæ paſſes, correſponding to Figure XVII. r.

FIGURE XXI.

The ſame Labyrinth, which in the preceding Figure is viewed Poſteriorly, is, in this Figure, ſhewn from the Anterior Part, where it is turned towards the Temple, but raiſed ſomewhat above its natural ſituation, that the other parts may be brought into view.

a The anterior part of the common canal of the nerves.

b Part of the ſuperior ſemicircular canal ſeen in this view.

c The poſterior ſemicircular canal.

d The exterior ſemicircular canal.

e e The veſtibulum around the feneſtra ovalis, which is eraſed; the middle part of it only is ſeen, in which the following parts are found.

f The orifice of the common canal.

g The ſemi-oval cavity partially ſeen.

h A portion of the hemiſpheric cavity obſervable in this view.

i The intermediate ſpine.

k The pyramid of the veſtibulum, indifferently repreſented.

l The orifice of the aqueductus veſtibuli.

m The broad extremity of the ſame aqueduct, correſponding to Figure XX. h i.

n The circles of the cochlea.

o Part of the firſt circle of the cochlea, opened for ſome way from the veſtible, to obtain a view of the lamina ſpiralis and ſcalæ.

1. The ſcala veſtibuli.

2. The ſcala tympani.

p The foramen, or ſuperior orifice of the aqueduct of the cochlea, ſituated in the origin of the ſcala tympani, and occupying the centre of the ſmall infundibulum.

q The remainder of the tube which forms this aqueduct, anſwering to Figure XX. k.

r Part of the ſpiral lamina, from which the white circle is removed, that in this poſition of the cochlea, the upper orifice of the aqueduct of the cochlea may appear.

s The place in which the ſecond circle of the cochlea, drawn within the firſt, does not yet immediately adhere to it, but by the intervention of an oſſeous ſubſtance.

t The place of immediate accretion.

u The cupula, or fornix, of the apex of the cochlea.

FIGURE XXII.

Repreſents the Right Poſterior Part only of the Internal Baſe of the Skull, ſtill covered with the Dura Mater, in which the whole of the Os Petroſum, and Baſe of the Right Camara of the Occiput, is ſeen, with the Membranous Cavity of the Aqueductus Veſtibuli opened, with the Lymphatic Veins which ariſe from it, and the Trunks of all the Nerves which go from the Brain, from the Third to the Ninth Pair.

A The right baſe of the middle cavity of the ſkull, in which the head of the poſterior lobe of the brain is ſituated.

B The arteria meningea major, which entering the cavity of the ſkull by the ſpinous foramen of the os ſphenoides, is diſtributed over the dura mater.

C Part of the dura mater hanging outward.

D Right portion of the ſella equina.

E Right part of the baſe of the poſterior camara of the ſkull, in which the right lobe of the cerebellum is ſituated.

F Another portion of the dura mater turned outward.

G G The right half of the foramen magnum, through which the ſpinal marrow paſſes.

H The origin of the ſpinal marrow ſeparated from the termination of the medulla oblongata, in which is ſeen part of the foramen which was contiguous to the fiſſure of the calamus ſcriptorius.

I The jugum ſemilunare, which ariſes in the poſterior margin of the foramen magnum, when the head is preſſed backward againſt the atlas.

K K The right portion of the falx cerebelli, in which are two remarkable folds.

L M The right lateral ſinus of the dura mater opened, the tentorium being cut off.

N The inferior part of the longitudinal ſinus contiguous with the right lateral ſinus.

O Foramen, by which the longitudinal and right lateral ſinus communicate with the left lateral ſinus, and the inferior occipital ſinus of *Santorinus*.

P P The remaining broader part of the lateral ſinus deſcending behind the right os petroſum, covered with the dura mater.

Q The place under which is the extremity of the lateral ſinus, terminated in the diverticulum of the jugular vein.

R The triangular orifice of the ſuperior ſinus petroſus, by which it communicates with the lateral ſinus.

S The arteria meningea poſterior of the dura mater.

T V The bare margins of the cut bone of the ſkull.

X The right vertebral artery cut off at its entrance into the ſkull.

a The right nerve of the third pair of nerves of the brain, which perforating the dura mater is conveyed to moſt of the muſcles of the eye, &c.

b The nerve of the fourth pair, or patheticus, diſperſed over the trochlearis muſcle of the eye.

c c The nerve of the fifth pair.

d The orifice of the vaginal ſinus of the dura mater, through which the trunk of the nerve of the fifth pair paſſes.

e The nerve of the ſixth pair, which goes to the rectus externus muſcle of the eye.

f The portio dura of the nerve of the ſeventh pair.

g The portio mollis of the ſame ſeventh pair.

1. The ſuperior, and anterior faſciculus.

2. The middle faſciculus.

3. The ſuperior and poſterior faſciculus.

h h The orifice of the common canal of the nerves of the ſeventh pair.

i The anterior portion of the eighth pair, penetrating under the entrance of the inferior orifice of the aqueductus cochleæ.

k The arched entrance of the inferior orifice of the aqueductus cochleæ.

l The other faſciculus of the eighth pair.

m m The nervus acceſſorius of *Willis*.

n n n n Its roots ſeparated from the termination of the medulla oblongata.

* Another inferior root proceeding from the poſterior part of the origin of the ſpinal marrow.

o The nerve of the ninth pair.

p p The ſuperior angle of the os petroſum, from which the tentorium is diſſected.

q q The elevation of the upper ſide of the os petroſum, under which is the ſuperior ſemicircular canal. Figure XVII. b b.

r r The poſterior ſide of the os petroſum, in which the aqueductus veſtibuli terminates.

s The membranous cavity of the aqueductus veſtibuli opened.

t t A chink, in which the oſſeous part of the aqueductus veſtibuli terminates, and in the direction of which the firſt inciſion of the cavity is made. Figure XVII. m m. Figure XX. i.

u u The diſſected ſides of the membranous cavity turned back.

x x x x Small lymphatic veins, filled with quickſilver, ariſing from the membranous cavity of the aqueduct, and ſpread over the lateral ſinus.

z z A ſmall ſinus in which the two inferior veins proceeding from the cavity of the aqueduct were united, in this ſubject, with other ſmall veins of the dura mater.

THE

Fig. 1.
Fig. 2.
Fig. 3.
Fig. 4.
Fig. 5.
Fig. 6.
Fig. 7.
Fig. 8.
Fig. 9.
Fig. 10.
Fig. 11.
Fig. 16.
Fig. 17.
Fig. 12.
Fig. 14.
Fig. 15.
Fig. 13.

THE

Thirty-ſeventh Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

THIS Table preſents various views of the Labyrinth of the Human Ear;---the Superior and Poſterior Semicircular Canals of the Ear cut open, &c.;---the bottom of the Meatus Auditorius Internus, ſix times larger than nature;---a Diſſection of the Os Petroſum;---the Portio Dura and Mollis, &c.;---and the Membrane which lines the Human Cochlea, together with the Nerves of the Portio Mollis from the Seventh Pair.

FIGURE I.

Repreſents the Labyrinth of an Adult, of the Left Side, viewed poſteriorly.

d Diverticulum veſtibuli.
e Broad extremity of the diverticulum cochleæ.
h Common portion of the ſuperior k, and poſterior i, perpendicular ſemicircular canals.
l Horizontal ſemicircular canal.
m Apex of the petra.
n Foramen acouſticum internum.
o Narrow portion of the diverticulum veſtibuli.

FIGURE II.

The ſame Labyrinth repreſented anteriorly and inferiorly.

a Commencement of the diverticulum veſtibuli,
b And of the diverticulum cochleæ.
c Common opening of the perpendicular canal.
d Exterior portion of the diverticulum veſtibuli.
e Diverticulum cochleæ, now wholly appearing.
f Origin of the ſpiral lamina of the cochlea.
g Apex of the cochlea.
h i k l As in Figure I. but the canals open.
m As in Figure I.

FIGURE III.

Repreſents the entire Diverticulum Veſtibuli of an Adult, ſeen poſteriorly, into which a briſtle is introduced.

a The broad exterior portion of it.
b Narrow origin of the opening into the veſtibulum.
c Portion of the introduced briſtle viſible through an artificial aperture.

FIGURE IV.

The Diverticulum Cochleæ, within which is a Briſtle.

a Broad inferior extremity.
b Narrow origin.

FIGURE V. VI.

Are the ſame with I. and II. only of the oppoſite ſide.

FIGURE VII.

Left Labyrinth of a Fœtus viewed poſteriorly.

d Beginning of the diverticulum veſtibuli.
e Beginning of the diverticulum cochleæ.
Other parts the ſame as in Figure I.

FIGURE VIII.

The ſame Labyrinth open on the Anterior and Inferior part; the Semicircular Canals ſhut; but their Mouths are diſtinct.

The letters indicate the ſame parts as in Figure II.

The Three following Figures repreſent the Semicircular Canals and Cochlea of the Left Ear, with the holes in the Bones for the paſſage of the Seventh Pair of Nerves.

FIGURE IX.

Repreſents the Inner part of the Left ſide of the Baſe of the Cranium, with the Canal for the Seventh Pair of Nerves, and the Superior and Poſterior Semicircular Canals of the Ear cut open, viewed from the back-part of the oppoſite ſide of the Head.

A The ſupra-orbital plate of the frontal bone.
B The temporal wing of the ſphenoid bone.
C The inner ſide of the ſcale of the temporal bone.
D The print made by the middle artery of the dura mater.
E The hollow under part of the occipital bone, in which the left hemiſphere of the cerebellum was lodged.
F The foramen magnum of the os occipitis.
G The print made by the lateral ſinus.
H The hole at which the left lateral ſinus and the eighth pair of nerves go out.
I The back of the poſterior clinoid proceſs of the ſphenoid bone.
K The anterior clinoid proceſs.

L The cella Turcica.

M The edge of the oval hole of the ſphenoid bone for the inferior maxillary nerve.

N The inner end of the os petroſum.

O O The upper and under cut ſides of the canal for the ſeventh pair, called, improperly, Meatus Auditorius Internus.

P A briſtle paſſed from the ſcala of the cochlea into the veſtible, and from the veſtible into the anterior end of the ſuperior ſemicircular canal, Q.

R The poſterior ſemicircular canal cut open.

S The common canal formed by the joining of the ſemicircular canals, Q and R, going into the veſtible.

T The under end of the poſterior ſemicircular canal going into the veſtible.

U A briſtle, the two ends of which are introduced into the external inferior horizontal ſemicircular canal.

V A briſtle put into a paſſage, which is open in the ſkeleton at its inner end, and which is ſituated about a quarter of an inch farther out than the hole for the ſeventh pair, then paſſes under the ſuperior perpendicular ſemicircular canal, and terminates by a blind end within the os petroſum.

W A briſtle put into the beginning of the canal, for the portio dura.

X A briſtle put into a hole in the central pillar, or modiolus of the cochlea, through which a principal branch of the portio mollis enters.

Y Z Principal holes, through which branches of the portio mollis paſs to the veſtible.

a The hole for the aqueduct from the cochlea, deſcribed by Cotunnius.

b The hole ſaid by Cotunnius to tranſmit an aqueduct from the veſtible.

FIGURE X.

Repreſents the bottom of the Meatus Auditorius Internus, or Canal for the Seventh Pair of Nerves, as it appears when magnified to about ſix diameters.

W X Y Z Point out the ſame parts as in Figure IX.

c c Indicate a cribriform plate through which the other nerves of the cochlea paſs.

d e Shew cribriform parts through which the other nerves to the veſtible paſs, and from it to the ſemicircular canals.

FIGURE XI.

Repreſents the Os Petroſum diſſected, ſo as to ſhew the Cochlea and Semicircular Canals, with the Paſſages for the Nerves, viewed from the fore and outer ſide of the Head.

A The cella Turcica.

B The poſterior clinoid proceſs.

C The anterior clinoid proceſs.

D The round hole in the ſphenoid bone for the paſſage of the ſecond branch of the fifth pair.

E The oval hole for the paſſage of the third branch of the fifth pair.

F The hole for the largeſt artery of the dura mater.

G The ſuture which divides the temporal bone H, from the ſphenoid.

I The inner end of the os petroſum.

K The canal for the internal carotid artery.

L A hole cut to ſhew the beginning of the canal for the carotid artery.

M N The outer or oſſeous end of the Euſtachian tube laid open.

O A briſtle paſſed into the firſt turn of the poſterior ſcala of the cochlea, which is cut open, and from it into the foramen rotundum. The diameter of the modiolus is ſeen here.

P Q U V W X Point out the ſame parts as in Figures IX. & X. ſhews the ſecond turn of the cochlea and its apex laid open. The oſſeous part of the modiolus terminates in the ſecond turn of the cochlea.

s The cavity of the tympanum cut open.

t A probe put from the cavity of the tympanum into the foramen ovale.

v A probe put from the cavity of the tympanum into the foramen rotundum.

FIGURES XII. XIII.

Shew the Portio Dura and Mollis, with the Membrane of the Cochlea, ſeparated from the Bone s whichcover them.

FIG. XII.

G The portio dura, turned to the outer ſide, ſo as to ſhew fully I K L, the half ſheath of the portio mollis, in which the portio dura was lodged.

I The inner ſide, or branch of the portio mollis, ending in M, the membrane of the cochlea, the turns and apex of which are ſeen diſtinctly.

K The outer ſide, or branch of the portio mollis, which terminates in N the veſtible.

L A thin middle portion, by which theſe two ſides or branches are joined together.

O A ſmall thread which ſeems to be nervous, and which joins the portio dura to the outer ſide of the portio mollis.

FIG. XIII.

Repreſents the ſame parts as the preceding Figure, and they are diſtinguiſhed by the ſame letters; but with this difference, that the Trunk of the Portio Mollis is turned forwards, ſo as to ſhew the under part of I K L.

FIGURE XIV.

Repreſents the Membrane of the Cochlea, and the Branch of the Portio Mollis ſent to it, of their natural ſize.

FIGURE XV.

Repreſents the ſame parts magnified to ſix diameters.

A The branch of the portio mollis which is ſent to the cochlea, compoſed of many bundles of threads.

B B Part of it lacerated by the ſhaking of the preparation in the liquor in which it had been preſerved, for upwards of twenty years before a drawing of it was made.

C Some of the faſciculi running upon the membrane at the firſt turn of the cochlea.

D E F The double edge of the membrane of the different turns of the cochlea.

G The apex of the cochlea.

H A large branch of the nerve which paſſes through the centre of the modiolus, and from that is continued to the apex of the cochlea, where it forms a circle I.

FIGURE XVI.

Repreſents part of the Branches of the Portio Mollis, diſtributed on the firſt turn of the Cochlea, magnified to ſix diameters.

FIGURE XVII.

Repreſents ſome of the Branches in Figure XVI. magnified to about thirty diameters. In both Figures, ſimilar parts are diſtinguiſhed by the ſame letters.

A The trunk of the branch of the portio mollis, which ſupplies the cochlea.

B B Part of it lacerated.

C C The faſciculi of nervous fibres, diſpoſed in a regular manner, and beginning to ſpread out on the membrane of the cochlea.

D D An elegant plexus which they form.

E E F F The plexus continued; but the ſtructure and connection of parts is ſeen here much leſs diſtinctly, not only from the nerves dividing into much ſmaller parts, but that theſe, with the membrane, become ſuddenly much leſs white, or more pellucid.

G The edge of the membrane of the cochlea which is the moſt diſtant from the root of the lamina ſpiralis.

THE

Fig. 1.

Fig. 5.

Fig. 2.

Fig. 4.

Fig. 3.

THE

Thirty-eighth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE External parts of the Nose, with the Tongue, Fauces, Uvula, &c. in situ.

A The back of the nose.
B The spine.
C The tip.
D The septum narium, or bridge.
E The alæ nasi, or sides of the nose.
F F F The cheeks divided, that the parts within the mouth may appear.
G The tongue.
H The uvula, in situ, covered with the glandular membrane of the palate.
I The tonsil.
K K The gums of both jaws.
L L The palate, or roof of the mouth.
M The upper part of the epiglottis, raised by the depression of the tongue.

FIGURE II.

The Muscular Structure of the Tongue.

A A A The external order of longitudinal fibres, extending from the base to the tip of the tongue. Between these, numerous glands and lobes of fat, B B B, are found intersperſed.

C D The second order of the fibres of the tongue, which descend from the upper part to its base.

E F Other fibres arising from the base, and going to the surface of the tongue.

G H Others going from the middle of the tongue to its sides. The tendinous extremities of these fibres are fixed to the teguments of the tongue. At the middle of the lower part of the tongue, are two distinct classes of fibres, very intricately disposed, which contribute to those various motions of which the tongue is capable.

FIGURE III.

The structure of the Gums, magnified by a Microscope.

A A Part of the gums.
B B Two of the fore-teeth.
C The tegument of the gums raised.
D The ducts of the fibres.
E E The glands situated between the fibres.
F F Part of the upper jaw broken off.

FIGURE IV.

The Inner Surface of the Membrane of the Palate, as it appears when raised and viewed by a Microscope.

A A The tunica palatina raised from the bone, and extended by pins.

C C D D The glands and fleshy fibres which form the membrane.

E E Two dentes incisores.

F Part of the osseous palate, the surface of which is covered with impressions from the adhesion of the tunica palati.

FIGURE V.

The External Surface of one of the Glandulæ Tonsillæ or Amygdalæ, on which many large Foramina of its Excretory Ducts appear, by which its Pituitous Matter, which mixes with the Food in its descent to the Gula, is discharged into the Fauces.

THE

THE

Thirty-ninth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

VARIOUS Muſcles of the Tongue, Os Hyoides, and Larynx, appearing in ſitu, the ſide of the Jaw being removed.

A A B The tongue pinned up, B.

C The muſculus ſtylo-gloſſus, in ſitu. Ariſing from the proceſſus ſtyloides, it is inſerted into the root of the tongue, immediately below the inſertion of the cerato-gloſſus. It draws the tongue upwards and inwards in the action of deglutition.

D D The muſculus cerato-gloſſus; ariſing fleſhy from the cornua of the os hyoides, and is thus inſerted into the tongue. When this acts along with its partner, they draw the tongue directly into the mouth;—when one only acts, it pulls the tongue to one ſide.

E F G I The muſculus genio-gloſſus, in ſitu. It ariſes from the middle of the internal part of the lower jaw, and is inſerted into the root of the tongue. When this acts along with its partner, the tongue is drawn forwards, and thruſt out of the mouth.

H Part of the fauces agreeing to the root of the tongue.

L Part of the coraco-hyoideus.

M The ſtylo-cerato-hyoideus muſcle.

N The mylo-hyoideus muſcle, cut from its origin at the internal part of the under jaw-bone, and left at its inſertion into the middle and upper part of the os hyoides.

O The genio-hyoides muſcle, *in ſitu*.

P The middle part of the under jaw-bone, which forms the chin, broken off.

Q The internal ſurface of the upper lip.

R The inſide of the cheek.

S The nervus guſtatorius, which is a branch of the fifth pair of nerves in its way to the tongue.

T The nervus linguæ motorius, ariſing from the ninth pair of the brain.

t A ſmall branch of the ninth pair going to the larynx.

V The left cornu of the os hyoides.

W The trunk of the carotid artery.

X X The digaſtric muſcle, left at its origin from the maſtoid proceſs.

FIGURE II.

The Internal Surface of the Upper Jaw, the Under Jaw being removed.

A The roof of the mouth, or palate.

B B The glandular membrane of the fauces, near the tonſillæ.

C C Various foramina in the ſurface of the glandular membrane of the mouth, or palate, through which iſſues a liquor ſecreted by its glands;—expreſſed in Figure III. B B C C.

D E The anterior part of the palate, near the dentes inciſores, where the bone underneath is perforated for the tranſmiſſion of various blood-veſſels and nerves.

F F A probe paſſed through the left noſtril into the fauces.

G The uvula hanging down from the palate.

H The glandular membrane, which contributes to the formation of the poſterior part of the fauces.

I I Part of the flexores capitis muſcles.

K K Portion of the longi capitis.

L L Vertebra of the neck.

FIGURE III.

The Foramina narium opened, by removing a large ſhare of the Oſſeous Palate.

A A B B The pituitary, or glandular membrane, which inveſts the foramen of the left noſtril, ſeparated from the ſeptum narium, B.

C C The glandular membrane extended by the probe D D.

Fig. 1.

Fig. 2.

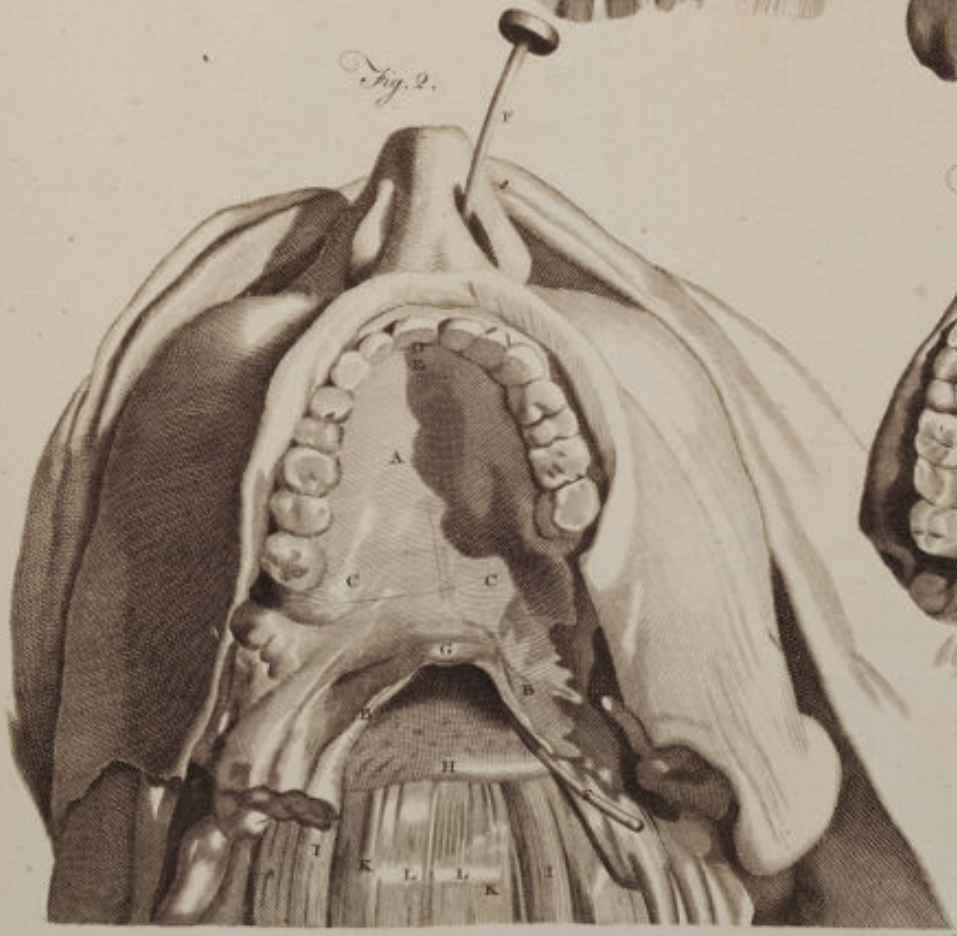

Fig. 3.

ALEXANDER PRIN. SCUL. & SEL. SCULPTOR fecit.

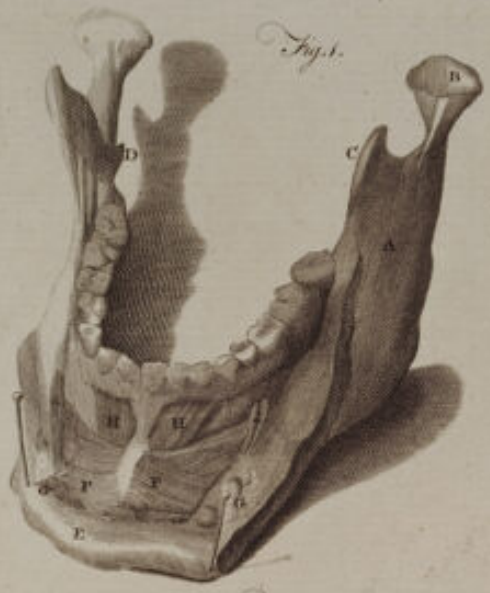
Fig. 1.

Fig. 2.

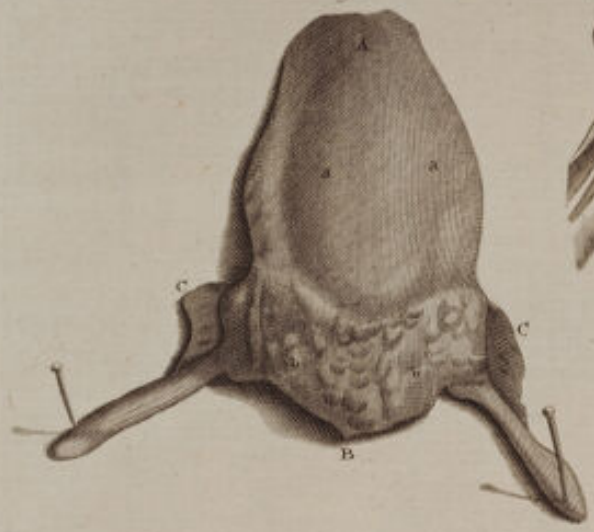
Fig. 3.

Fig. 4.

Fig. 5.

THE

Fortieth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE Under Jaw, with ſome of the Muſcles of the Under Lip remaining to it.

A The external left-ſide of the bone made bare.
B The condyloid proceſs.
C The coronoid proceſs.
D An acute proceſs on the internal part of the lower jaw, beyond the dentes molares, under which the trunks of nerves and blood-veſſels paſs into the middle of the bone, and give branches to each tooth.
d d Some branches of the ſame nerves and blood-veſſels, again paſſing out of the bone, to the muſcles, glands, and membranes of the under lip.
E The inſide of the under lip, covered with its proper membrane.
F F The internal ſurface of the Depreſſor labii inferioris proprius muſcle.
G G Some of the ſmall ſalival glands which appear under the membrane E.
H H The Elevatores labii inferioris proprii.

FIGURE II.

The Larynx, and Trachea, or Aſpera Arteria, with the Œſophagus, and Tongue, the Thyroid Gland, and outlines of one of the Scapulæ, almoſt all viewed anteriorly.

A A The cartilago ſcutiformis.
b One of its prominences.
C The epiglottis.
d The middle ligament of the ſame.
e One of its lateral ligaments.
F The arteria trachea, and a part of the bronchia, opened longitudinally, that their long internal branches, and the gaping excretory orifices of the glands ſituated between theſe, and which are delineated Table XLII. Figure II. o o o, may be ſeen.
G A portion of the œſophagus;
h The ſuperior part of which, or pharynx, is expreſſed as far as is neceſſary.
i One of the cornua of the os hyoides.
K The tongue, and glandular expanſion ſpread over its root, at the anterior limits of which expanſion,
l A ſort of foramen cæcum is commonly found.
M One of the lobes of the thyroid gland.—In order to explain the three muſcles, the other is not brought into view.
N The iſthmus, as it is called, of the ſame gland.
o The appendix of this gland, extending upward, as was the caſe in this ſubject.
P P The crico-thyroid, or thyro-cricoid muſcles.
q q q The ſterno-thyroid muſcles, the greater part of the right of which is diſſected away.
r One of the hyo-thyroid muſcles.
S One of the ſterno-hyoid muſcles.
T One of the coraco-hyoid muſcles alſo, frequently ſo called by Anatomiſts, although it is not inſerted into any part of that proceſs of the ſcapula which is called
V Coracoides; but, beyond the opening of the ſame ſcapula, which, by Veſalius and others, is called
x The ſemi-circular-like proceſs, inſerted into
Y The ſuperior margin of the ſame ſcapula.

FIGURE III.

The upper part of the Tongue, as it appears when taken out with its proper Muſcles.

A The tip of the tongue.
B Its root, freed from the epiglottis and os hyoides.
a a The villous-nervous bodies of the tongue, placed obliquely from the apex to the root of the tongue.
b b The glands ſituated at the root of the tongue, the pores of which emit the ſaliva.
C C The muſculi hyo-gloſſi.
The muſculi ſtylo-gloſſi are ſhewn extended by pins.

FIGURE IV.

The Inferior Maxillary, and Sublingual Salivary Glands.

A A The

A A The two inferior maxillary glands, formed of various lobes, inclofed in one membrane.

B B The fublingual glands, covered with their common membrane.

C C The trunks of the two arteries which arife from the carotids, and convey blood into the above-mentioned falivary glands.

D D Two branches of arteries arifing from thefe trunks, which go to the tongue.

E The trunk of the vein arifing from the extremities of the arteries of thefe glands, and thofe of the adjacent parts.

F A branch of the fifth pair of nerves.

G G The falivary ducts of the inferior maxillary glands, as they pafs to their two papillary terminations under the tongue.

H The two above-mentioned papillæ, where the excretory ducts of the fublingual glands alfo empty themfelves at the fame pores with the two falivary ducts.

I The falivary duct of the right-fide, opened longitudinally, and expanded.

K A fmall ftone, of a bright yellow colour, as it appeared lying in the above duct. The fmaller end of it was broken off in diffection, as here repreferted.

FIGURE V.

The Larynx, or upper part of the Trachea, after the Scutiform cartilage is taken off;—viewed laterally.

A The epiglottis.

B Its root cut from the tongue.

C The arytenoid cartilage.

D The poftcrior part of the crycoid, or annular cartilage.

d The anterior portion, which appears immediately under the thyroid.

E The mufculus Crico-arytenoideus poftcus.

F The thyro-arytenoideus, freed from the fcutiform cartilage, and left at its infertion into the arytenoid cartilage, literally.

G The crico-arytenoideus lateralis. It arifes from the cricoid cartilage, and is inferted into the arytenoides. It affifts, with its partners, in opening the glottis, or arytenoid cartilages.

H Beginning of the trachea.

THE

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

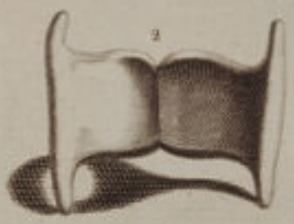

Fig. 6.

Fig. 5.

ABR. LAS. PROF. NOTAMICAL SCULPT. fecit.

THE

Forty-firſt Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE Anterior part of the Larynx, and Arteria Aſpera, with the common Muſcles of the Larynx, &c.

A B The ſterno-hyoideus muſcle not well expreſſed, it being here delineated as it were contiguous to the hyo-thyroideus C E.

D The os hyoides turned to one ſide.

F The ſuperior and anterior portion of the Epiglottis, *in ſitu*.

G The anterior portion of the ſcutiform cartilage.

H H The crico-thyroidei muſcles on the left-ſide; one of them hanging down from its origin, the other remaining *in ſitu*.

I O The anterior part of the annular cartilage laid bare.

FIGURE II.

The Os Hyoides, with the Anterior part of the Cartilages which form the Larynx, and part of the Aſpera Arteria.

A The external and convex part of the ſcutiform cartilage.

B The internal and concave part of the os hyoides, which part of it neceſſarily comes in view in this poſition.

C The annular cartilage.

D The epiglottis expreſſed with the internal concave part forwards, as is well repreſented in the following Figure. Here, however, its external and convex part ſhould have been ſhewn, as in Figure I. F.

E Part of the aſpera arteria.

F F The thyroid gland.

G G Two long proceſſes of the thyroid or ſcutiform cartilage tied to the extremities of the os hyoides.

FIGURE III.

The Os Hyoides, and Poſterior Part of the Larynx.

A The external convex part of the os hyoides. This bone of the tongue appears, from the preceding Figure, to be compoſed of three bones. The middle bone A, is joined to one of the extremities of the two lateral bones, by a cartilaginous interpoſition; the two other extremities of theſe lateral bones are tied to the two long extremities of the proceſſes of the thyroid cartilage G G, Figure II. by a ligament.

B The internal concave part of the epiglottis next the glottis.

C C The arytenoid cartilages covered with the glottis, or internal membrane of the œſophagus.

D The cricoid cartilage, covered with the internal membrane of the œſophagus, which forms the glottis.

E E The two ſides, or back part of the thyroid cartilage, which give origin to part of the pharynx.

F F The poſterior part of the thyroid gland.

G The poſterior part of the trachea, where it is membranous, and receives the anterior part of the œſophagus in its way to the ſtomach.

Having examined the anterior and poſterior parts of the whole larynx, we proceed to conſider thoſe cartilages which compoſe it when ſeparated from each other.

No. 1. The external convex part of the thyroid cartilage.

2. The internal concave part of the ſame cartilage. In theſe two Figures, the two different proceſſes of the thyroid cartilage are remarkable; the two ſuperior or long proceſſes are joined with the extremities of the os hyoides G G, Figure II. the two inferior are faſtened to the cricoid cartilage, laterally.

3. 4. The cricoid cartilage.

3. The anterior,

4. The poſterior part of this cartilage.

5. 6. 5. 6. Two different views of the arytenoid cartilages, which are articulated with the ſuperior parts of the cricoid cartilage.

FIGURE IV.

The Larynx, with a Portion of the Trachea.

A The epiglottis, by which the whole larynx is ſuſpended, which makes it appear longer than nature.

B That part of the epiglottis cut from the root of the tongue.

C C The ſides of the ſcutiform cartilage ſeparated from each other.

a a Its ſuperior long proceſſes fixed to the extremities of the os hyoides.

b One of its two inferior ſhort proceſſes adhering to the annular cartilage.

c One of the arytenoid cartilages, (which form the rimula of the larynx), covered by the glottis.

d d The annular cartilage.

D A portion of the trachea.

E The membranous part of the trachea which touches the œſophagus in its deſcent to the ſtomach.

e The crico-arytenoideus poſticus muſcle.

f The crico-arytenoideus lateralis.

g The crico-arytenoideus ariſing from the internal concave part of the thyroid cartilage, and inſerted into the back-part of the arytenoid cartilage, above the inſertion of the crico-arytenoideus lateralis.

FIGURE V.

A Portion of the Trachea opened and pinned out, to ſhew its Internal Surface.

A Its cartilages divided longitudinally.

B Its internal membrane formed of longitudinal fibres, raiſed. This draws the cartilages nearer each other, and ſhortens the trachea.

C The tranſverſe ſeries of fibres lying on the membranous part of the trachea next the œſophagus. Theſe pull the extremities of the cartilages of the trachea nearer each other, whereby they ſtrengthen its canal.

FIGURE VI.

The Poſterior Parts of the Muſcles of the Pharynx and Œſophagus.

A A A That part which forms the pharynx.

B B The pterygo-pharyngæus muſcle.

C C The tonſillæ.

D D The ſtylo-pharyngei muſcles, which draw the fauces upwards, and dilate them.

E E The inferior conſtrictor of the pharynx.

F Part of the ſuperior long proceſſes of the ſcutiform cartilage, from whence the laſt-mentioned muſcle partly ariſes.

G The œſophagus.

THE

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THE

Forty-ſecond Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THIS Figure is chiefly intended to ſhew a Plexus formed by the joining of the Recurrent Nerves with the Superior Laryngeal, and the termination of their Branches in the Muſcles and Ligaments of the Larynx. The Nerves of the tongue are likewiſe delineated.

A A A probe paſſed through the pharynx B, and œſophagus C.

D D A probe paſſed through the larynx and the trachea.

E F The dorſum and apex of the tongue.

G H The inferior maxillary gland and its duct, and the ſublingual gland.

I The lingual branch of the third branch of the fifth pair of nerves.

K The lingual branch of the ninth pair, and lingual artery.

L A ſmall plexus formed by the joining of the fifth with the ninth pair.

M The lingual branch of the eighth pair.

N Part of the gland, commonly, but improperly, called Thyroid.

O The inferior thyroideal artery.

P The cornu of the os hyoides.

Q The baſe or anterior part of the os hyoides.

R The epiglottis.

S The thyroid cartilage drawn downwards, after cutting the ligaments which tie it to the os hyoides.

T The poſterior and inferior corner of the thyroid cartilage, articulated with the cricoid cartilage.

U A briſtle paſſed under the muſculus crico-arytenoideus poſticus.

V A briſtle paſſed under the muſculus crico-arytenoideus lateralis. Immediately above V, the muſculus thyro-arytenoideus is ſeen obſcurely.

W A briſtle paſſed through the muſculus arytenoideus tranſverſus.

X The recurrent nerve.

Y The ſuperior laryngeal nerve.

Z A plexus formed by the joining of the recurrent and ſuperior laryngeal nerves, from which branches are ſent off to each of the muſcles, and alſo to the proper ligaments of the larynx or glottis vera.

The recurrent and ſuperior laryngeal nerves, by being macerated at the time of drawing, appeared much larger to the painter than they are in a recent ſubject.

FIGURE II.

Shews the Larynx and ſome of its Muſcles, alſo the Muſculi Sterno-hyoidei, and Trachea Arteria, with the Firſt Bronchia, and ſome of their Glands and Fibres, all viewed poſteriorly.

A A The ſcutiform cartilage.

b One of its prominences, the other of which is ſhewn, Table XL. Figure II. d.

C The cricoid cartilage.

d d The apices of the ſuperior proceſſes of the two arytenoid cartilages.

e e The upper part of each of the arytenoid glands.

F The epiglottis.

g The top of one of the ventricles of the larynx, as it appeared in this ſubject. The appendages of the ventricles are in ſome of a larger, and in others of a ſmaller ſize, which accounts for the variety of tone in different voices.

h One of the muſculi thyro-arytenoidei, occupying the lower region of the ſame ventricle, which is partly brought into view by the removal of the muſculus crico-arytenoideus lateralis.

i i The muſculi crico-arytenoidei poſtici.

k The poſterior or exterior arytenoid fibres.

l l The os hyoides.

M M The muſculi ſterno-hyoidei.

n n Their tendinous impreſſions, or aponeuroſis.

O O O A large portion of the trachea arteria, where the rings terminate, and of the firſt bronchia into which it is divided, ſtripped of the external coat, that the glands immediately underneath and their blood-veſſels may appear. Their excretory orifices are deſcribed, Table XL. Figure II. letter F. On the top of the trachea, that coat is ſeparated, and pulled downwards, in order that the internal

p Tranſverſe fleſhy fibres may be ſeen.

FIGURE III.

Shews the Larynx divided poſteriorly in a longitudinal direction, and expanded, that the various Internal Parts may be ſeen.

A A The ſcutiform cartilage.

B B The cricoid cartilage, in the ſections of which ſmall cells are ſeen.

C The

C The epiglottis.
D D The arytenoid cartilages.
E E The long crura of the arytenoid glands: The shorter crura lie under the following ligaments.
f f g g The superior and inferior ligaments, by which the arytenoides and thyroides are connected with each other.
h h The orifices of the ventricles of the larynx.
I I The first cartilage of the trachea arteria. The excretory orifices of the subjacent glands are seen in the coat which covers both this and the following cartilage, and likewise the cricoid, epiglottis, &c.

FIGURE IV.

Is a part of the preceding Figure inclined forward; the Epiglottis being pulled down and turned back, that the Orifices of the Ventricles being thus dilated, the Origins of their Appendages a a, may be brought into view.

FIGURE V.

Shews the size and Figure of the Left Ventricle of the Larynx.

FIGURE VI.

Shews the Epiglottis dissected through the middle, nearly in a longitudinal direction, in order that all the parts given in Figure IV. may be seen in this Section.

a The concave superior, or interior surface of the epiglottis, perforated with excretory orifices.
b The substance of the same cartilage perforated with these small foramina, or tubes, and also with larger apertures, and with these hollows on each excavated and corroded-like surface, which are mentioned in Figure IV.
c c The gland of the epiglottis extended over both its surfaces, situated in the above-mentioned hollows, and transmitted by these openings to both sides.

FIGURE VII.

Represents one of the Articulations of the Cricoid with the Arytenoid, likewise its Cavities, and one of the Arytenoid Glands, &c.

a The right portion of the cricoid viewed anteriorly, and dissected perpendicularly through the middle.
b Also the right arytenoid, which is inclined outward and backward, in order that
c Its sinus may be seen, by means of which, and
d Its small head bunching out in the cricoid, its articulation is formed.
e The superior arytenoid process.
f The inferior process of the same.
g One of the cavities in the anterior surface of the arytenoid, in the deep posterior part of which is situated
h The arytenoid gland, which is here represented detached.
i The shorter crus of the arytenoid gland.
k The longer crus of the same.
l A small pillar extending along this crus.

FIGURE VIII.

The Posterior Surface of the Larynx.

a The epiglottis.
b b The margin of the alæ of the scutiform cartilage.
c c The cornua of the os hyoides.
d The cricoid cartilage.
e e The posterior concave surface of the arytenoid cartilages.
f f The posterior obtuse process into which the musculus crico-arytenoideus is inserted, and which is articulated with the cricoid, which articulation is defended by a capsular membrane observable in the Figure, and swelling out on the right articulation, but which, on account of its smallness, is not lettered.
g g The ligaments of the inferior process of the scutiform cartilage.
h The common ligament of the arytenoid cartilages, in which two filaments, as ligaments of the small heads, descend obliquely.
i i The proper posterior ligaments.
k k An osseous granula between the cornua of the scutiform cartilage and os hyoides.
l l Impressions, where the thyroid gland adheres.
m m The cartilages of the origin of the trachea.

THE

TAB. XLIII. Part 3.

Pl. 84.

Fig. 1.

Fig. 2.

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THE

Forty-third Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

VARIOUS Muſcles of the Lower Jaw and Os Hyoides in ſitu, the Skin and Quadratus Colli being removed.

A A B C The muſculus digaſtricus, or biventer.

B Its fleſhy origin from the mammillary proceſs.

C The middle tendon paſſing through the muſculus ſtylo-cerato-hyoideus, and an annular ligament ariſing from the os hyoides at its fleſhy termination A A, in the under jaw D D.

D D The inferior edge of the under jaw-bone laid bare.

E E The muſculus mylo-hyoideus, which derives its fleſhy origin from the internal part of the under jaw, partly under the inferior maxillary glands, and partly at the inſertions of the digaſtric muſcle, from whence deſcending with a double ſeries of muſcles, it is inſerted into the ſuperior and anterior part of the os hyoides. Immediately under this muſcle lie the ſublingual glands and ſalivary ducts of the inferior maxillary gland; both of which are compreſſed by it, and their continued ſaliva conveyed forwards into the mouth when this muſcle acts, as in deglutition, &c.

F F The muſculi ſterno-hyoidei ariſing from the internal and ſuperior part of the clavicles, and inſerted into the inferior and anterior part of the os hyoides.

G G Parts of the omo-hyoidei, coming from under the maſtoid muſcles.

H H Parts of the ſterno-thyroidei which ariſe from the ſuperior and internal part of the ſternum, and paſs under the ſterno-hyoidei to their terminations in the thyroid cartilage, as appears in the following Figure.

I I The maſtoidei.

K Part of the maſſeter, on the right-ſide.

L Part of the parotid gland, on the ſame ſide.

M M The glands of the under jaw.

N That part of the muſculus ſtylo-hyoideus which is perforated for the tranſmiſſion of the middle tendon of the biventer muſcle of the under jaw.

O Part of the internal jugular vein.

P Part of the carotid artery.

Q A blood-veſſel cut off and tied.

FIGURE II.

Various Muſcles lying under thoſe expreſſed in the former Figure.

A A A The inferior margin of the under jaw laid bare.

B B B B The muſculi ſterno-hyoidei freed from their inſertions, and left at their origins.

C C C C The omo-hyoidei: they are a pair of digaſtric muſcles; they ariſe fleſhy from the upper edge of the ſcapula, and aſcend under the maſtoid muſcles, where they become tendinous, but, growing fleſhy again, are inſerted at the baſe of the anterior bone of the os hyoides.

D Part of the ſtylo-hyoideus muſcle, at its inſertion.

E E E The mylo-hyoideus muſcle on the right-ſide, not quite freed from its origin, and raiſed on the left, ſo that the ſublingual gland W appears.

F F The genio-hyoidei: They ariſe fleſhy from the internal part of the under jaw, which forms the chin, and are inſerted into the ſuperior and anterior part of the os hyoides.

G G The digaſtric muſcles of the lower jaw cut from their inſertions.

H H The maſtoidei muſcles; that of the right-ſide being cut from its origin, and left at its inſertion; that of the left remaining in ſitu.

I The ſcutiform cartilage of the larynx, which forms what is called the *Pomum Adami*.

K The aſpera arteria.

L L The thyroid glands.

M The maſſeter muſcle in ſitu.

N The muſculus pterygoideus internus in ſitu. It ariſes partly tendinous, and partly fleſhy, from the cavity of the wing-like proceſs of the os ſphenoides, whence it deſcends to its inſertion into the internal and inferior part of the under jaw-bone.

O Part of the parotid gland.

P The muſculus hyo-thyroideus, ariſing from the os hyoides: it is inſerted into the lower part of the ſcutiform cartilage. This draws the larynx upwards, in an acute tone of the voice.

Q The crico-thyroideus.

R The ſterno-thyroideus, terminating in the ſcutiform cartilage.

S The internal jugular vein.

T The carotid artery.

V A large vein proceeding from the thyroid gland to the ſubclavian branch.

W The ſublingual gland lying immediately under the muſculus mylo-hyoideus.

THE

THE

Forty-fourth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

VARIOUS Muſcles of the Head and Neck, which appear on the fore-part, after the Under Jaw, Tongue, Larynx, Aſpera Arteria, and Gula, are removed.

A A The muſculi longi colli, which ariſe, partly tendinous, but chiefly fleſhy, from the anterior parts of the five ſuperior vertebræ of the thorax, and after dilating, in the middle of their progreſs into fleſhy bellies, are inſerted in the ſame manner as they ariſe, into the anterior parts of all the vertebræ of the neck. Theſe, from their uſe, may be called *Flexores colli*.

B B The three ſcaleni in ſitu. The firſt of theſe muſcles ariſes fleſhy from the anterior part of the ſecond, third, and fourth tranſverſe proceſſes of the vertebræ of the neck, and deſcending obliquely forwards, becomes tendinous at its inſertion into the firſt rib: The axillary nerves paſs between this and the following, the ſcalenus ſecundus, which likewiſe ariſes from the ſecond, third, fourth, and fifth tranſverſe proceſſes of the neck, and is inſerted into the ſecond, and ſometimes third rib. The ſcalenus tertius ariſes from the ſame tranſverſe proceſſes with the former, and likewiſe from the fifth and ſixth, and is ſoon inſerted into the firſt rib.

I I The maſtoidei, which ariſe, partly tendinous and partly fleſhy, from the ſuperior part of the os pectoris, or ſternum, and near half the clavicle M, with two, and ſometimes, as here, three diſtinct origins, K K K, which aſcend obliquely, and unite in the middle of their progreſs, forming a ſomewhat round, thick, fleſhy muſcle, and paſſing over the upper part of the elevator ſcapulæ muſcle, becomes broader again, and tendinous, at its inſertion into the back part of the mammillary proceſs, and the adjoining part of the os occipitis, above the inſertion of part of the ſplenius.

L L The recti interni majores antici, by ſome called Par rectum internum colli, and from their uſe *Flexores capitis*. They ariſe, partly fleſhy, but chiefly tendinous, from the anterior part of all the tranſverſe proceſſes of the vertebræ of the neck, except the firſt and ſecond; becoming fleſhy, they are inſerted into the interior appendix of the os occipitis, before the foramen magnum, which tranſmits the medulla oblongata. They are employed in bending the head forwards.

M M The clavicles.

O The uvula.

P P The bodies of the vertebræ of the neck.

TAB. XLIV. Part 3.

Pl. 8.5.

ADAM L.A.R.S. PRECHT, ANAT. SCULPTOR, fecit.

TAB. XLV. Part 3.

Pl. 80.

Fig. 1.

Fig. 2.

ABR. S. L. F. S. PRINCKHOFT SCUL. SCULPTOR, fecit.

THE

Forty-fifth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE Muſcles of the Face, as they appear after the Skin, Fat, Membranes, and Muſculi Quadrati Genarum, are removed.

A A The muſculi frontales.
B B The orbiculares palpebrarum.
C The muſculus dilatator alæ naſi.
D The elevator labiorum communis.
E E The elevator labii ſuperioris proprius.
F F The ſphincter labiorum.
G G The zygomatici, or diſtortores oris.
H The depreſſor labiorum communis.
I The depreſſor labii inferioris proprius.
K The buccinator.
L The temporalis.
M The elevator auriculæ.
N The maſſeter.
a Part of the os jugale.
b The cartilage of the auricle, freed from the ſkin.
c c The parotid gland.
d The ſuperior ſalivary duct of the parotid gland, as it deſcends over the maſſeter, through the buccinator, into the mouth.
e e A branch of the carotid artery, which paſſes through the inferior maxillary gland.
f Part of the lower jaw-bone laid bare.
g Part of the inferior maxillary gland.
O Part of the biventer muſcle, in ſitu.
P The maſtoideus.
Q Part of the cucullaris.
R Part of the elevator ſcapulæ.
S S Parts of the muſculi ſterno-hyoidei.
T T Parts of the coraco-hyoidei.

FIGURE II.

Shews various Muſcles employed in the motions of the Head and Vertebræ of the Neck, which appear on the back-part.

A Part of the hairy ſcalp remaining on the fore-part of the head.
B The os occipitis laid bare.
C The muſculus ſplenius left at its inſertion.
a Part of the os jugale.
D D D The muſculus complexus raiſed, to ſhew its inſide.
E E The recti majores; that on the right ſide remaining in ſitu, that on the left hanging down from its origin.
F F The obliqui ſuperiores in ſitu.
G G The inferiores in ſitu.
H H The minores, alſo in ſitu.
b The maſtoid proceſs of the left-ſide laid bare.
c The back-part of the firſt vertebra of the neck made bare.
d Part of the complexus inſerted into the mammillary proceſs.
I I I I The ſpinales colli; that of the left remaining in ſitu, the right being raiſed from its inferior part, and turned to one ſide, to ſhew its ſubjacent muſcle, the tranſverſalis colli.
K The tranſverſalis colli, which ariſes from the tranſverſe proceſſes of the inferior vertebra of the neck, and is inſerted into the ſpinal proceſſes of its ſuperior vertebra.
L L The muſculi interſpinales colli.
e e e The apices of the double ſpinal proceſſes.

THE

Forty-ſixth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

REPRESENTS various Muſcles of the Face, after the Quadratus Genæ is removed.

A The compreſſor naris muſcle.

B The elevator alæ naſi, or, from its figure, pyramidalis.

C The elevator labii ſuperioris proprius.

D D The orbicularis palpebrarum.

E The zygomaticus, or diſtortor oris.

F A branch of an artery which ariſes from the carotid in the neck, and perforating the inferior maxillary gland, paſſes over the under jaw-bone, at the inſertion of the maſſeter muſcle, as is here expreſſed.

G The os jugale.

H The os maxillare inferius laid bare, the ſkin, and muſculus quadratus colli, being removed.

I Part of the carotid artery.

K M The temporal muſcle; K, its external ſurface; M, its internal ſurface, next the cranium, turned down.

L Part of the parotid gland, the greater part of which is diſſected, to obtain a view of the following muſcle.

O The maſſeter muſcle in ſitu. The origin, progreſs, and inſertion of this and the temporal muſcle, are diſtinctly expreſſed in this and the following figure.

FIGURE II.

Shews the Muſcles of the Lips, and ſome of thoſe of the under Jaw.

A B C The buccinator muſcle, freed from its origin at the proceſſus coronæ of the under jaw, near N, and left at its inſertion at the angle of the lips.

D The elevator labiorum communis. This muſcle ariſes from the fourth bone of the upper jaw, and deſcends directly to its inſertion under the termination of the zygomaticus.

E E The elevator labii ſuperioris proprius, and the dilator alæ naſi muſcle.

F The muſculus zygomaticus.

G The depreſſor labiorum communis.

H The depreſſor labii inferioris proprius.

I The conſtrictor labiorum.

K M N The temporalis: N its inſertion at the proceſſus coronæ of the under jaw.

L Part of the parotid gland.

O The maſſeter cut from its origin at the os jugale, and left at its inſertion into the lower jaw.

P Q Part of the origin of the muſculus pterygoideus externus in ſitu. It ariſes from the external part of the pterygoid proceſs, and ſuperior part of the os ſphenoides, and runs backwards to its inſertion into the neck of the condyloid proceſs. To diſcover the progreſs of this muſcle, the proceſſus coronæ ſhould be cut off.

R The proceſſus condyliformis of the under jaw, moſt of which is laid bare.

S Part of the digaſtric muſcle of the under jaw.

Fig. 1.

Fig. 2.

Allen & Prior Wood Engravers fecit.

Abbott Pinx. & Sculpt. fecit.

THE

Forty-ſeventh Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

THE External Muſcles which move the Head as they appear on the Back-part; the Upper part of the Cucullaris being taken off, and ſome Muſcles of the Shoulder-blade and Thorax raiſed and reclined laterally.

A A The ſplenius muſcle in ſitu.

B B, &c. Its partly tendinous and partly fleſhy origin from the five or ſix ſpines of the ſuperior vertebræ of the thorax. The lower part of this muſcle appears, in general, diſtinct from its ſuperior, and is inſerted to the tranſverſe proceſſes of the third, fourth, and fifth vertebræ of the neck, as is expreſſed at e e e.

C C, &c. The origin of the ſuperior part of the ſplenius from the ſpines of the inferior vertebræ of the neck; D D, its fleſhy inſertion into the os occipitis.

E E The ſplenius on the left ſide, raiſed and reclined laterally.

e e e Its three, ſometimes four, tendinous terminations inſerted into as many of the tranſverſe proceſſes of the neck. Theſe muſcles are common to the head and neck, ſo that if either of them acts, it draws the head together with the vertebræ of the neck, to which it is inſerted, to that ſide backwards; if they both act, they pull the head directly backwards, together with thoſe vertebræ of the neck.

F G H, &c. The muſculus complexus, on both ſides in ſitu, the left being laid bare.

H H Its partly tendinous and partly fleſhy origin from the tranſverſe proceſſes of the vertebræ of the thorax, which becomes ſtill more fleſhy in its aſcent F G, and is ſo inſerted into the os occipitis I I, immediately under the termination of the ſplenius D D.

f f A part of the complexus muſcle inſerted into the mammillary proceſs.

K The ſerratus ſuperior poſticus, raiſed.

L The rhomboides likewiſe raiſed and reclined laterally.

M The upper part of the longiſſimus dorſi, and ſacrolumbalis.

N The muſculus levator ſcapulæ, partly appearing.

THE

THE

Forty-eighth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

SEVERAL Muſcles of the Head and Neck lying under thoſe repreſented in the preceding Table.

A The muſculus rectus poſticus major diſſected from its inſertion at the occiput D, on the left ſide, and hanging down from its origin at the double ſpine of the ſecond vertebra of the neck.

B The ſame muſcle in ſitu, on the right ſide.

C C E The rectus minor poſticus on the left ſide laid bare, and remaining in ſitu on the right ſide. It is partly hid by the rectus major.

D D The inſertion of the recti minores into the os occipitis. They ariſe from the back-part of the firſt vertebra of the neck. They pull the head backward on the firſt vertebra of the neck, and from their uſe are called *Renuentes*, or Nodders backwards, and are antagoniſts to a ſmall pair of muſcles, which are called Recti Minores Antici, and from their uſe, *Annuentes*.

F The obliqui inferiores, that on the right ſide remaining in ſitu, the left being freed from its inſertion, and remaining at its origin. Each of them ariſes from one of the double ſpinal proceſſes of the ſecond vertebra of the neck, and after an oblique aſcent, is inſerted into the tranſverſe proceſs of the firſt vertebra.

When either of theſe inferior oblique muſcles acts, it draws the tranſverſe proceſs of the firſt vertebra near the ſpine of the ſecond; if both act, they contribute to preſerve the head more ſteady.

G H The obliqui ſuperiores, the right remaining in ſitu G; the left being cut from its inſertion at the os occipitis, and left at its origin at the tranſverſe proceſs of the firſt vertebra of the neck. They perform the ſame office as the recti majores.

I I An aſperity of the os occipitis, where the muſculi ſplenii and complexi terminate.

K K The inferior ſurfaces of the complex muſcles, as they appear when raiſed and reclined laterally, the greater part of that on the right ſide being removed.

L Parts of the longiſſimus dorſi, and ſacro-lumbalis.

M M N N The ſpinalis colli muſcle.

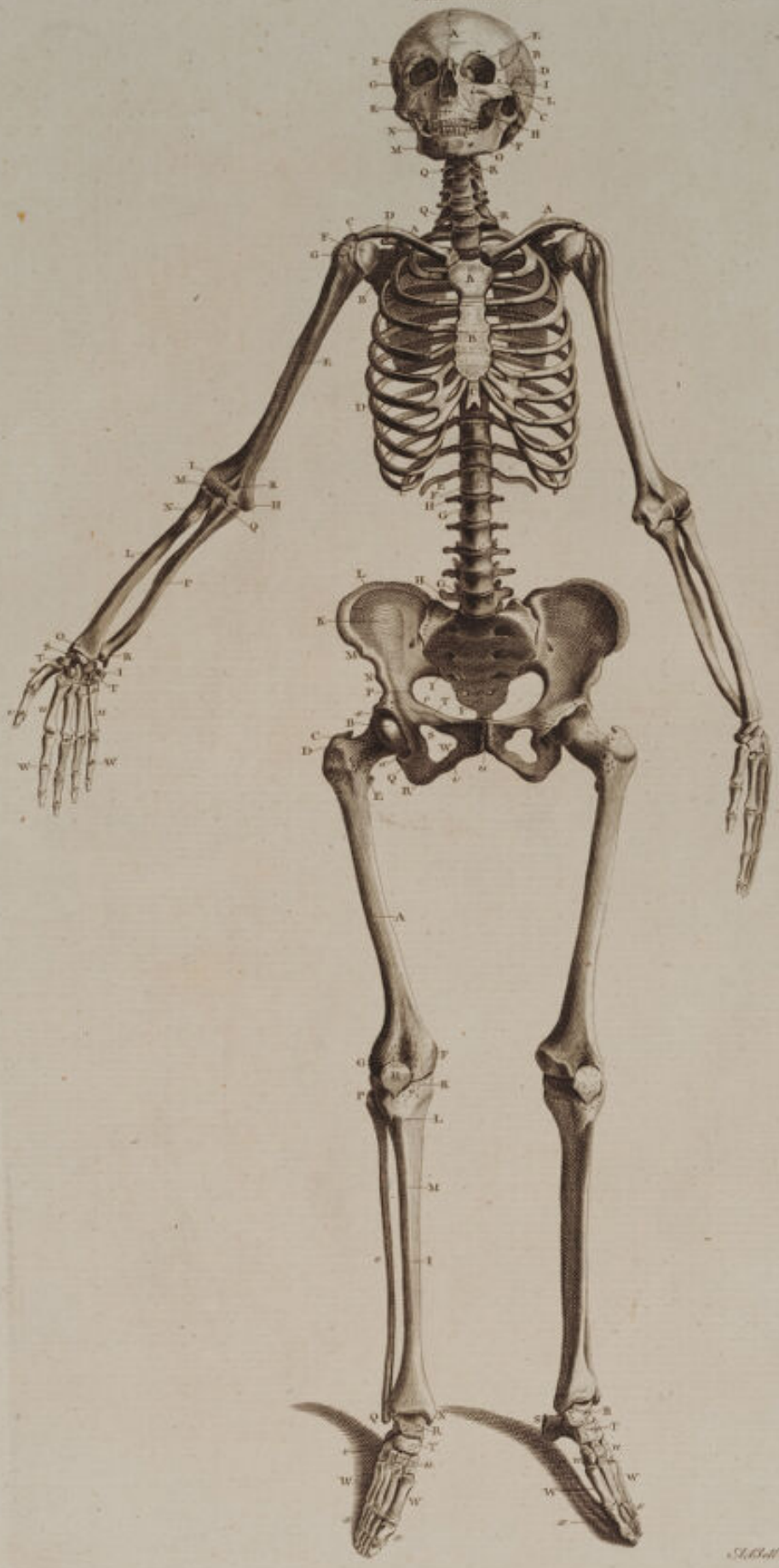
O O The ſpines of the vertebræ of the neck.

P P The muſculi interſpinales.

Q The elevator ſcapulæ.

THE

A Bell Princ. Mal. Sculptor fecit.



J. Bell Printed & sculpter fecit.

THE

Forty-ninth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

THIS Figure is intended to ſhew the difference between the Male and Female Skeleton. It is taken from a Female Skeleton five feet high, which being viewed in front, we obſerve that the Head is, in the Female, ſmaller than in the Male; that the Bones are leſs capacious, and the Proceſſes alſo ſmaller; that the Thorax is leſs elevated, and the Sternum more convex; that the Vertebræ of the Loins project more forward, and the Bones of the Pelvis more backward; that the Os Sacrum, as well as all the other Bones of the Pelvis, are larger and wider, and the Os Coccygis ſtraighter; that the Bodies of the Oſſa Pubis are leſs elevated, and their Superior Branches longer; that the Spines and Tuberoſities of the Oſſa Iſchia are at a greater diſtance from each other; that the Branches of the Oſſa Iſchia converge more, ſo that the angle formed by the union of theſe Bones with the Inferior Branches of the Oſſa Pubis, is much larger in the Female. We find alſo that the Necks of the Thigh-bones are longer, and the Trochanters farther from the Acetabula; hence the upper ends of the Thigh-bones are at a greater diſtance from each other in the Female than in the Male Skeleton.

Upon examining the particular Bones of this Skeleton, we obſerve,

1. In the head, that the ſagittal ſuture is continued to the root of the noſe, which circumſtance is more frequently remarked in the female than in the male. We ſee almoſt the whole of the frontal bone, a part of the left parietal, a portion of the temporal proceſs of the ſphenoid, a ſhare of the temporal bone, the orbits, the oſſa naſi, the foſſæ naſales, the maxillary and cheek-bones, the lower jaw and teeth of both jaws.

2. The bodies and tranſverſe proceſſes of the cervical vertebræ.

3. The bodies of the laſt dorſal vertebræ.

4. The internal ſurface of the os ſacrum.

5. The diſpoſition of the ſternum, ribs and their cartilages.

6. The ſuperior extremities, of which, the right is a little elevated, and the fore-arm in a ſtate of ſupination, the left fore-arm being in the ſtate of pronation.

7. The oſſa innominata, the connection of which with the os ſacrum forms the pelvis.

8. The inferior extremities, of which the right is ſeen in front, while the left is turned a little outwards, eſpecially the leg and foot.

Bones of the Head and Neck.

A The ſagittal ſuture extending to the noſe.
B A portion of the parietal bone.
C Part of the temporal bone.
D Temporal proceſs of the ſphenoid bone.
E The orbit.
F The oſſa naſi.
G Part of the ſeptum narium, and the entry of the noſtrils.
H The middle of the oſſa maxillaria.
I The angle of one of the oſſa maxillaria.
K The union of the oſſa maxillaria.
L One of the oſſa malarum.
M The ſymphyſis of the lower jaw.
N The teeth of both jaws.
O The baſe of the lower jaw.
P The proceſs of this bone.
Q Q The bodies of the cervical vertebræ.
R R Their tranſverſe proceſſes.

Bones of the Trunk.

A The upper part of the ſternum.
B The middle of the ſame bone.
C The cartilago enſiformis.
D The ſeventh, or laſt of the true ribs.
E The twelfth, or laſt rib.
F The twelfth dorſal vertebra.
G G The lumbar vertebræ.
H H Their tranſverſe proceſſes.
I I The os ſacrum.
K The os ileum.
L The creſt or ſpine of the os ileum.
M The ſuperior anterior, and
N The inferior anterior proceſs of this bone.
O The brim of the pelvis.
P The ſchiatic notch.
Q The os iſchium.
R The tuberoſity of that bone.
S The ſpinous proceſs of the os iſchium.
T The os pubis.
U The ſymphyſis pubis.
V The union between the crus of the os pubis, and that of the os iſchium.
W The foramen thyroideum.
X X The acetabulum.

Bones of the Upper Extremity.

A The clavicle.
B The ſcapula.
C The acromion ſcapulæ.
D The coracoid proceſs of that bone.
E The body of the os humeri.
F The head of the os humeri.
G Proceſſes of the upper part of the body of the os humeri.
H The internal condyle.
I The external condyle.
K The trochlea.
L The radius.
M The head of the radius.
N The tubercle, and
O The inferior extremity of this bone.
P The ulna.
Q The upper, and
R The under part of the ulna.
S S The firſt, and
T T Second row of carpal bones.
U U The metacarpal bones.
V The two bones of the thumb.
W W The three bones of each of the fingers.

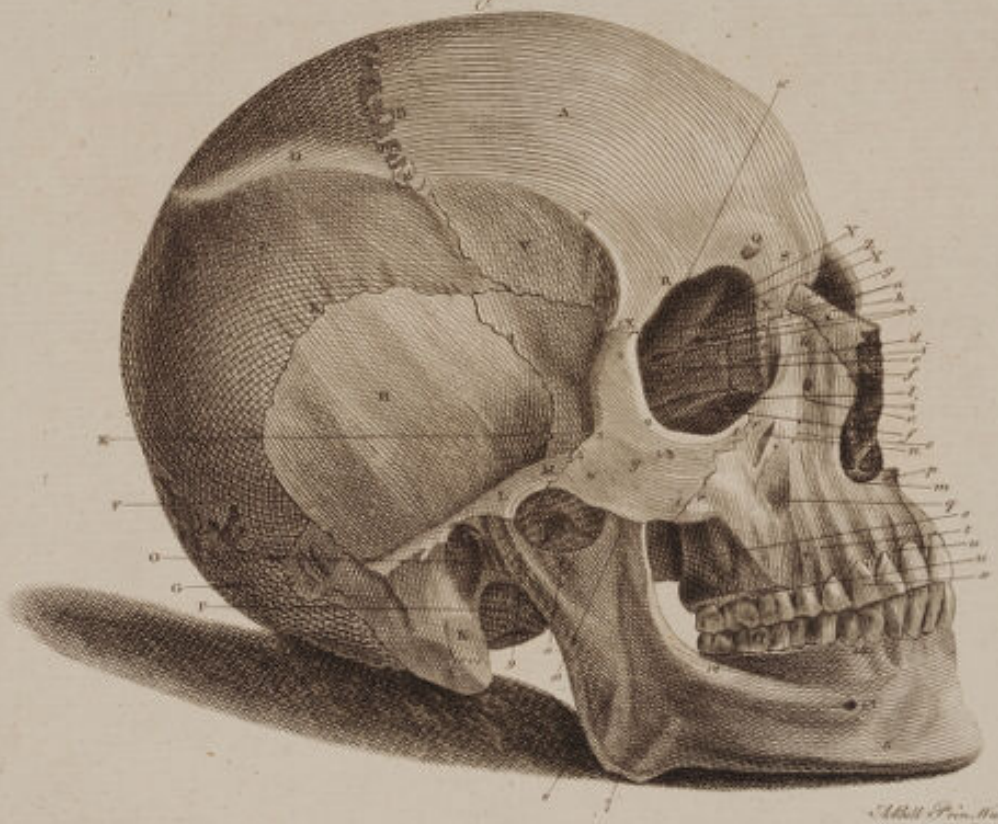
Bones of the Inferior Extremity.

A The os femoris.
B The head of the os femoris.
C The cervix of this bone.
D The trochanter major, and
E The trochanter minor.
F The internal,
G The external condyle.
H The patella.
I The tibia.
K Its head.
L Its tubercle.
M The ſpine.
N The malleolus internus.
O The fibula.
P The head of the fibula.
Q The malleolus externus.
R The aſtragalus.
S The os calcis.
T The os ſcaphoides.
U The three oſſa cuneiformia.
V The os cuboides.
W W The five metatarſal bones.
X X The bones of the toes.

THE

Fig. 1.

Fig. 2.



Abbott Prin. Mad. Sculptor fecit.

THE

Fiftieth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

REPRESENTS a Front and Side View of the Bones of the Head.

FIGURE I.

A The os frontis.
B The lateral part of the os frontis, with muſcular prints upon it.
C A portion of the os frontis which makes part of the temporal foſſa.
D The ſuperciliary ridge.
E The foramen ſuperciliare, through which the frontal nerves and arteries paſs.
F The orbitar proceſs.
G Part of the tranſverſe ſuture.
H Another portion of the tranſverſe ſuture.
I The middle of the temporal foſſa.
K The anterior angle of the parietal bone.
L The temporal proceſs of the ſphenoid bone.
M A portion of the ſquamous part of the temporal bone.
N The upper part of the orbit.
O Foſſa for lodging the lacrymal gland.
P The foramen opticum.
Q Part of the tranſverſe ſuture.
R The foramen lacerum of the ſphenoid bone.
S The inferior orbitar, or ſpheno-maxillary fiſſure.
T The orbitar plate of the ſphenoid bone.
V Part of the oſſa plana of the œthmoid bone.
X The os unguis.
Y The orbitar plate of the os malæ.
Z The upper part of the os naſi.
& A hole for tranſmitting veſſels into this bone.
a The middle of the os maxillare.
b The baſe of the naſal proceſs of the os maxillare, where veſſels frequently paſs into the ſubſtance of this bone.
c The external orbitar hole, through which the infra-orbitar nerves and arteries paſs.
d The connection of the ſuperior maxillary bones by the myſtachial ſuture.
e The os malæ.
f f, &c. The different proceſſes of the os malæ.
g The zygomatic ſuture.
h The zygomatic proceſs of the temporal bone.
i Paſſage through the os malæ, for the tranſmiſſion of blood-veſſels.
k The entry of the foſſa naſalis.
l The ſeptum narium.
m The os ſpongioſum ſuperius.
n The os ſpongioſum inferius.
o The foſſa maxillaris.
p The tuberoſity at the back-part of the ſuperior maxillary bone.
q The alveoli of the upper jaw for receiving the teeth.
r r The teeth of the upper jaw.
s The ſymphyſis of the maxilla inferior, or lower jaw.
t The baſe of the lower jaw.
u Hole at the ſide of the chin where the inferior maxillary veſſel and nerve come out.
x The angle of the lower jaw.
y The parts where the coronoid and condyloid proceſſes are ſent up.
z z, &c. The alveoli for the teeth.
& The teeth of the lower jaw.

FIGURE II.

A The os frontis.
B Part of the coronal ſuture.
C The os parietale.
D An arched ridge which gives origin to the temporal muſcle.
E The ſquamous ſuture.
F Part of the lambdoid ſuture.
G A ſmall portion of the os occipitis.
H The ſquamous part of the temporal bone.
I Part of the ſquamous ſuture between the temporal and ſphenoid bones.
K The middle of the temporal foſſa.
L The zygomatic proceſs of the temporal bone.
M The zygomatic ſuture.
N The maſtoid proceſs of the temporal bone.
O The meatus auditorius externus.
P Part of the baſe of the pars petroſa.
Q The foramen ſuperciliare.
R The ſuperciliary ridge.
S An elevation formed by the frontal ſinus.
T A ſmall ridge, under which is
V A depreſſion, where part of the temporal muſcle riſes.
X The angular proceſſes of the frontal bone.
Y Y The orbitar plate of the frontal bone.
& Part of the lacrymal foſſa.
a a That part of the tranſverſe ſuture which unites the os frontis to the os planum and os unguis.

b The

b The foramina orbitaria interna, which tranſmit ſmall veſſels and nerves from the orbit to the noſe.

c The pars plana of the œthmoid bone.

d The os unguis.

e That part of the lacrymal groove which is formed by the os unguis.

f A part of the orbit which belongs to the os maxillare ſuperius.

g The upper part of the right os naſi.

h A paſſage for blood-veſſels.

i i The edge of the os naſi, and os maxillare ſuperius, to which the cartilage of the noſe is fixed.

k The naſal proceſs of the ſuperior maxillary bone.

l The depreſſion of the os maxillare which belongs to the orbit.

m A ſemicircular notch of the os maxillare, forming the under part of the entry into the noſtril.

n The foramen orbitarium externum.

o Small holes for the tranſmiſſion of veſſels, chiefly into the ſubſtance of the bone.

p A ſpine or ridge formed by the union of the oſſa maxillaria, to which the under part of the ſeptum narium is fixed.

q The foſſa maxillaris.

r r The malar proceſs to which the cheek-bone is fixed.

s The larger tuber or bulge of the os maxillare.

t The elevations of the alveoli over the roots of the teeth.

u u The edge of the alveoli.

x The dentes inciſivi, canini, et molares of the upper jaw.

y The os malæ.

z The ſuperior orbitar proceſs of the os malæ.

& The zygomatic proceſs of this bone.

1 1. The maxillary proceſs.

2. The orbitar plate.

3. A cavity for lodging part of the temporal muſcle.

4. The zygomatic ſuture.

5. The external orbitar paſſage of the os malæ.

6. The baſe of the maxilla inferior.

7. The angle of the ſame bone.

8. Many muſcular prints upon this bone.

9. The condyloid proceſs.

10. The coronoid proceſs.

11. A niche between the proceſſes.

12. The ſharp edge of the coronoid proceſs.

13. The hole at the ſide of the chin, for the paſſage of the inferior maxillary veſſels and nerves.

14. The edge of the alveoli of the under-jaw.

15. The dentes inciſivi, canini et molares of the lower jaw.

THE

Fig. 2.

Fig. 3.

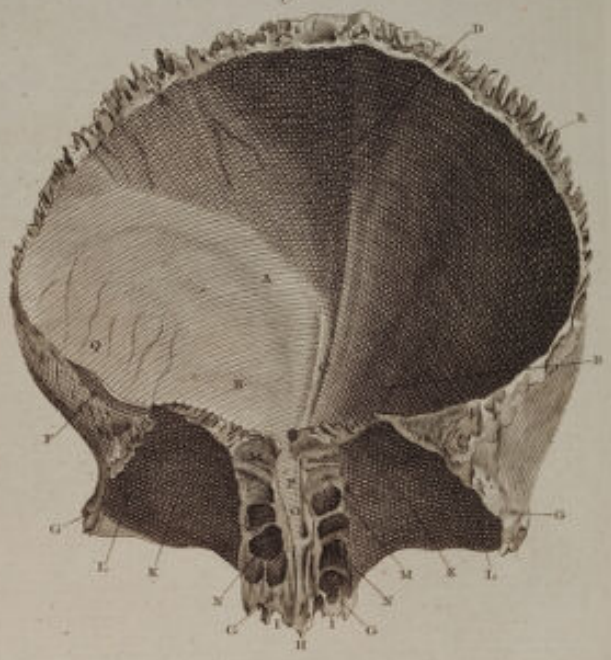


Fig. 1.

Abbott Pinx. W. L. Sculpsit.

THE

Fifty-first Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

REPRESENTS the Posterior and Right Side of the Bones of the Head.

A The lateral part of the os frontis.
B A depression of the frontal bone, forming part of the temporal fossa.
C C The ossa parietalia.
D The coronal suture.
E The sagittal suture.
F F The lambdoid suture.
G G Ossa triquetra.
H H The parietal holes, through which small vessels pass into the dura mater.
I An arched ridge which gives origin to the temporal muscle.
K K K K The angles of the parietal bone.
L The os occipitis.
M Part of the transverse arch or ridge from which the occipital and trapezii muscles have their origin.
N The squamous suture.
O The squamous part of the temporal bone.
P The mastoid process.
Q The zygomatic process.
R The meatus auditorius externus.
S Part of the temporal fossa.
T The temporal process or wing of the sphenoid bone.
V The external surface of the orbitar plate of the os malæ.
X The temporal fossa of this bone.
Y The zygomatic suture.
Z The superior orbitar process.
& The zygomatic process.
a Part of the os maxillare superius.
b Part of the external plate of the pterygoid process.
c Some of the teeth of the upper jaw.

FIGURE II.

Represents the Outer Side of the Os Frontis.

A The middle and convex part of the os frontis.
B B The elevations of this bone.
C The muscular print of the right-side.
D Part of the temporal fossa.
E E The external and internal angular processes.
F The nasal process.
G G The eminences and cavities to which the proper nasal and superior maxillary bones are fixed.
H The superciliary arch.
I I The superciliary holes through which the vessels and nerves pass to the fore-head.
K The orbitar plate.
L The cavity for lodging the lacrymal gland.
M One of the foramina orbitaria interna.
N The inequalities which unite this bone to the os sphenoides.

FIGURE III.

Represents the Inner Side of the Os Frontis.

A The internal concave part of the os frontis.
B B The cavities which lodge the anterior lobes of the brain.
C The spine to which part of the falx of the dura mater is fixed.
D The furrow which lodges a portion of the superior longitudinal sinus.
E E The ragged edge of the bone which assists in forming the coronal suture.
F F Other inequalities which join the frontal to the sphenoid bone.
G G G G The internal surfaces of the four angular processes.
H The posterior surface of the nasal process.
I I Other inequalities near the nasal process.
K K The orbitar plates of the frontal bone.
L L The fossæ lacrymales, or cavities for lodging the lacrymal glands.
M M The cells which correspond with those of the œthmoid bone.
N N The passages from the frontal sinuses.
O A passage in which a process of the falx is lodged, and through which vessels run into the substance of the bone.
P The opening which receives the cribriform plate of the œthmoid bone.
Q The furrows which lodge the blood-vessels of the dura mater.

THE

Fifty-ſecond Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

REPRESENTS the different Parts of the Parietal and Temporal Bones.

FIGURE I.

A The outer convex part of the left os parietale.

B The upper ragged edge of the bone, which, when joined to its fellow, forms the ſagittal ſuture.

C The anterior edge, which aſſiſts in forming the coronal ſuture.

D The poſterior edge, which joins the occipital bone, and forms part of the lambdoid ſuture.

E The inferior ſemicircular edge, which is joined to the ſquamous part of the temporal bone.

F The parietal hole, which commonly tranſmits a ſmall vein from the integuments of the head to the longitudinal ſinus.

G An arched ridge which gives origin to a large ſhare of the temporal muſcle.

H The anterior and ſuperior angle.

I The anterior and inferior angle.

K L The poſterior angle.

FIGURE II.

A The inner concave part of the left os parietale.

B B The inner ſurface of the ſuperior edge, where the indentations are more apparent than thoſe of the outer ſide.

C The parietal hole ſhewn in the former figure.

D The anterior ſerrated edge.

E The poſterior edge more ſtrongly marked with indentations.

F F The ſuperior angles.

G The inferior anterior angle, where the beginning of a furrow is ſeen, which lodges the trunk of the principal artery of the dura mater.

H H The principal ramifications of this furrow.

I I Furrows which lodge other arteries of the dura mater.

K A ſmall depreſſion which lodges part of the lateral ſinus.

L The inferior edge, which is conſiderably thinner than the reſt.

FIGURE III.

Repreſents the Outer Surface of the Temporal Bone of the Left Side.

A The upper and ſquamous part of the os temporis.

B The middle part of the ſame bone.

C The inferior part of the pars ſquamoſa, which lodges a portion of the temporal muſcle.

D A niche in the pars ſquamoſa, to be connected with the under and back part of the parietal bone.

E The zygomatic proceſs.

F The baſe of this proceſs.

G The tranſverſe or articular proceſs.

H The maſtoid proceſs.

I Several ſmall holes which tranſmit veſſels to the ſubſtance of the bone or to the dura mater.

K Two other holes of a ſimilar nature, at the root of the zygomatic proceſs.

L The meatus auditorius externus.

M The inequalities at the beginning of the meatus.

N The glenoid cavity for the articulation of the lower jaw.

O A fiſſure to which part of the articular ligament is fixed.

P The vaginal proceſs.

Q Part of the maſtoid groove, where the digaſtric muſcle has its origin.

R The ſtyloid proceſs.

S The foramen maſtoideum, through which a vein paſſes into the lateral ſinus.

T The baſe or upper part of the maſtoid proceſs.

V The inferior and anterior part of the temporal bone, which is joined to the os ſphenoides.

X A portion of the Euſtachian tube.

Y Part of the pars petroſa.

FIGURE IV.

Repreſents the Inner Side of the Temporal Bone.

A A The upper edge of the ſquamous proceſs.

B B Depreſſions which correſpond with the circumvolutions of the brain.

C A part which is joined to the os ſphenoides.

D The niche which receives the inferior and poſterior angle of the parietal bone.

E The upper part of the pars petroſa.

F The groove which lodges the ſuperior petroſal ſinus.

G The foſſa which lodges a part of the lateral ſinus.

H The meatus auditorius internus.

I A niche which aſſiſts in forming the foramen lacerum.

K Part of the foſſa which lodges the beginning of the internal jugular vein.

L The poſterior part of the temporal, which is joined to the occipital bone.

M The foramen maſtoideum.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 1.

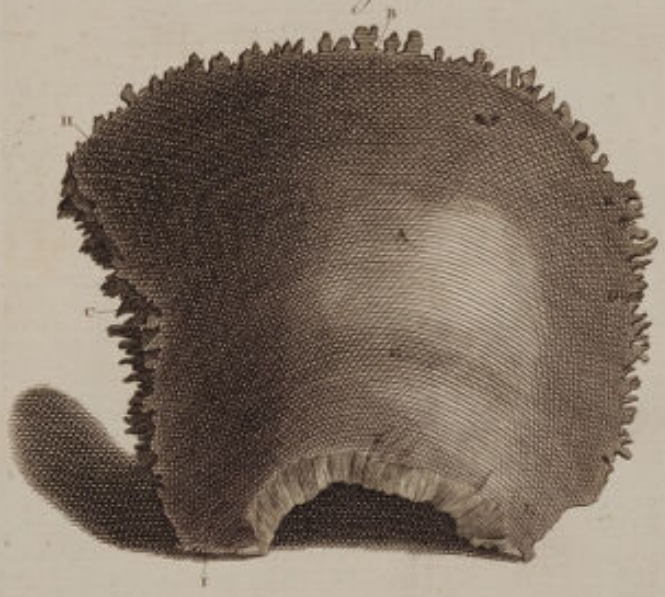


Fig. 3.

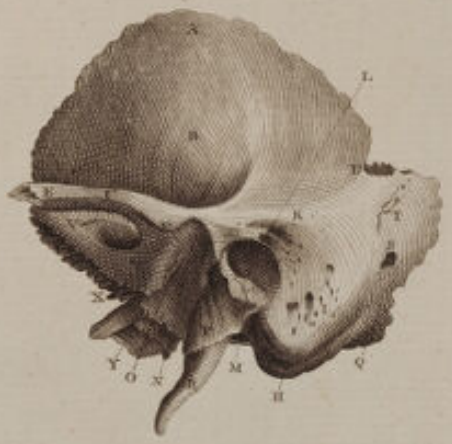


Fig. 8.

Fig. 9.

Fig. 10.

Fig. 11.

Fig. 12.

Fig. 13.

Fig. 2.

Fig. 4.

N A portion of the maſtoid proceſs.
O A conſiderable part of the maſtoid groove.
P The ſtyloid proceſs.
Q The extremity of the pars petroſa divided into two portions.

FIGURE V.

Repreſents the External Surface of the Oſſeous Circle which terminates the Meatus Auditorius Externus.

A The poſterior, or great extremity of the oſſeous circle.
B The anterior or ſmall extremity.
C The ſuperior niche.
D A ſmall part of the groove in which the edge of the membrana tympani is fixed.

FIGURE VI.

Repreſents the Internal Surface of the Oſſeous Circle.

A The ſmall tuberoſity which is oppoſite to the poſterior extremity of the oſſeous circle.
B The anterior extremity.
C C The groove in which the edge of the membrana tympani is fixed.

FIGURE VII.

Repreſents the ſituation of the ſmall Bones of the Ear and their connection with each other.

A The malleus.
B The incus.
C The os orbiculare.
D The ſtapes.

FIGURE VIII. IX. X. XI.

Repreſent the ſmall Bones of the Ear in their natural ſize. At the bottom of the Table, the ſame Bones are ſeen ſomewhat magnified.

FIG. VIII.

The Malleus.

A The head.
B The neck.
C The ſmall cavity which is articulated with the incus.
D The large proceſs or handle.
E The ſmall proceſs.
F The ſlender proceſs.

FIG. IX.

The Incus.

A The body.
B The eminences and cavities by which this bone is articulated with the malleus.
C The ſhort branch of the incus.
D The long branch, which is bended a little at the extremity to be fixed to the os orbiculare.

FIG. X.

The Stapes.

A The head of the ſtapes with a ſmall depreſſion in which the os orbiculare is fixed.
B The baſe.
C The long limb.
D The ſhort limb.
Within is ſeen the groove in the baſe of the ſtapes to which a membrane is attached.

FIG. XI.

A The os orbiculare.

FIGURE XII.

Repreſents the Exterior Surface of the Labyrinth.

A The different turns of the cochlea.
B A large ſhare of the ſuperior ſemicircular canal.
C Part of the horizontal one.
D All the vertical canal.
E The feneſtra ovalis.
F The feneſtra rotunda.

FIGURE XIII.

Repreſents a part of the Pars Petroſa which forms the Labyrinth, and this divided into Cochlea, Veſtibulum, and Semicircular Canals.

A The hollow part of the cochlea which forms a ſhare of the meatus auditorius internus.
B The ſuperior ſemicircular canal.
C The horizontal canal.
D The vertical canal.

THE

THE

Fifty-third Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

REPRESENTS different views of the Sphenoidal, OEthmoidal, and Occipital Bones.

FIGURE I.

The Internal, or Upper Surface of the Os Sphenoides.

A A The superior and anterior part of the os sphenoides, which is joined to the under and back part of the frontal bone.

B B The temporal plates, or processes of the sphenoid bone.

C C The transverse processes.

D The small anterior process, which unites with the œthmoid bone.

E The protuberance which is situated before the separation of the optic nerve.

F F The foramina optica, through which the optic nerves pass.

G G The anterior clinoid processes.

H H The posterior clinoid processes.

I I Part of the foramina lacera, through which the third, fourth, sixth, and first part of the fifth pair of nerves, go into the orbit, and a vein returns into the cavernous sinus.

K K The lateral parts of the cella turcica.

L The cella turcica, for lodging the glandula pituitaria.

M M The cavities of the temporal processes, which receive the lateral lobes of the brain.

N N The foramina rotunda, which transmit the superior maxillary nerves.

O O The foramina ovalia, which transmit the inferior maxillary nerves, and sometimes veins from the dura matter.

P P The foramina spinalia, which transmit the principal arteries of the dura mater.

Q Q The ragged edge of the bone, which assists in forming the sphenoidal suture.

R The part which joins the cuneiform process of the occipital bone.

S S Part of the spinous processes.

T T A portion of the pterygoid processes.

FIGURE II.

The external surface of the Os Sphenoides.

A The processus azygos, or ridge which is joined to the back-part of the vomer.

B B The small triangular processes which grow from the body of the bone.

C C The orifices of the sphenoidal sinus.

D D The foramina lacera, which transmit the nerves and vessels mentioned in the former figure.

E The anterior and superior part of the body of the os sphenoides.

F F The external surface of the transverse processes.

G G The orbitar plates, or processes.

H H The superior extremities of the temporal processes.

I I The middle of these processes, which forms a share of the temporal fossæ.

K K The asperities by which this bone is joined to the ossa malarum.

L L The gutters which lodge branches of the third pair of nerves.

M M The foramina rotunda.

N N The foramina pterygoidea, which transmit reflected branches of the fifth pair of nerves.

O O The anterior openings which assist in forming the spheno-maxillary fissures.

P P The foramina ovalia.

R R The roots of the pterygoid processes.

S S The internal plates of these processes.

T T The hook-like processes at the extremities of the internal plates.

V V Small sinuosities over which the tendons of the circumflex muscles of the palate play.

X X The external plates of the pterygoid processes.

Y Y Parts adapted to the palate bones.

Z Z The posterior openings common to these bones and the ossa temporum: Over these openings, the internal carotid arteries pass.

FIGURE III.

An External View of the Os Œthmoides.

A The anterior extremity of the nasal plate which forms the superior part of the septum narium.

B The posterior extremity of this plate, which is very thin.

C C The œthmoidal grooves or chinks which separate the nasal plate from the ossa spongiosa superiora.

D D The passages for the different branches of the olfactory nerves.

E E The ossa spongiosa superiora.

F F The cavities of these bones.

G G Part of the œthmoidal cells.

H H The inequalities by which this bone is joined to the os frontis.

I I The posterior extremity which is joined to the os sphenoides.

K K The

Fig. 1.

Fig. 2.

Fig. 3.

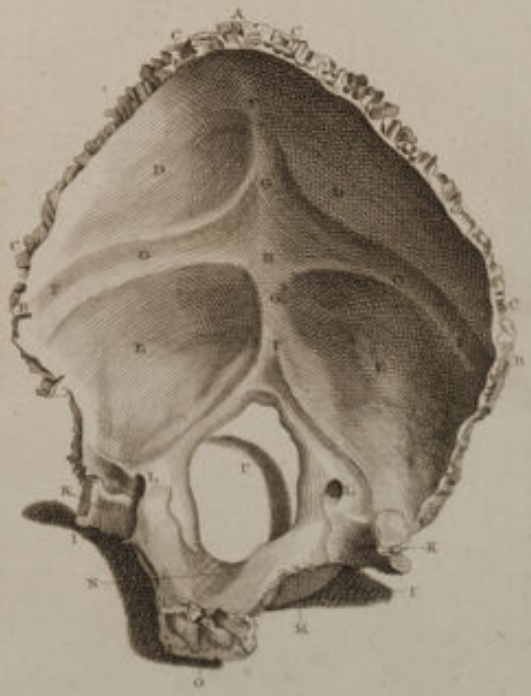
Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.



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K K The ſmall cornua which are joined to the body of the ſphenoid bone.

FIGURE IV.

An Internal View of the Os Œthmoides.

A The anterior extremity of the os œthmoides, terminating in a ſmall flat proceſs.
B The upper part of the Criſta galli.
C C The cribriform plate, with the different paſſages of the olfactory nerves.
D D Some of the cells of the œthmoid bone.
E The poſterior extremity of the naſal plate, which forms part of the ſeptum narium.
F F The poſterior edges of the os œthmoides.
G A great part of the os planum of the right-ſide.
H H The ſuperior part of the triangular proceſſes, which are joined to the body of the ſphenoid bone.
I I The joining of theſe proceſſes with the os œthmoides.

FIGURE V.

The Right Sphenoidal Corner, or Os Triangulare, repreſented in the two former Figures.

A The internal ſurface of this bone.
B The ſmall niche found at the internal and ſuperior angle.
C The ſmall œthmoidal or external proceſs.
D The anterior ſphenoidal proceſs.
E The poſterior ſphenoidal or ſharp proceſs.

FIGURE VI.

A The external and convex ſurface of the right ſphenoidal cornu.
B The œthmoidal or external proceſs of this bone.
C The ſmall niche formed near the internal and ſuperior angle.
D The anterior ſphenoidal proceſs.
E The poſterior ſphenoidal proceſs.

FIGURE VII.

Repreſents the External Surface of the Os Occipitis.

A The ſuperior angle.
B B The ragged edge of the bone which aſſiſts in forming the lambdoid ſuture.
C C The irregularities at the lateral and inferior parts, where this bone is joined to the oſſa temporum.
D D The tranſverſe proceſs.
E E The lower or ſmall arch, or tranſverſe proceſs.
F F The perpendicular ſpine. Under the two upper arches are ſeen prints made by the muſcles, which come from the ſpine to be fixed to this bone.
G The foramen magnum which tranſmits the medulla oblongata.
H H The occipital condyles, which are articulated with the firſt vertebra of the neck.
I I The poſterior condyloid foramina, which tranſmit branches of the cervical veins into the lateral ſinuſes.
K K The inner ſide of the right, and the outer ſide of the left anterior condyloid foramina, which tranſmit the ninth pair of nerves.
L L Niches where the lateral ſinuſes paſs out of the head.
M The extremity of the cuneiform proceſs, upon which are ſeen prints which give origin to ſome of the flexor muſcles of the head.

FIGURE VIII.

Repreſents the Internal Surface of the Os Occipitis.

A The ſuperior angle.
B B The middle or lateral angles.
C C The eminences and cavities which aſſiſt in forming the lambdoid ſuture.
D D The ſuperior occipital foſſæ, which lodge a ſhare of the poſterior lobes of the brain.
E E The inferior occipital foſſæ, which lodge a part of the cerebellum.
F F F F The extremities of the crucial ſpine or ridge: The falx major is fixed to the upper part of the perpendicular limb, the falx minor to the under part, and the tentorium to the two lateral limbs.
G G G The foſſæ which lodge the three large ſinuſes. The perpendicular contains a ſhare of the ſuperior longitudinal ſinus, and the tranſverſe receive the lateral ſinuſes.
H The middle of the crucial ridge in form of a tuberoſity.
I I The openings which form part of the foramina lacera, for the exit of the lateral ſinuſes.
K K The ſmall proceſſes which aſſiſt in forming theſe openings.
L L The poſterior condyloid holes.
M The anterior condyloid hole.
N The concave ſurface of the cuneiform proceſs, over which the medulla oblongata paſſes.
O The inequalities by which this proceſs is united with the ſphenoid bone.
P The foramen magnum.

THE

Fifty-fourth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

REPRESENTS a View of the Internal Surface of the Base of the Cranium.

A A A A part of the substance of the diploe.

B The upper edge of the zygoma.

C A portion of the external temporal fossa of the same side.

D The mastoid process.

E A part of the frontal spine.

F A hole at the bottom of this spine, which lodges a process of the dura mater and small blood-vessels.

G Part of the groove which lodges the beginning of the superior longitudinal sinus.

H H The frontal fossæ which support, and are marked with the contortions of the anterior lobes of the brain.

I I The cribriform plate of the œthmoid bone, through which the olfactory nerves pass.

K The crista galli to which the falx is fixed.

L The small process of the sphenoid, which projects some way into the posterior part of the œthmoid bone.

M M A part of the sphenoidal suture, which joins the frontal and sphenoidal bones together.

N N The transverse spinous processes of the sphenoid bone.

O O The foramina optica through which the optic nerves and ocular arteries pass.

P The processus semi-olivaris, which is contiguous to the separation of the optic nerves.

Q Q The anterior clinoid processes.

R R A portion of the foramina lacera of the sphenoid bone, through which the third, fourth, sixth, and first part of the fifth pair of nerves pass to the orbits, and the ocular veins return from them.

S The cella turcica, or fossa pituitaria.

T T The fossæ in which the two internal carotid arteries run, after they have entered the skull.

V The posterior clinoid processes.

X X The foramina rotunda which transmit the superior maxillary nerves.

Y Y The foramina ovalia which transmit the inferior maxillary nerves.

Z Z The foramina spinalia which transmit the principal arteries of the dura mater.

& & The sphenoidal fossæ which lodge the lateral lobes of the brain.

a a Part of the sphenoidal suture, by which the sphenoid and temporal bones are united.

b b Part of the openings at the point of the petrosal processes, over which the internal carotid arteries run to the brain.

c c The posterior surface of the petrosal processes of the temporal bones.

d d Passages through which reflected nerves go between the fifth and seventh pairs.

e e Grooves which lodge the superior petrosal sinuses.

f f The points of the petrosal processes.

g g The internal auditory passages.

h h The fossæ which contain a share of the lateral sinuses.

i i The passages common to the temporal and occipital bones, through which the lateral sinuses pass out of the head.

k k Part of the temporal fossæ which are marked by the middle part of the brain.

l The cuneiform or basilar process of the occipital bone which is hollow to receive the medulla oblongata.

m Passages which allow blood-vessels to go into the substance of the bone.

n n Part of the holes common to the occipital and temporal bones; through these the eighth pair and accessory nerves go out of the cranium, a membranous partition being placed between them and the lateral sinus.

o o The anterior condyloid holes, which give passage to the ninth pair of nerves.

p The foramen magnum through which the medulla oblongata goes to the spine.

q q Small protuberances at the side of the foramen magnum, which give origin to the capsular ligament of the first vertebra of the neck.

r r The inner edge of the foramen magnum.

s The inferior limb of the cruciform spine of the occipital bone, to which the third process of the dura mater is fixed.

t t The fossæ which contain the lateral sinuses.

u u The inferior occipital fossæ which lodge the cerebellum.

x x Portions of the lambdoid suture.

FIGURE II.

Represents a View of the External and Under Surface of the Base of the Cranium and Upper Jaw.

A A A A The four dentes incisores.

B B The two dentes canini.

C C C C C The five dentes molares.

D The foramen incisivum, which is filled up by cellular substance, with small vessels and nerves belonging to the nose and mouth.

E E The palate plates of the superior maxillary bones.

F The longitudinal palate suture.

G G The palate plates of the ossa palati.

H H The foramina gustativa, or palatina posteriora, through which the palatine vessels and nerves pass.

I The

Fig. 1.

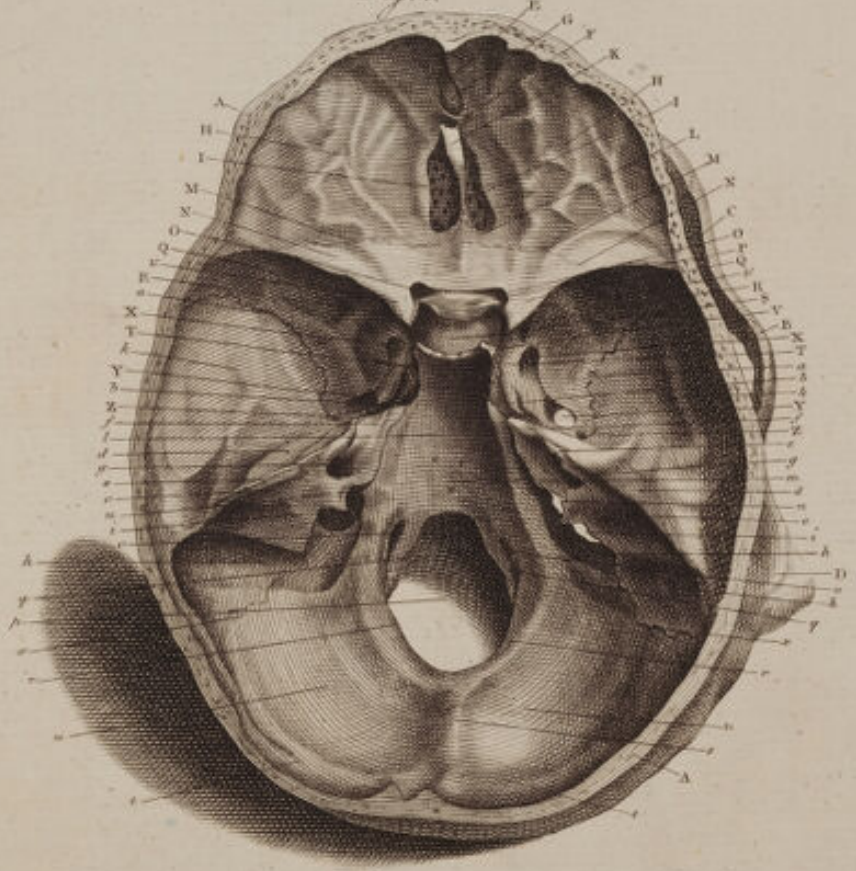
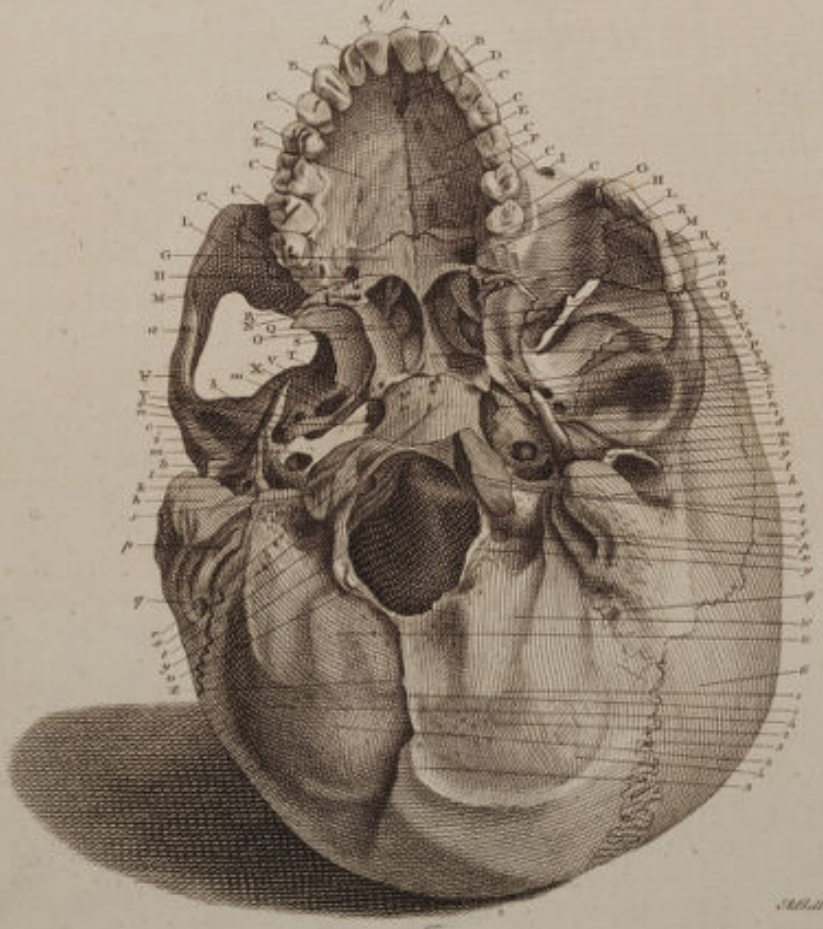


Fig. 2.



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I The foramen infra-orbitarium, or orbitarium externum, through which the ſuperior maxillary veſſels and nerves paſs to the face.

K Part of the tuberoſity of the ſuperior maxillary bone.

L L Part of the internal ſurface of the oſſa malarum.

M M The under edge of the zygoma.

N N The anterior part of the oſſa ſpongioſa inferiora.

O O The poſterior part of the ſame bones.

P The poſterior part of the Vomer.

Q Q The pterygoid proceſſes of the ſphenoid bone.

R R The hook-like proceſſes round which the circumflex muſcles of the palate move.

S S The foſſæ which give riſe to the internal pterygoid muſcles.

T T The foramina pterygoidea, where branches of the fifth pair of nerves paſs through.

V V The outer part of the ſphenoid bone, which gives origin to the external pterygoid muſcles.

X X The foramina ovalia.

Y Y The foramina ſpinalia.

Z The foramen lacerum inferius of the orbit, or ſpheno-maxillary fiſſure.

& & The zygomatic proceſſes of the temporal bones.

a a The zygomatic ſutures.

b b The articular proceſs of the temporal bones.

c c The glenoid, or articular cavities.

d The glenoid fiſſure of the left-ſide, to which part of the articular ligament is fixed.

e The ſquamous part of the temporal bone.

f The ſquamous ſuture of the left-ſide.

g The meatus auditorius externus.

h h The maſtoid proceſſes.

i i The ſtyloid proceſſes.

k k The capſular or vaginal proceſſes.

l l The foſſæ which lodge the beginning of the internal jugular veins.

m m The paſſages of the internal carotid arteries.

n n The point of the ſpinous proceſſes of the ſphenoid bone.

o o The paſſages at the point of the petroſal proceſſes, which are filled up by a ligamentous ſubſtance, over which the internal carotid arteries run to the brain.

p p Part of the maſtoid grooves which give riſe to the digaſtric muſcles.

q q The foramina maſtoidea.

r The cuneiform, or baſilar proceſs of the occipital bone.

s s The condyles of the occipital bone.

t t The tuberoſities which give origin to the capſular ligament of the vertebra atlas.

u The middle of the foramen magnum occipitis.

x x The poſterior condyloid foramina.

y y The external edge of the foramen magnum.

z z The perpendicular occipital ſpine.

& & Small foſſæ which give origin to the muſculi recti poſteriores capitis.

1 1. The inferior arch of the occipital bone, which ſeparates the former muſcles from the muſculi complexi.

2 2. The ſmall foſſæ which give riſe to the muſculi complexi.

3. The middle of the ſuperior arch which ſeparates the complex from the trapezii muſcles.

4 4. Muſcular prints along this arch.

5. Part of the lambdoid ſuture.

6. Part of the parietal bone.

THE

THE

Fifty-fifth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

REPRESENTS the different Bones of the Face, to which are added Views of the Teeth and Os Hyoides.

FIGURE I.

A View of the External Surface of the Ossa Nasi.

A A The upper part which is joined to the frontal bone.
B B The middle part.
C C The holes through which small blood-vessels pass into the substance of the bones or nose.
D D The inferior ragged edge which is fixed to the cartilage of the nose.

FIGURE II.

A View of the Internal Surface of the Ossa Nasi.

A A The superior extremity.
B B The inner edge which projects a little to be fixed to the anterior part of the septum narium.
C C The cavity which forms part of the arch of the nose.
D D The holes through which blood-vessels pass into the nose.
E E The inferior edge, which is broader and thinner than the parts above.

FIGURE III.

The External Surface of the Os Maxillare Superius of the Left-side, with a small share of the Os Palati.

A The nasal process of the os maxillare.
B The inequalities by which this bone is joined to the os frontis.
C The angle which is joined to the under end of the os nasi, and to the cartilage of the nose.
D The edge of the orbit.
E The orbitar plate.
F The groove which belongs to the superior maxillary canal.
G The unequal surface by which this bone is joined to the os malæ.
H H The malar process.
I The orifice of the superior maxillary canal, through which blood-vessels go into the substance of the bone.
L The maxillary fossa.
M The opening into the nose.
N The spine which is joined to the under part of the septum narium.
O Part of the palate plate.
P The maxillary tuberosity.
Q A small part of the os palati.
R R The alveolar arch.
S S The edge of the dentes incisores.
T The dens caninus.
V V The small or anterior dentes molares.
X X X The large or posterior dentes molares.

FIGURE IV.

The Internal Surface of the Os Maxillare Superius of the Left-Side, with the Os Palati.

A The nasal process.
B The base of the nasal process.
C The part to which the os spongiosum inferius is connected.
D The under end of the lacrymal groove.
E The opening into the antrum maxillare.
F F Parts belonging to the os palati.
G The small sinus frequently found in the os palati.
H H The little cells situated in the upper part of the superior maxillary bone.
I The palatine opening which assists in forming the foramen incisivum.
K The suture which unites the palate and maxillary bones.
L The nasal plate of the os palati, which forms part of the nose and antrum maxillare.
M The eminence by which the os palati and os spongiosum inferius are joined.
N The part of the os maxillare, which forms the largest share of the nasal fossa.
O O The irregular surface, the upper part of which is joined to the septum narium, and the under part to its fellow on the opposite side.
P P A surface still more irregular, by which the superior maxillary and palate bones are joined to those of the opposite side.
Q The anterior extremity of the palate bone.
R The proper hole of this bone through which the vessels and nerves pass.
S The foramen palatinum posterius, through which a nerve and vessels pass to the palate.
T The palate arch of the superior maxillary bone.
V The pterygoid process of the os palati.
X X The two dentes incisivi.

Y The

Fig. 1.
Fig. 2.
Fig. 3.
Fig. 4.
Fig. 5.
Fig. 6.
Fig. 7.
Fig. 8.
Fig. 9.
Fig. 10.
Fig. 11.
Fig. 12.
Fig. 13.
Fig. 14.
Fig. 15.
Fig. 16

Y The dens caninus.
Z Z The two ſmall dentes molares.
& & & The three large dentes molares.

FIGURE V.

The External Surface of the Os Unguis of the Right Side.

A The poſterior plane ſurface, which forms part of the orbit.
B The anterior part, which makes a ſhare of the canal for lodging the lacrymal ſac and duct. Many ſmall holes into which filaments from the membrane which lines the bone enter, to make the adheſion more ſecure.
C The ſmall ridge which ſeparates the two parts of the bone from each other.

FIGURE VI.

The Internal Surface of the Right Os Unguis.

A The upper,
B The inferior part.
C C Many eminences and cavities which belong to the œthmoidal cells.

FIGURE VII.

The External Surface of the Left Os Malæ.

A External ſurface of the os malæ, which forms the eminence of the cheek.
B The external orbitar hole for the tranſmiſſion of blood-veſſels from or into the orbit.
C The edge of the orbit.
D The orbitar plate.
E The external orbitar proceſs, which joins that of the os frontis.
F The zygomatic niche.
G The zygomatic proceſs.
H The inferior orbitar proceſs.
I The maxillary proceſs.

FIGURE VIII.

The Internal Surface of the Left Os Malæ.

A The internal foſſa of the os malæ, which contains part of the temporal muſcle.
B The orbitar plate of this bone.
C The unequal ſurface, which is joined to the ſuperior maxillary bone.
D D The anterior edge, which is alſo joined to the ſuperior maxillary bone.
E The internal ſurface of the zygomatic proceſs.
F The ſuperior orbitar proceſs.
G The ſubaltern proceſs.
H The zygomatic opening.

FIGURE IX.

The External Surface of the Os Spongioſum Inferius of the Right Side.

A The external ſurface ſpread over with numerous ſmall holes, which mark its poroſity.
B The inferior edge turned ſomewhat outwards; it is thick and ſtrong.
C The ſuperior edge, from which a thin plate is ſent downwards to cover a portion of the antrum maxillare.
D The large and anterior extremity of this bone, where the connection is chiefly made with the ſuperior maxillary bone.
E The poſterior extremity, which is narrow and irregular on its ſurface.
F The ſuperior proceſs which joins the os unguis, to form a ſhare of the lacrymal groove.

FIGURE X.

The Internal Surface of the ſame Os Spongioſum. It is convex, and, like the External Surface, is alſo of a Spongy Texture.

A The middle and anterior part.
B The upper edge, which, through its whole length, is joined to the ſuperior maxillary and palate bones.
C The under edge, which is turned ſomewhat outwards.
D The anterior extremity.
E The anterior and inferior proceſs.
F The anterior and ſuperior proceſs.
G The poſterior extremity, which is united to the os palati.

FIGURE XI.

Repreſents the Poſterior and almoſt all the External Surface of the Right Os Palati.

A The ſmall proceſs which makes part of the bottom of the orbit.
B The naſal plate.
C A groove which forms part of the paſſage for the palatine veſſels and nerves.
D The pterygoid proceſs.
E The proper palate proceſs, which makes part of the foſſa naſalis.

FIGURE XII.

The Anterior and almoſt all the External Surface of the ſame Os Palati.

A The upper part of this bone, which forms a ſhare of the orbit.
B The ſmall ſinus, which is ſimilar to thoſe of the œthmoid bone.
C The opening which concurs in forming the foramen pterygo-palatinum, through which the lateral naſal veſſels and nerves paſs.
D The external ſurface of the naſal proceſs.
E The ſmall hole which penetrates the thickneſs of the bone.
F The beginning of the groove, which helps to form the foramen guſtativum.
G The ſmall gutter obſervable on the inner ſide of the bone.
H The pterygoid proceſs.
I The poſterior edge of the bone to which the velum palati is fixed.
K The ſurface by which the two oſſa palati are connected to each other.

FIGURE XIII.

Repreſents the Right Side of the Vomer.

A A The upper edge which belongs to the naſal plate of the œthmoid bone, and to the middle cartilage of the noſe.
B A ſmall ridge on the right ſide of the bone.
C The inferior edge of the bone, which is ſomewhat irregular, and is connected to the ſuperior maxillary and palate bones.
D The poſterior, inferior, and ſharp edge of the vomer.
E The poſterior and ſuperior extremity, which is broad and hollow, to receive the proceſſus azygos of the ſphenoid bone.

FIGURE XIV.

Repreſents a View of the External Surface of the Lower Jaw.

A The middle of the lower jaw, which has the name of Symphyſis of the Chin.
B B Prints which are formed by the muſcles of the under lip.
C A ſmall foſſa which points out the middle of the chin.

D The external lip of the lower jaw.
E F The base of the lower jaw.
G The angle of the lower jaw.
H The inner side of the right angle.
I I Prints formed by the masseter muscle.
K The coronoid process.
L The condyloid process.
M The fossa to which the external pterygoid muscle is fixed.
N The opening between the processes.
O O The anterior edge of the coronoid processes.
P The orifice of the inferior maxillary canal, through which the vessels and nerves of this name pass.
Q Groove on the inner side of the coronoid process, which gives attachment to muscles.
R A small sharp process which juts out from the under and fore part of the beginning of the inferior maxillary canal.
S The orifice at the side of the chin, where the inferior maxillary vessels and nerves pass out.
T The external edge of the sockets for the teeth.
V The internal edge of the sockets.
X X X X The dentes incisivi.
Y The dens caninus of the left side.
Z Z The anterior or small dentes molares.
& & & The posterior or large dentes molares.

FIGURE XV.

Represents the Anterior and Posterior Surfaces of the different Classes of the Teeth.

1 2. A fore and back view of the two anterior dentes incisivi of the lower jaw.
3 4. The similar teeth of the upper jaw.
5 6. A fore and back view of the dentes canini.
7 8. The anterior molares.
9 10 11. The posterior molares.
12. A dens incisivus, the root of which is of a zig-zag shape.
13. Two coronæ, covered with enamel, on one common root.
14. A tooth with all the roots bended to one side;
15. Is singular for the size and length of its roots;
16. Is a twin, both on account of its body and one of its roots: It is also considerable in size.

FIGURE XVI.

Represents the External Surface of the Os Hyoides.

A The middle of the body of the os hyoides.
B B Two small pits, where muscles arising from the trunk are fixed.
C C Two other prints, where muscles descending from the head are fixed.
D D The extremities of the base which are joined to the cornua of the bone.
E E The great cornua of the os hyoides.
F F The posterior part of the cornua.
G G The tuberosities at the extremities of the cornua.
H H The small cornua or appendices of the os hyoides.

THE

THE

Fifty-ſixth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

REPRESENTS the Trunk of the Body, as ſeen Anteriorly, and ſomewhat Laterally.

A The middle of the firſt cervical vertebra.
B B The bodies of the ſix other cervical vertebræ.
C C The tranſverſe proceſſes of theſe vertebræ.
D D The hole in each tranſverſe proceſs which tranſmits the vertebral artery and vein.
E The upper part of the proceſſus dentatus.
F F The outer and middle part of each of the ribs of the right ſide.
G G The internal and poſterior extremities of the ribs of the right ſide.
H H The external and anterior extremities of theſe ribs.
I I The cartilages of the ribs.
K K The internal ſurface of the ribs of the left ſide.
L L The two pieces which compoſe the ſternum.
M The cartilago enſiformis.
N N The bodies of the dorſal vertebræ.
O O Part of the tranſverſe proceſſes of the right ſide.
P P The intermediate cartilages of the lumbar vertebræ.
Q Q The bodies of theſe vertebræ.
R R The tranſverſe proceſſes of the ſame vertebræ.
S The right clavicle.
T The internal or ſternal extremity of the clavicle.
V The external or humeral extremity of the clavicle.
X The inferior anterior margin of the right ſcapula.
Y The glenoid cavity of the ſcapula.
Z The coracoid proceſs.
& The acromion.
a a The different pieces which compoſe the os ſacrum.
b b The holes in the internal ſurface of the os ſacrum, through which an equal number of ſpinal nerves run.
c c The connection between this bone and the two oſſa ilia.
d d The internal ſurface of the oſſa innominata.
e Part of the external ſurface of the right os ilium.
f f The external edge, or ſpine of the right os ilium.
g g The anterior ſuperior ſpinous proceſſes of the oſſa ilia.
h h The anterior inferior ſpinous proceſſes of theſe bones.
i The canal of the left os ilium, through which the blood-veſſels paſs into the ſubſtance of the bone.
k The ſpinous proceſs of the left os iſchium.
l The acetabulum of the right os innominatum.
m m The tuberoſity of each os iſchium.
n The foramen thyroideum.
o The crus of the right os iſchium.
p p A portion of the left os iſchium.
q q The ſuperior branches of the oſſa pubis.
r r The tuberoſities of the ſame bones.
s The body of the right os pubis.
t The inferior opening of the great branch of the os pubis.
u The inferior branch or crus of the os pubis, which aſſiſts in forming the foramen thyroideum.
x The ſymphyſis pubis.
y The ſciatic niche of the left ſide.

THE

THE

Fifty-ſeventh Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

REPRESENTS a View of the Poſterior Part of the Skeleton.

A The upper part of the firſt cervical vertebra.
B One of the oblique, and
C One of the tranſverſe proceſſes of this bone.
D Muſcular prints on the back-part of this vertebra.
E E The ſpinous proceſſes of the ſix other cervical vertebræ, of which the four firſt are bifurcated.
F F The oblique proceſſes of theſe vertebræ.
G G The tranſverſe proceſſes.
H H The ſpinous proceſſes of the three firſt vertebræ of the back.
I I The ſpinous proceſſes of the ſix middle vertebræ, which are long, and ſloping downwards over each other.
K K Spinous proceſſes of the three laſt dorſal vertebræ, which are ſhort and ſtraight.
L L The tranſverſe proceſſes of all the dorſal vertebræ.
M M The oblique proceſſes of all theſe vertebræ.
N N The ſpinous proceſſes of the lumbar vertebræ.
O O The poſterior part of the tranſverſe proceſſes of theſe vertebræ.
P P The oblique proceſſes of the ſame vertebræ.
Q Q The bodies of the ſame bones.
R R The ſpinous proceſſes of the os ſacrum.
S S The lateral and ſuperior tuberoſities of this bone.
T The ſuperior orifice of that part of the ſpinal canal which belongs to the os ſacrum.
V V One of the ſuperior oblique proceſſes of the os ſacrum.
X X The holes in the back-part of the os ſacrum, which tranſmit ſmall veſſels and nerves to the neighbouring parts.
Y Y The eminences and cavities at the lateral parts of this bone.
Z Z The cornua of the os ſacrum.
& The inferior orifice of the ſpinal canal.
a a The external ſurface of the os coccygis.
b b The poſterior extremity of the ribs.
c c The neck of the ribs.
d d The angle of the ſame bones.
e e The cartilages of the falſe ribs.
f The external ſurface of the os ilium.
g g The poſterior ſpinous proceſſes of this bone.
h The great tuberoſity of the ſame bone.
i The ſpine of this bone.
k A portion of the anterior tuberoſity of this bone.
l The poſterior edge of the acetabulum.
m The iſchiatic niche.
n n The ſpinous proceſſes of the oſſa iſchia.
o A portion of the internal ſurface of the ſuperior branch of the oſſa pubis.
p The tuberoſity of the os iſchium.
q The internal ſurface of the branch of this bone.
r The foramen ovale ſeen from behind.

THE

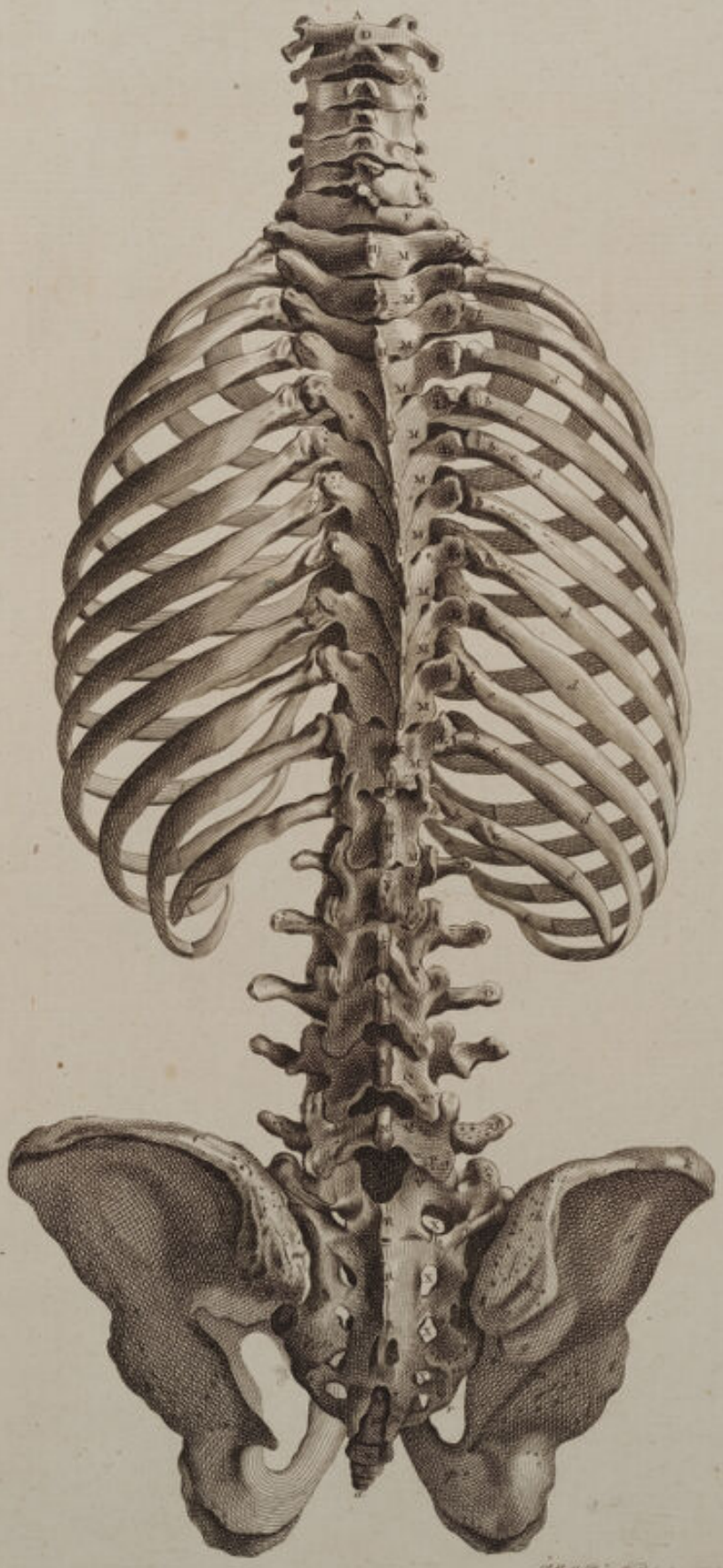

Fig. 1.

Fig. 2. Pl. 99.

THE

Fifty-eighth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

REPRESENTS Two Views of the Spine.

FIGURE I.

A View of the Anterior and Left Side of the Spine.

A The first cervical vertebra.
B The second cervical vertebra.
C C The bodies of the five other cervical vertebræ.
D D The transverse processes of the vertebræ of the neck.
E E The oblique processes of the left side of the cervical vertebræ.
F F The bodies of the dorsal vertebræ.
G G The small cavities in the sides of the dorsal vertebræ, for receiving the heads of the ribs.
H H The oblique processes of the dorsal vertebræ.
I I The transverse processes of the dorsal vertebræ.
K K The small depressions at the points of the transverse processes, to which the tubercles of the ten uppermost ribs are fixed.
L L The bodies of the lumbar vertebræ.
M M The transverse processes of the lumbar vertebræ.
N N The extremities of these processes, where muscular prints are observed.
O O The oblique processes of the lumbar vertebræ.
P P The intervertebral cartilages.
Q Q Many small holes of different sizes, for the passage of blood-vessels and ligamentous fibres into the substance of the bones.
R R The lateral and superior parts of the os sacrum.
S The middle of this bone.
T The inferior extremity of the same bone.
V V The holes in the anterior part of the os sacrum, which give passage to some of the largest nerves of the body.
X The lateral part of the os sacrum which is connected with the corresponding os ilium.
Y The anterior part of the os coccygis.

FIGURE II.

A View of the Right Side of the Spine.

A The middle of the first cervical vertebra.
B The posterior part of the same vertebra.
C The body of the second cervical vertebra.
D The spinous process of the same bone.
E E The five other cervical vertebræ.
F F The oblique processes of these vertebræ.
G G The spinous processes of the same bones.
H H The bodies of the dorsal vertebræ.
I I The small cavities in these vertebræ, where the condyles, or heads of the ribs, are connected.
K K The small cavities for the articulation of the heads of the eleventh and twelfth ribs.
L L The superior and inferior notches of the dorsal vertebræ, through which the spinal nerves pass.
M M The oblique processes of these vertebræ.
N N The transverse processes of the same bones.
O O The articular depressions upon the anterior parts of these processes.
P P The spinous processes of the three first dorsal vertebræ.
Q Q The spinous processes of the six middle dorsal vertebræ.
R R The spinous processes of the three last: They are considerably shorter than those of the preceding.
S S The bodies of the five lumbar vertebræ.
T T The transverse processes of these vertebræ.
V V The notches in the superior and inferior parts of these bones for the transmission of the lumbar nerves.
X X The holes formed by the meeting of these notches.
Y Y The oblique processes of the lumbar vertebræ.
Z Z The spinous processes of the same bones.
& The superior and anterior part of the os sacrum.
a The inferior part of this bone.
b b The spinous processes of the same bone.
c c The muscular prints of this same bone.
d d The oblong surface, by which the os sacrum is joined to that of the os ilium.
e e The different pieces which compose the os coccygis.

THE

Fifty-ninth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

VIEWS of the different Vertebræ.

FIGURE I.

The Inferior Surface of the *Atlas*, or firſt Vertebra of the Neck.

A The anterior part of the *atlas*, or firſt vertebra of the neck.

B B The oblique inferior proceſſes of this vertebra.

C A ſmall eminence, under the form of a muſcular impreſſion, on the poſterior part of the ſame vertebra.

D D The tranſverſe proceſſes of this bone, which terminate in a tuberoſity.

E E The inferior orifice of the oblique holes ſituated at the roots of theſe proceſſes.

F F The inferior ſlopes or excavations of the firſt vertebra of the neck.

G The large vertebral hole, through which the ſpinal marrow paſſes.

FIGURE II.

Shews the Superior Surface of the ſame Vertebra.

A The anterior part of the *atlas*, or firſt vertebra of the neck.

B B Its oblique ſuperior proceſſes.

C C The protuberances, or ligamentous impreſſions, ſituated under the internal margin of theſe proceſſes.

D D The ſuperior orifice of the oblique holes, ſituated near the root of the tranſverſe proceſſes. Theſe holes tranſmit the vertebral arteries.

E E The external margin of the tranſverſe proceſſes: It is rounded into an eminence.

F F The poſterior ſlopes where the vertebral arteries are reflected, in their aſcent to the cranium.

G The ſpinous proceſs on the poſterior part of the firſt vertebra of the neck.

H The large vertebral hole of the *atlas*. It is divided by a tranſverſe ligament into two unequal portions, the anterior, or ſmalleſt of which is deſigned for the reception of the odontoid proceſs of the ſecond vertebra, and the other portion tranſmits the ſpinal marrow.

FIGURE III.

Gives a ſecond view of the Superior Surface of the *Atlas*, or firſt Cervical Vertebra, but in a poſition nearly horizontal, and moſt favourable for bringing into view the ſmall Articular Cavity, which receives the eminence of the Odontoid Proceſs of the ſecond Vertebra.

A The ſmall articular cavity of the anterior and internal ſurface of the *atlas*. It is into this cavity that the odontoid proceſs is received.

B B The ſuperior oblique proceſſes: They are very hollow, and receive the occipital condyles.

C C Protuberances ſeen interiorly below theſe proceſſes: The tranſverſe ligament, which divides the large vertebral hole into two unequal portions, is attached to theſe protuberances.

D D The poſterior ſlopes where the vertebral arteries are reflected, that they may enter the cranium. The courſe which they deſcribe along theſe ſlopes, defends them againſt all accident and danger of compreſſion.

E E The oblique holes ſituated at the roots of the tranſverſe proceſſes.

F F The extremities of theſe proceſſes, which terminate in the form of a tuberoſity.

G A muſcular impreſſion ſituated on the poſterior part, or at the ſpinous proceſs of the firſt vertebra.

I I The large vertebral hole.

FIGURE IV.

The whole Superior Surface of the ſecond Vertebra of the Neck, ſeen anteriorly and poſteriorly.

A The ſuperior part of the odontoid proceſs of the ſecond vertebra.

B B Its ſuperior oblique proceſſes.

C C Its tranſverſe proceſſes.

D D The ſuperior ſlopes or excavations of this bone.

E E A portion of the inferior oblique proceſſes.

F F The extremities of the ſpinous proceſſes of a forked ſhape.

G G The muſcular impreſſions on the two ſides of the ſpine.

FIGURE V.

The whole Anterior, Middle-inferior, and Poſterior-inferior Surfaces of the ſecond Vertebra.

A The

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 6.

Fig. 8.

Fig. 5.

Fig. 7.

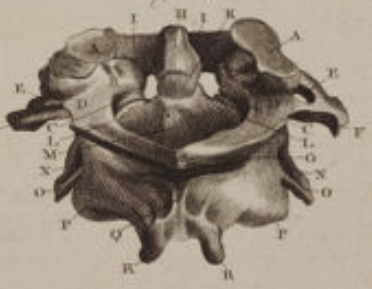

Fig. 9.

Fig. 10.

Fig. 11.

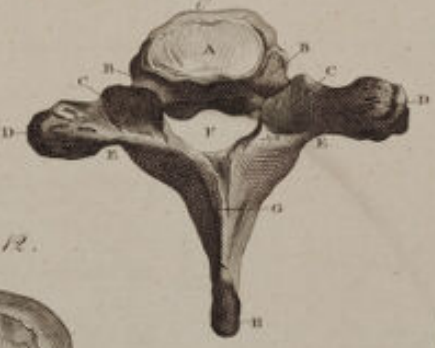

Fig. 12.

Fig. 13.

A. Bell Prin. Mus. sculpsit fecit.

A The ſuperior part of the odontoid proceſs.
B The anterior and middle ſurface of the body of the ſecond vertebra.
C The inferior ſurface of the ſame body; it is ſomewhat convex.
D D The anterior margin of the ſuperior oblique proceſſes.
E E The extremity of the tranſverſe proceſſes.
F F The oblique holes ſituated at the root of theſe proceſſes.
G G The inferior ſlopes or excavations.
H H The inferior oblique proceſſes.
I I The bifurcation of the ſpinous proceſs.
K A furrow, on the internal ſurface of this proceſs.

FIGURES VI. VII.

The Connection and Conformity of the two firſt Vertebræ with each other.

FIG. VI.

The Anterior Surface of the firſt and ſecond Vertebra of the Neck, articulated one with another.

A The eminence, or anterior impreſſion of the body of the *atlas*.
B B The two ſuperior excavations of this vertebra.
C C The anterior margin of the ſuperior oblique proceſſes of the ſame vertebra.
D D The extremities of the tranſverſe proceſſes of the ſame.
E E The anterior margin of its inferior oblique proceſſes.
F F Its inferior hollows.
G The extremity of the odontoid proceſs of the ſecond vertebra.
H The baſe of the ſame proceſs.
I The ſmall eminence of the middle part of the body of the ſecond vertebra.
K K The foſſæ, or impreſſions, excavated laterally upon this body.
L The convexity of the inferior part of the ſame body.
M M The anterior margin of the ſuperior oblique proceſſes of the ſecond vertebra.
N N Its inferior oblique proceſſes.
O O Its tranſverſe proceſſes.
P P Its inferior hollows.

FIG. VII.

The Poſterior Surface of the ſame Bones, articulated in the preceding Figure.

A A The cavity of the ſuperior oblique proceſſes of the *atlas*.
B B The ligamentous protuberances, ſituated interiorly below the inferior margin of theſe proceſſes.
C C The poſterior margin of the inferior oblique proceſſes of the *atlas*.
D D The poſterior hollows of this vertebra, where the vertebral arteries, and the tenth pair of nerves paſs.
E E The ſuperior orifice of the holes of the tranſverſe proceſſes of the ſame vertebra.
F F The extremity of theſe proceſſes.
G An eminence of the firſt vertebra, in the form of a ſpinous proceſs.
H The ſuperior extremity of the odontoid proceſs.
I I The ligamentous impreſſions upon this extremity.
K The neck of the odontoid proceſs; it is tied by a lateral ligament.
L L The poſterior margin of the ſuperior oblique proceſſes of the ſecond vertebra.
M The middle of the large vertebral hole of the ſame bone.
N N The poſterior orifice of the holes ſituated at the root of the tranſverſe proceſſes of the ſame bone.
O O The extremities of theſe proceſſes.
P P The poſterior margin of the inferior oblique proceſſes of the ſecond vertebra.
Q A creſt projecting from the ſuperior part of the ſpinous proceſs of this bone.
R R The extremities of this proceſs, on which there are muſcular impreſſions.

FIGURES VIII. IX.

Shew one of the firſt Dorſal Vertebræ. There being ſcarcely any remarkable difference in the general ſtructure of the Vertebræ of the Back, the explanation of one only is ſufficient for the underſtanding of the reſt.

FIG. VIII.

An anterior and poſterior view of the Superior Surface of the firſt or upper Dorſal Vertebra.

A The ſuperior ſurface of the body of this vertebra, which is irregularly triangular.
B B Its ſuperior oblique proceſſes.
C A portion of the body of this vertebra which aſſiſts in the formation of the vertebral hole.
D The thin, ſharp margin of the vertebral hole.
E E The poſterior part of the tranſverſe proceſſes.
F F The inferior margin of the inferior oblique proceſſes.
G G The poſterior hollows.
H The prominent line of the ſpinous proceſs of this bone.
I The extremity of this proceſs, which is commonly thin.

FIG. IX.

Repreſents the Inferior Surface of the Vertebra of the preceding Figure.

A The anterior part of the body of this vertebra.
B The inferior ſurface of the ſame body; it is bordered with a ſmall oſſeous lamina, which is an epiphyſis in young ſubjects.
C C The ſuperior excavations.
D D The inferior.
E E The tranſverſe proceſſes.
F F The ſmall articular cavities, which receive the tuberoſities of the ribs.
G G The inferior oblique proceſſes.
H The large vertebral hole.
I The interior foſſa, or groove of the ſpinous proceſs.
K The inferior extremity of this proceſs.

FIGURES X. XI.

Theſe two Figures repreſent another Vertebra of the Back taken from the inferior ranks, to ſhew the minute differences which may be found between two Dorſal Vertebræ, according as they are ſituated higher or lower. It is ſeen at once, that the Body of this Vertebra is of a larger ſize. The ſame difference will be obſerved in the proportion of each of the other parts, by comparing them with their correſponding parts in a Superior Vertebra.

FIG. X.

The Inferior Surface of the Vertebra ſhewn anteriorly and poſteriorly.

A The anterior part of the body of this vertebra.
B The inferior ſurface of this body, which is of a ſomewhat triangular figure.
C C A portion of the ſuperior oblique proceſſes.
D D The ſuperior and inferior excavations.
E E The tranſverſe proceſſes.
F F The articular cavities which receive the tuberoſities of the ribs.
G The ſuperior orifice of the large vertebral hole.
H H The inferior oblique proceſſes.
I The ſuperior-internal part of the ſpinous proceſs.

K The

K The extremity of this proceſs, which forms a ſmall tuberoſity.

FIG. XI.

The Superior Surface of the preceding Vertebra; it is viewed in a plain almoſt horizontal, which ſhews diſtinctly the oval form of the Body of this Bone.

A The ſuperior oval ſurface of the body of this vertebra.
B B The ſuperior ſlopes, or hollows.
C C The ſuperior oblique proceſſes.
D D The poſterior part of the tranſverſe proceſſes.
E E A portion of the inferior excavations.
F The large vertebral hole.
G The prominence which reaches exteriorly along the ſpinous proceſs.
H The tuberoſity which terminates this proceſs.

FIGURE XII.

The Inferior Surface of the third Lumbar Vertebra.

A The middle of the inferior ſurface of the body of the third lumbar vertebra.
B B The oſſeous lamina which borders the whole circumference of this ſurface.
C C The inferior excavations.
D D The tranſverſe proceſſes.
E E The inferior oblique proceſſes.
F F The ſuperior excavations.
G The large vertebral hole.
H A ſmall groove on the internal ſurface of the ſpinous proceſs.
I The rounded extremity of this proceſs.

FIGURE XIII.

The ſame Lumbar Vertebra, repreſented in a plane nearly horizontal: The whole Superior Surface is ſeen anteriorly and poſteriorly.

A The centre of the body of this vertebra, which is very ſpongy.
B B The ſmall cartilaginous lamina, which borders the whole of this ſurface.
C The portion of the body of this bone, which forms part of the vertebral hole.
D D The ſuperior excavations.
E E The extremity of the tranſverſe proceſſes.
F F The ſuperior oblique proceſſes.
G G The inferior excavations.
H H The poſterior excavations.
I I The inferior oblique proceſſes.
K The large vertebral hole.
L The prominent line which extends along the exterior part of the ſpinous proceſs.
M The extremity of this proceſs, which is rounded in the form of a tuberoſity.

THE

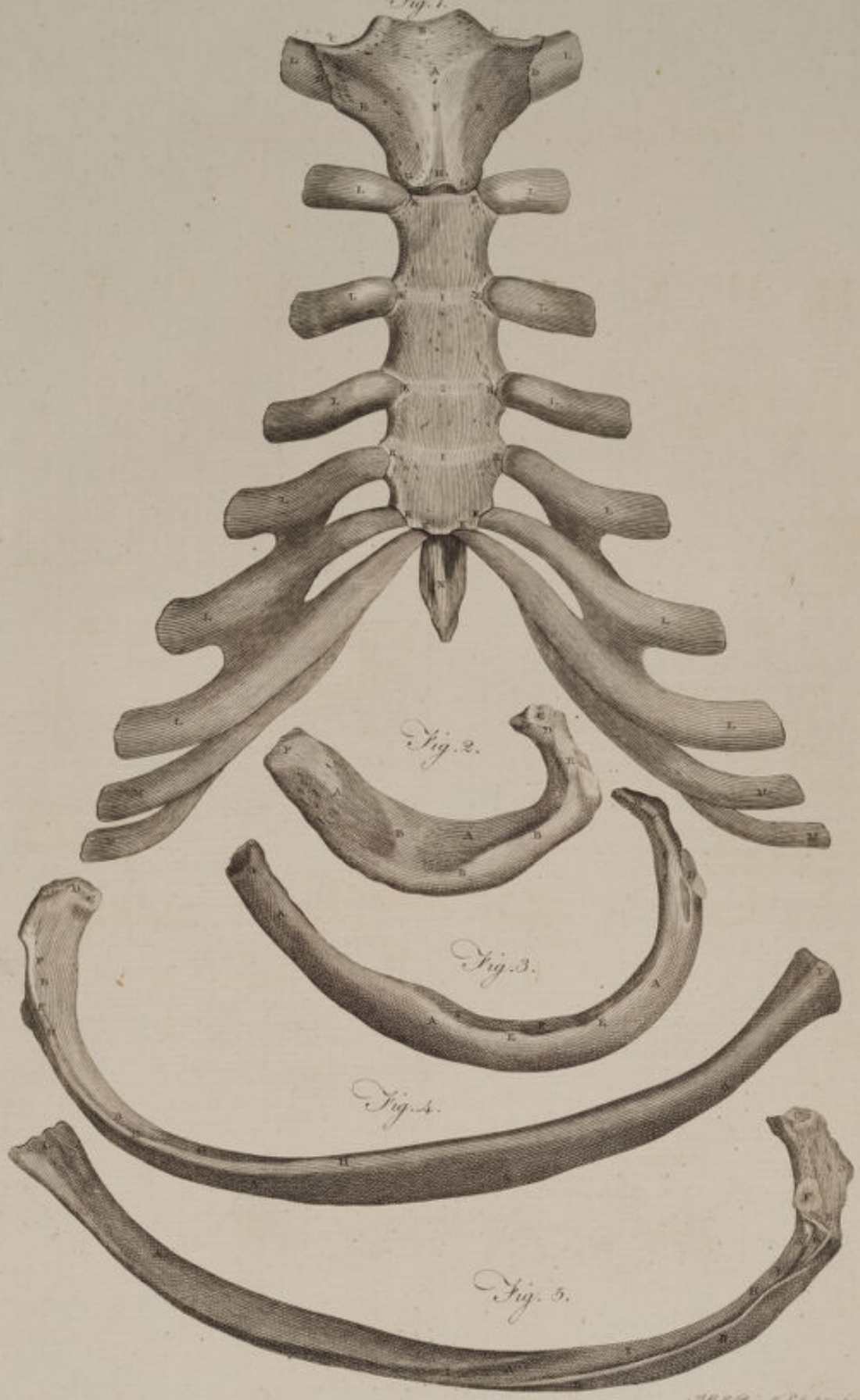
Fig. 1.
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Fig. 3.
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Fig. 5.

THE

Sixtieth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

THIS Table contains five Figures, the firſt of which repreſents the Sternum, with its correſponding Cartilages: The ſecond and third give a view of the External Surface of the Firſt and Second Rib of the Left Side: The fourth ſhews the Outſide, and the fifth the Inſide of the laſt of the true Ribs of the Right Side.

FIGURE I.

The External Surface of the Sternum. The ſeveral pieces of which this Bone is compoſed, are diſtinctly ſeen, with their eminences and cavities, and alſo the Cartilages of the true and falſe Ribs, which are inſerted into it.

A The middle and ſuperior part of the ſternum, which is a little hollow.

B The fork, or ſuperior excavation of this oſſeous piece.

C C The cavities which receive the internal extremities of the clavicles.

D D The lateral parts of the ſternum, into which the cartilages of the firſt or true ribs are inſerted, on each ſide.

E E The hollows, where a part of the large pectoral muſcles is inſerted.

F The prominent line, or muſcular impreſſion, in form of a triangle, upon the middle of the firſt or ſuperior piece of the ſternum.

G G The demi-cavities in the inferior part of this piece.

H The extremity of the ſame piece, where it is united with the ſecond.

I I The tranſverſe lines which are found on the ſurface of the ſecond piece: They mark the points of re-union of the different bits of which this piece has been originally formed.

K K The ſmall lateral cavities of this ſecond piece, for the reception of the cartilages of the true ribs.

L L, &c. The cartilages of the true ribs.

M M The cartilages which correſpond to the two firſt falſe ribs.

N The xyphoid cartilage.

FIGURE II.

The External Surface of the firſt Rib of the Left Side.

A A The ſuperior external part of the firſt rib.

B B The inequalities obſerved on the external ſurface.

C Its condyle.

D The neck of this rib.

E Its tuberoſity.

F Its anterior extremity.

FIGURE III.

The External Surface of the ſecond true Rib of the Left Side.

A A The external ſurface of this rib, at full length.

B The condyle.

C The cervix.

D The tuberoſity.

E E The external lip.

F A portion of the internal lip.

G The anterior extremity.

FIGURE IV.

The greater part of the External Surface of the laſt of the true Ribs of the Right Side. Some part of the Internal Surface is likewiſe ſeen on its poſterior extremity.

A A The whole external ſurface of the body of this rib.

B B A part of its internal ſurface.

C C The two facets which terminate the condyle.

D The ſmall ſuperficial line between the two facets.

E The neck of the rib.

F A part of the tuberoſity of this rib.

G The origin of the hollow foſſa on the internal ſurface of the ſame rib.

H H A portion of the external lip of this bone.

I The anterior extremity of the ſame bone.

FIGURE V.

Almoſt the whole of the Internal Surface of the preceding Rib.

A A The internal ſurface of the laſt of the true ribs of the right ſide.

B A portion of its external ſurface.

C The condyle.

D A ligamentous impreſſion, which extends from this part of the rib as far as the correſponding tranſverſe proceſs.

E The cervix of the rib.

F The tuberoſity.

G Another muſcular impreſſion under the tuberoſity.

H The inferior edge of the rib, under which is the depreſſion, or foſſa.

I I The groove, or foſſa, at the internal and inferior margin of the bone.

K The margin of the external lip.

L The internal extremity.

THE

Sixty-first Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

THIS Table gives a view of all the Ribs of the Right Side in their natural position. They are detached indeed from the Spine; but they preserve, notwithstanding, their true situation, as is easily perceived. They are found fixed at their Anterior part, by the Cartilages, which extend as far as the Sternum. In viewing them on their Posterior part, their External Surface only is seen; but in advancing beyond the Angle of these Bones, they present their Internal Surface, as far as their connection with the Cartilages, which are as it were a continuation, or sort of Epiphysis. It is easy to distinguish the Adhesions which these form with the Sternum. This last Bone presents a profile, the whole extent of its Internal Surface. Lastly, the Ribs are seen where there is a double Tuberosity.

A A A The middle external part of the ribs.

B B B The condyle of each rib.

C C C The small facet observed on each condyle: It is here distinguished by a small superficial line.

D D D The cervix of the ribs.

E E E The small openings situated at the posterior part of each of these bones, for the transmission of vessels.

F F F The tuberosity of the ribs which is double in each.

G G G The inferior angle of each rib.

H H H Their middle and internal part.

I I I The groove, or fossa, situated interiorly at the inferior part of each rib, for the reception of the intercostal artery.

K K K The anterior extremity of the ribs; it is very broad and thin.

L L L The cartilages of the true ribs.

M M The cartilages of the false ribs.

N N N The union of the cartilages with the sternum.

O O O The connection which the cartilages of the false ribs have with each other.

P The cartilage of the fourth of the false ribs, which is insulated.

Q The middle internal part of the superior piece of the sternum, which is a little excavated, and furnished with several irregular holes for the passage of vessels.

R The superior part of this bone, called the Furcula.

S S The superior cavities of the same bone: They are incrusted with a cartilaginous substance, for the reception of the clavicles.

T T The lateral cavities of the same piece, which are somewhat irregular: They serve for the insertion of the cartilages of the two first ribs.

V The inferior part of the first piece of the sternum, which is united with the second piece of the same bone.

X X The demi-cavities, situated on the lateral and inferior part of this first piece.

Y Y The internal surface of the second piece of the sternum, which is somewhat concave, and on which several holes are found, for the passage of vessels which penetrate its substance.

Z Z The small lateral cavities of the right rib, which are occupied by the cartilages of the true ribs.

& & The corresponding cavities of the left side.

a The superior part of the second piece of the sternum, the surface of which is united to that of the first.

b Its inferior portion, at the extremity of which the xypheid cartilage is situated.

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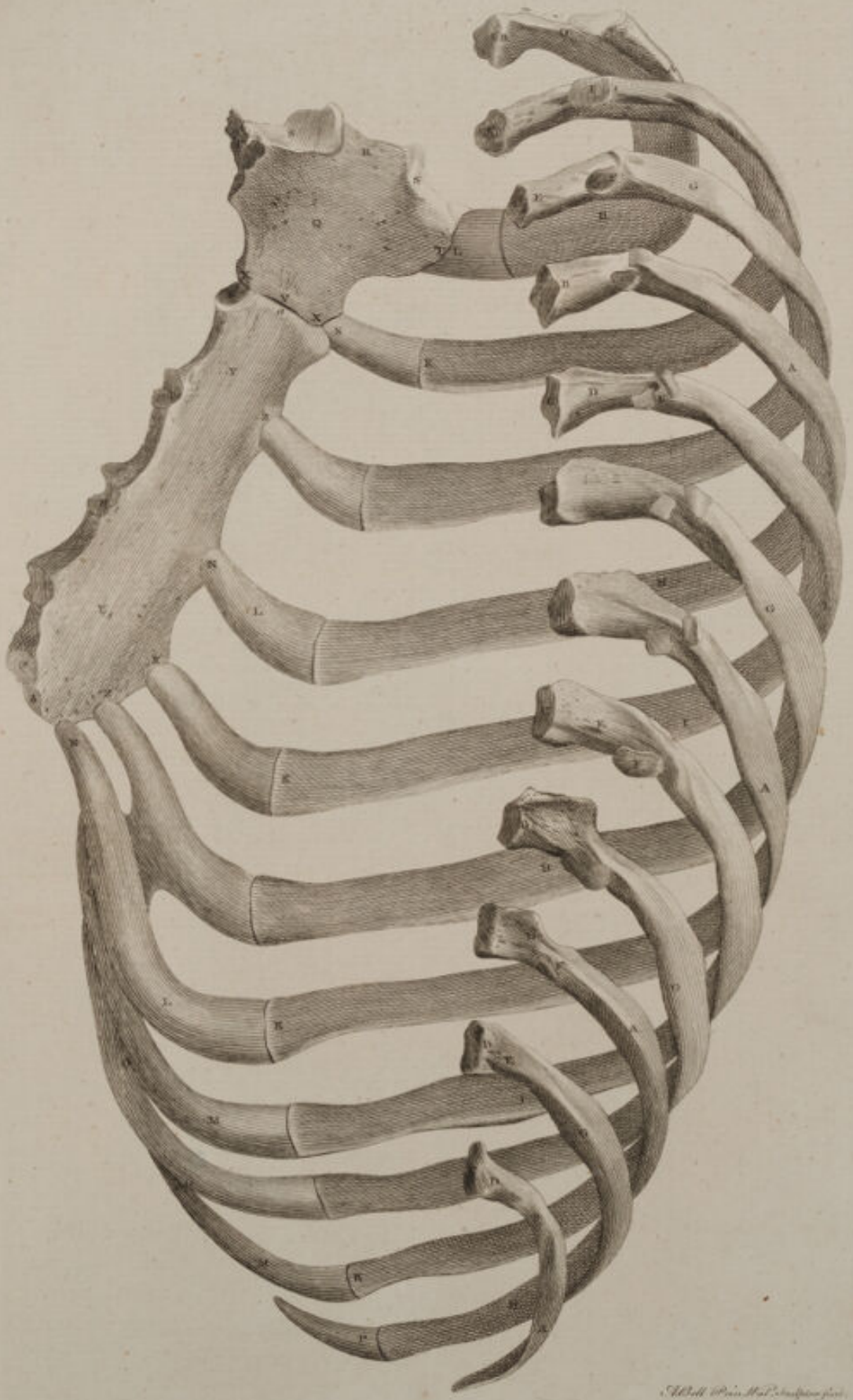

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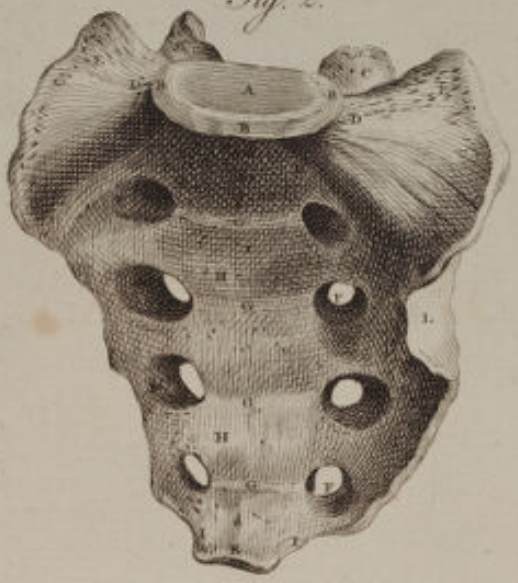

Fig. 3.

Fig. 4.

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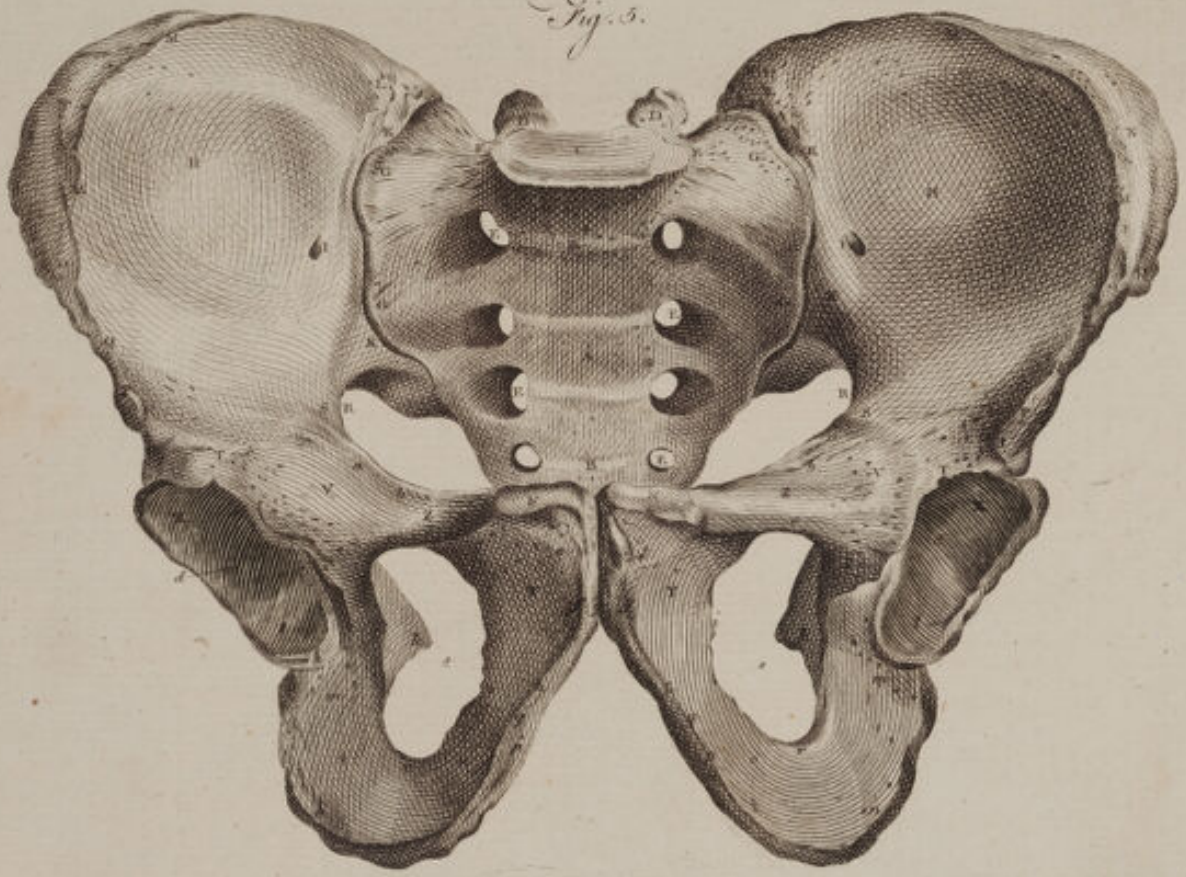

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THE

Sixty-ſecond Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

THIS Table contains five Figures, the firſt of which repreſents the External Surface of the Os Sacrum: The ſecond, its Internal Surface: The third and fourth ſhew the External and Internal Surfaces of the Os Coccygis; and the fifth, the Internal Surface of the Pelvis.

FIGURE I.

Shews about three fourths of the External Surface of the Os Sacrum.

A A portion of the ſuperior ſurface of the os ſacrum.
B B The ſuperior oblique proceſſes.
C C The ſuperior notches.
D The origin of the canal.
E E The ſpinous proceſſes.
F F The appendages, or cornua.
G G The holes, four on each ſide.
H The termination of the canal of the ſpinal marrow:
I I The inferior notches.
K The point of the os ſacrum, which is united to the os coccygis.
L L The eminences and cavities found over the whole convexity of the os ſacrum, and which are ſo many ligamentous and muſcular impreſſions.
M A portion of the articular ſurface, by which the os ſacrum is united to the oſſa ilia.

FIGURE II.

The Internal Surface of the Os Sacrum, repreſented in an Oblique poſition, and turned a little towards the Right.

A The ſurface, or ſuperior part of the os ſacrum, which receives the body of the laſt lumbar vertebra.
B B A ſmall oſſeous lamina which ſurrounds this ſurface.
C C A portion of the oblique proceſſes.
D D The ſuperior notches.
E E The large lateral eminences.
F F The holes, four on each ſide, the orifices of which are oblique.
G G The ſmall tranſverſe lines, which point out the union of the different pieces, of which the os ſacrum is originally compoſed.
H H The ſmall foſſæ ſituated between each of theſe pieces.
I I The inferior notches.
K The point of the os ſacrum.
L A ſmall portion of the articular ſurface of the left ſide, by which this bone is united laterally with thoſe of the oſſa ilia.

FIGURE III.

The External Surface of the Os Coccygis: Its poſition is Oblique, and inclined a little from Left to Right, in the ſame manner as the Os Sacrum, in the preceding Figure.

A A A The three pieces which form the os coccygis: Sometimes four are found.
B The large notch.
C C The cornua.
D D The lateral notches.
E E The lateral proceſſes.
F The point, or inferior extremity.

FIGURE IV.

The Internal Surface of the Os Coccygis, inclined from Right to Left.

A A A The three pieces which compoſe the os coccygis.
B The large notch.
C C The *Cornua*.
D D The ſmall notches.
E E The lateral proceſſes.
I The inferior extremity, or point of the os coccygis.

FIGURE V.

The Internal Surface of the Pelvis, repreſented in its full extent, and in a poſition nearly horizontal.

A The middle internal part of the os ſacrum.
B B The ſmall tranſverſe elevations, which mark the reunion of the pieces of which this bone has been originally compoſed.
C The ſuperior ſurface, which ſerves to ſupport the laſt lumbar vertebra.
D D The oblique proceſſes of the os ſacrum.
E E The holes in this bone.
F F Its ſuperior notches.
G G G G The margins of this bone, by which it is laterally articulated with the oſſa ilia.
H H The internal and middle ſurface of the oſſa ilia.
I I The orifice of the iliac conduits.

K K The

K K The posterior margins of the ossa ilia, by which they are united with the os sacrum.

L L Part of the posterior eminence of these bones, which serves as a base to the posterior and superior spine.

M M The internal margin of the ossa ilia.

N N A part of their line, or crest.

O O Their superior and anterior spines.

P P Their anterior and inferior spines.

Q Q The anterior notches.

R R A large portion of the ischiatic notch.

S S A portion of the iliac line, which is united to that of the os pubis.

T T The large iliac sinuosity.

V V A small elevation, which indicates the union of the os ilium with the os pubis.

X X The superior part of the cotyloid cavity.

Y Y The middle portion of the bodies of the ossa pubis.

Z Z The middle of their superior branch.

& & Their tuberosity.

a a Their line or crest.

b b The superior notch.

c c The inferior notch.

d d A portion of the os pubis, which forms part of the cotyloid cavity.

e e The fossæ which are situated anteriorly on the body of the os pubis, and which are muscular impressions.

f f The ligamentous margins, which form the symphysis of the ossa pubis.

g The angle below the symphysis of these bones.

h h Their inferior branch, which is united with that of the ossa ischia.

i i The notch of these last bones, which contributes to the formation of the oval hole.

k k Their spine.

l l The inferior portion of the cotyloid cavity.

m m The anterior part of the ossa ischia, a little laterally and externally.

n n A portion of their tuberosity.

o o Their branch.

p p The muscular and cavernous impressions on the inferior and lateral part of this branch.

q q The superior part of the branch of the ossa ischia.

r r Their notch.

s s The oval hole.

THE

Fig. 1.

Fig. 2.

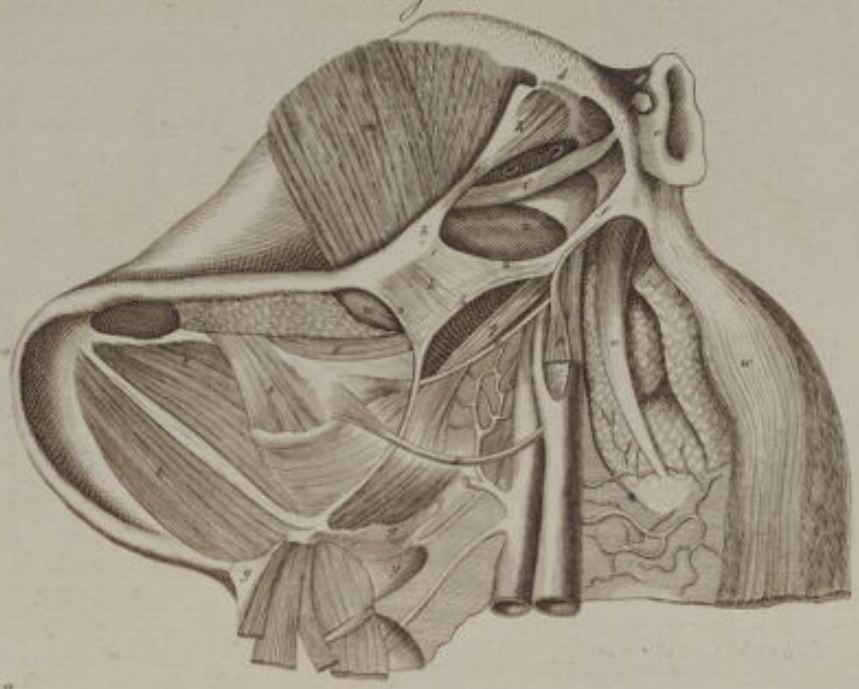

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

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THE

Sixty-third Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE Tubercle of the Os Jugale, with the Fovea ſituated between it and the Meatus Auditorius.

a The jugal proceſs of the os temporum.
b The tranſverſe tuber.
c The fovea, or glenoid ſinus behind that tuber.
d d d The capſular membrane, produced from the intermediate cartilage, and ſurrounding the whole margin of the articulation.

FIGURE II.

The Ligaments of the Under Jaw, viewed on the Left Side, with the adjacent parts.

a The anterior angle of the under jaw, or chin.
b The poſterior angle.
c The poſterior condyloid proceſs.
d The border of the zygomatic proceſs of the os temporum.
e The remains of the ear cut off.
f The ſtyloid proceſs.
g The left cornu of the os hyoides, covered by the fibres of the hyo and thyro-pharyngeus.
h The ligament of the maxillary joint.
i The lateral ligament.
k The ligamentum ſuſpenſorium of the ſtylo-gloſſus muſcle.
1. The anterior,
2. The ſuperior,
3. The inferior,
4. The poſterior ſide of this ligament.
l The ligamentum ſuſpenſorium of the os hyoides.
m The maſſeter muſcle.
n n The internal pterygoid muſcle.
o The ſtylo-gloſſus muſcle.
p The ſtylo-hyoideus muſcle.
q The ſtylo-pharyngeus muſcle, on which
r A ſmall nerve going to the pharynx, runs obliquely.
s The muſculus hyo-gloſſus, freed from the os hyoides.
t t Each of the genio-gloſſi muſcles.
v The digaſtric muſcle diſſected.
w The ſterno-maſtoideus muſcle.
x The lingual nerve.
y The larynx, with ſome of the muſcles which cover it turned back.

FIGURE III.

The Anterior Surface of the firſt and ſecond Vertebræ, joined with the Occiput.

a a a A portion of the os occipitis.
b b The tranſverſe proceſſes of the firſt vertebra.
c c Thoſe of the ſecond.
d The ligament which occupies the anterior opening between the occiput and firſt vertebra.
e The capſular ligament of the right articulation of the occiput.
f The ligament of the left articulation cut off, that the articulation itſelf, and
g The diſtance of the origin of the ligament, may be ſeen.
h A ſlip adhering to the middle of this ligament.
i The origin of the ſlip in the occiput.
k Its termination in the tubercle of the firſt vertebra.
l A ſlip uniting the firſt and ſecond vertebra.
m m The ligamentum proprium of the firſt vertebra.
n n The ligament of the articulation of the firſt vertebra with the ſecond.

FIGURE IV.

The Ligaments by which the Occiput is united with the Tooth-like proceſs of the ſecond Vertebra.

a A portion of the occiput.
b The ſecond vertebra.
c c The remains of the back-part which is cut off.
d d Intervals occaſioned by the removal of the firſt vertebra.
e e The *coronæ* of the os occipitis.
f The proceſſus dentatus of the ſecond vertebra.
g The ſuperior ſlip of the lateral ligaments, by which the occiput is connected with the tooth-like proceſs.
h The inferior ſlip.
i The lateral ligamentous membrane.

FIGURE V.

The Ligaments which fix the Tooth-like proceſs in its place.

N. B. The Crura of the Spinous Proceſſes are cut off.

a The anterior part of the occiput.
b The ſecond vertebra.
c c The tranſverſe proceſſes of the firſt vertebra.
d d The ſuperior ſlips of the ligaments which unite the occiput with the tooth-like proceſs.
e The tranſverſe ligament which fixes the tooth-like proceſs.
f Its inferior appendix.
g Its ſuperior appendix turned back.
h The opening between the tooth-like proceſs and occiput.
i The articulations of the vertebræ, the ſmall membranes being removed.

FIGURE VI.

The Figure and Origin of the Ligament which fixes the Tooth-like proceſs, the proceſs itſelf being removed.

a a The ſuperior glenoid ſinus of the firſt vertebra, for its articulation with the occiput.
b b The poſterior ring cut off.
c The tranſverſe ligament.
d d Its origins.
e The ſuperior appendix of the tranſverſe ligament.
f The inferior appendix.
g Some ſmall membranes in their way to the occiput.

THE

Sixty-fourth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

THE whole *Carina* of the Spine of the Back, with the Ribs and Pelvis.

1.—12. The bodies of the dorſal vertebræ.
13.—17. The bodies of the lumbar vertebræ.
I.—XI. The ribs of each ſide cut off.
a a The anterior common ligament of the bodies of the vertebræ, or anterior longitudinal faſcia.
b b The place where it is as it were obliterated; but in this ſubject, it is very diſtinct.
c The tendons of the muſcles of the diaphragm.
d The remains of the muſculus rectus colli.
e e e The tranſverſe proceſſes of the lumbar vertebræ of the right ſide.
f The pſoas muſcle of the left ſide. The right is removed.
g The muſculus quadratus lumborum.
h The right os ilium laid bare.
i The ſuperior anterior triangular ligament of the pelvis.
k The round anterior inferior ligament of the pelvis.
l The longitudinal ligamentous filaments of the proceſſus aliformis.
m The ſymphyſis of the ilium with the os ſacrum.
n The inteſtinum rectum.
o The veſica urinaria.
p The ligament which forms a ſort of ſac between the ſides of the bladder and inteſtinum rectum.

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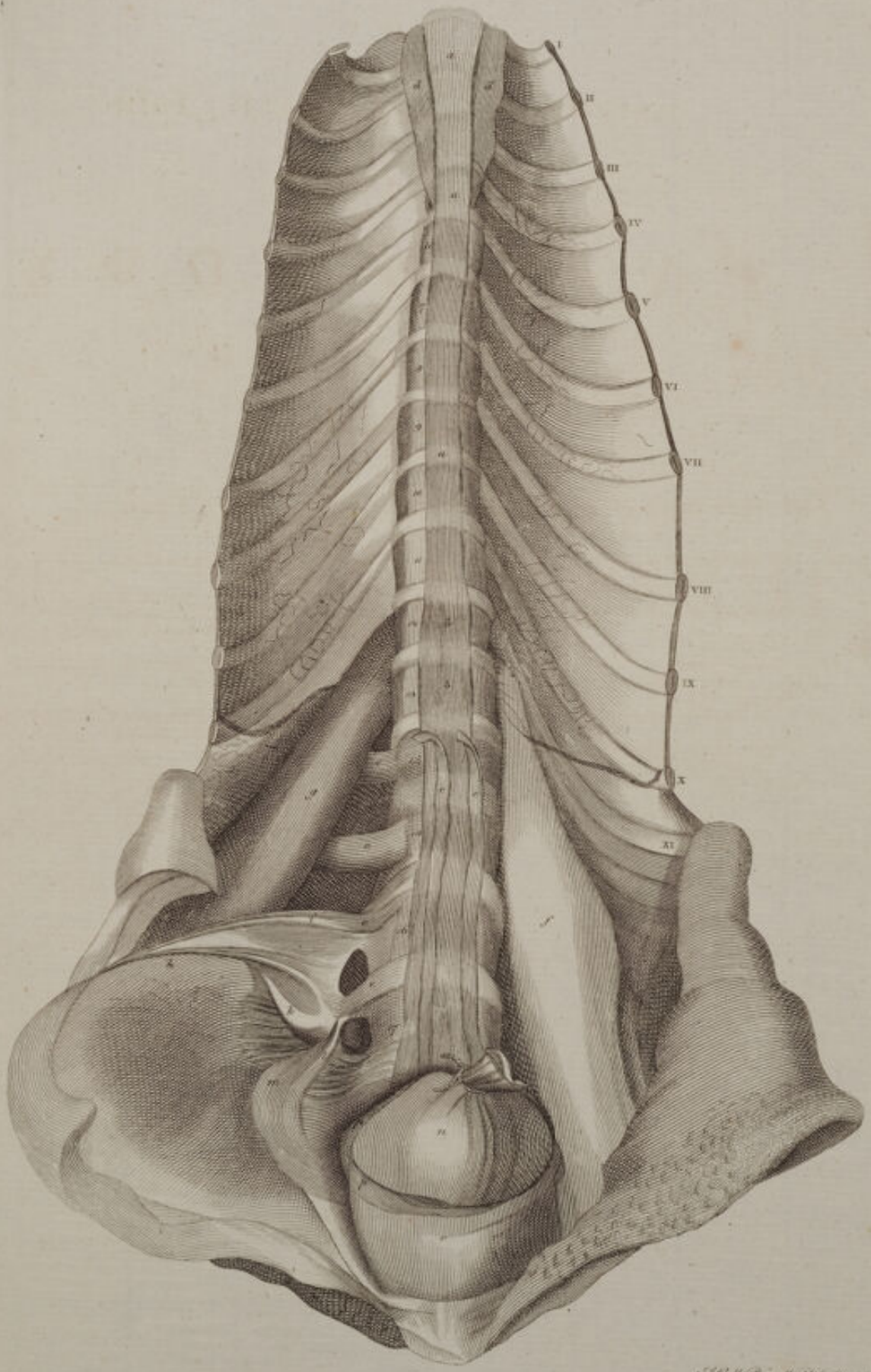

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Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

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Fig. 6.

Fig. 7.

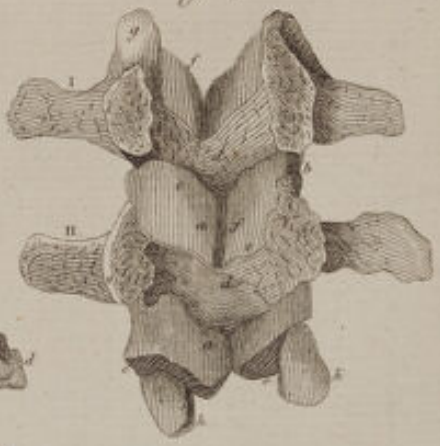

Fig. 8.

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THE

Sixty-fifth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE Ligamentous Apparatus, by which the Occiput is connected with the Vertebræ of the Neck.

a A portion of the occiput.
b b b b The transverse processes of the 1st, 2d, 3d, and 4th vertebræ of the neck.
c The ligamentous apparatus.
d Its deeper lateral part.
e e Its termination in the third and fourth vertebra.

FIGURE II.

The exit of the Dura Mater from the Cranium, together with a portion of its Anterior Sheath, or the Longitudinal Posterior Fascia of the Vertebræ.

N. B. The Crura of the Processes are cut off.

a A portion of the occiput.
b b b b The transverse processes of the 1st, 2d, 3d, and 4th vertebræ of the neck.
c The exit of the dura mater from the cranium.
d The place where the transverse ligament of the tooth-like process swells out.
e Its process in the dorsal canal.
f The posterior longitudinal fascia of the vertebræ freed from the dura mater.
g Part of the dura mater turned back.
h A portion of the vertebral artery.
i The articulation between the first and second vertebra laid bare.

FIGURE III.

The Continuation of the Posterior Longitudinal Fascia of the Vertebræ in the Neck and beginning of the Back.

a a a a The transverse processes of the vertebræ.
b b The vertebral arteries.
c c The remains of the spinous processes which are cut off.
d d The whole breadth of the posterior longitudinal fascia.

FIGURE IV.

The Continuation of the same Fascia in the Loins.

a The first lumbar vertebra, and
b The second.
c c The traces which mark the crura of the spinous processes cut off.
d The posterior longitudinal fascia of the vertebræ.
e e Its expansion over the cartilaginous intervals.

FIGURE V.

The Cartilaginous Intervertebral Ligament between the Lumbar Vertebræ.

1. The first lumbar vertebra.
2. The second.
a The highest elevation of the vertebræ, over the bodies of which blood-vessels are distributed.
b b The lamina of the exterior stratum of the intervertebral ligament.
c The second stratum.
d The third.
e The fourth.

FIGURE VI.

The Posterior Part of the Vertebræ of the Neck, seen on its Anterior Surface, with the Yellowish Ligaments of the Crura.

I. II. III. IV. The transverse processes of the 3d, 4th, 5th, and 6th vertebræ of the neck.
a a a The yellowish ligaments of the crura of the spinous processes.
b Their terminations at the lateral articulations.
c c c Their terminations at the margins of the crura.
d d d The crura of the spinous processes.
e The natural thickness of the ligaments.
f The intermediate rima.
g The spinous process of the sixth vertebra.
h The descending process.

FIGURE VII.

The Yellowish Ligaments in the Lumbar Vertebræ.

I. II. The transverse processes of the first and second lumbar vertebræ.
a a The yellowish ligaments of the crura.
b b Their terminations at the lateral articulations.
c c Their terminations at the margins of the crura.
d d The crura of the spinous processes.
e The natural thickness of the ligaments.
f The intermediate rima.
g The ascending posterior processes.
h The descending anterior processes.

FIGURE VIII.

The Spinous Processes of two Lumbar Vertebræ, with the interposed Membrane.

a a The spinous processes of the lumbar vertebræ.
b b b b The transverse processes.
c c The superior, or ascending processes.
d d The inferior, or descending processes.
e The interspinal membrane.
f f The small ligamentous cords, to which the apices are joined.
g The articular ligament.

THE

THE

Sixty-ſixth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE Left Side of the Back, with the Spine, Ribs, and Ligaments belonging thereto.

I. II. III, &c. The twelve ribs.

1. 2. 3. &c. The apices of the twelve tranſverſe proceſſes of the vertebræ of the back.

12.—14. The tranſverſe proceſſes of the lumbar vertebræ.

a a The external tranſverſe ligaments of the ribs.

b b The remains of the ligaments of the cervix of the ribs.

c c The ſtraight, longitudinal, ſmall ligaments of the tranſverſe proceſſes, with the acceſſory faſciculi, to the VI. VII. VIII. IX. ribs.

d Small ligamentous cords between the apices of the ſpinous proceſſes.

e Ligamentous expanſions extending to the laſt rib.

FIGURE II.

Three Vertebræ of the Back, with Portions of the three attached Ribs, and their Ligaments ſeen within the Thorax.

I. II. III. The bodies of the three vertebræ.

1. 2. 3. Portions of the three ribs.

a a a The ligaments of the ſmall head of the ribs, by which they are fixed to the bodies of the vertebræ.

b b b The internal ligaments of the cervix of the ribs, by which they are fixed to the tuberoſities of the next ſuperior tranſverſe proceſſes.

c The remains of the membrane of the intercoſtal muſcles.

d The ſpinous proceſs.

FIGURE III.

The ſame three Vertebræ of the Back, with the ſame portions of Ribs and their Ligaments, viewed poſteriorly.

I. II. III. The crura of the three ſpinous proceſſes.

1. 2. 3. The three portions of ribs.

a a a The external tranſverſe ligaments.

b b The internal ligaments of the cervix of the ribs.

c c The external ligaments of the cervix of the ribs.

Fig. 1.

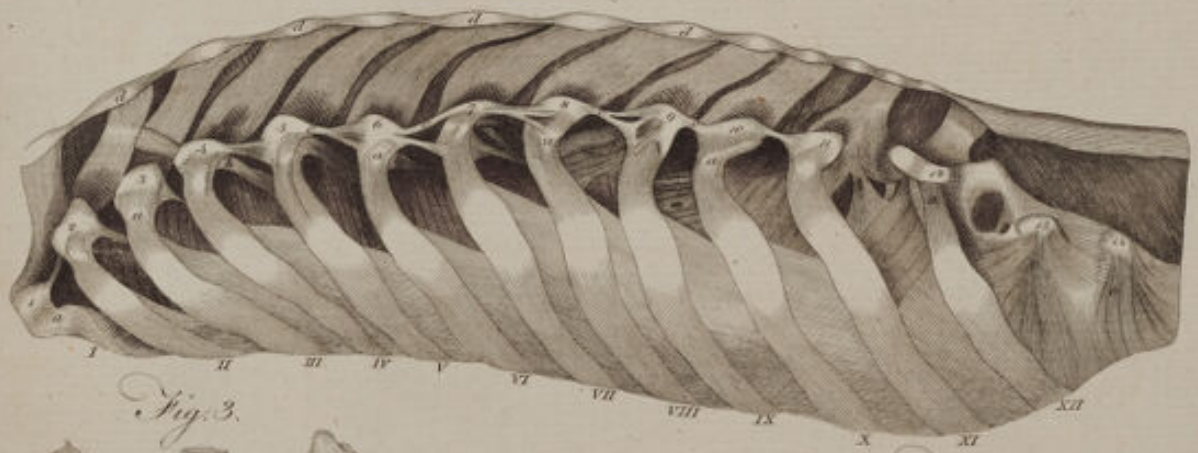
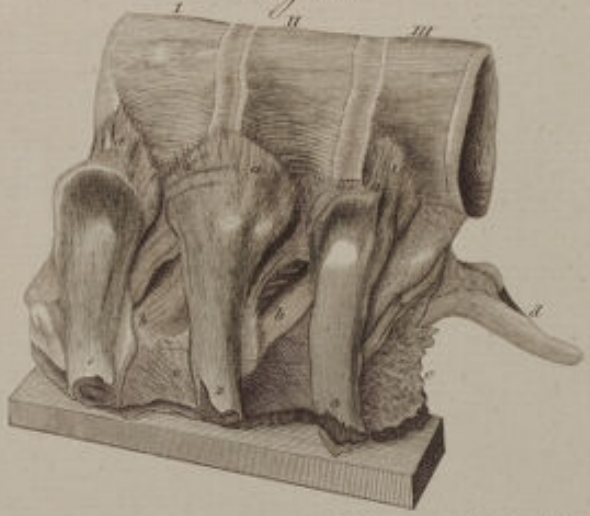


Fig. 3.

Fig. 2.



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THE

Sixty-ſeventh Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE Anterior Surface of the Sternum, with the Cartilages of Eight of the Ribs, and Cartilago Enſiformis.

A The handle of the ſternum.
B The cartilago enſiformis.
I. II. VIII. Cartilages of eight of the ribs.
a a The ligaments of the cartilages of the ribs diſtributed in the form of radii.
b b Fibres ariſing obliquely.
c c Tranſverſe, horizontal, and arched fibres.
d d The intercoſtal muſcles.
e e The waving ligaments of the cartilages.
f f The ligaments of the cartilago enſiformis.

FIGURE II.

The Poſterior and Interior Surface of the Sternum.

A The handle of the ſternum.
B The xiphoid cartilage.
I. II. III. Cartilages of eight of the ribs.
a The plain interior membrane of the ſternum, ſtrengthened with longitudinal fibres.
b The articulation of the handle.
c The juncture of the enſiform cartilage.
d The intercoſtal muſcles.

THE

Sixty-eighth Anatomical Table

OF THE

HUMAN BODY

EXPLAINED.

FIGURE I.

THE Posterior Surface of the Os Sacrum, and Os Ilium of the Left Side.

a The os sacrum.
b The os coccygis.
c The os ilium.
d The tuber of the os ischium.
e The sinus between the inferior posterior spine of the ilium, and spine of the ischium.
f The posterior long ligament of the os ilium.
g Its posterior short ligament.
h Its posterior lateral ligament.
i The ligamenta accessoria vaga, on the back of the os sacrum.
k The large sacro-ischiatic ligament.
l Its appendix, or superior membranous production.
m The small sacro-ischiatic ligament.
n The flesh of the levator coccygis muscle.
o Various irregular ligamentous expansions about the margins of the foramina in the os sacrum.
p The longitudinal ligaments of the os coccygis.
q The origin of the musculus quadratus of the thigh.
r The origin of the musculus seminervosus.

FIGURE II.

The Right Cavity of the Pelvis, the Os Ilium of the Left Side being removed.

a The os sacrum.
b The right os ilium.
c The os ischium.
d The os pubis.
e The beak-like cartilaginous lateral surface of the os sacrum, for the articulation of the os ilium.
f A protuberance covered with ligamentous villi, for the same articulation.
g The right wing-like process of the os sacrum.
h The linea alba, which marks the articulation of the os ilium and sacrum.
i The spinous process of the os ischium.
k The cervix of this bone.
l The small internal sacro-ischiatic ligament.
m The remains of the adjacent levator coccygis muscle.
n A portion of the large external sacro-ischiatic ligament.
o Its inferior falciform production of Winslow.
p The foramen majus, for the transmission of the musculus pyriformis.
q The foramen minus for the transmission of the obturator internus.
r The superior oblique sinus of the foramen thyroidum.
s The membrana obturans.
t The transverse ligament.
u A portion of the tendon of the psoas minor muscle.
x x The ligamentous ring of the os pubis, with the interposed cartilage.
y Its protuberance.

END OF PART THIRD.

Fig. 1.

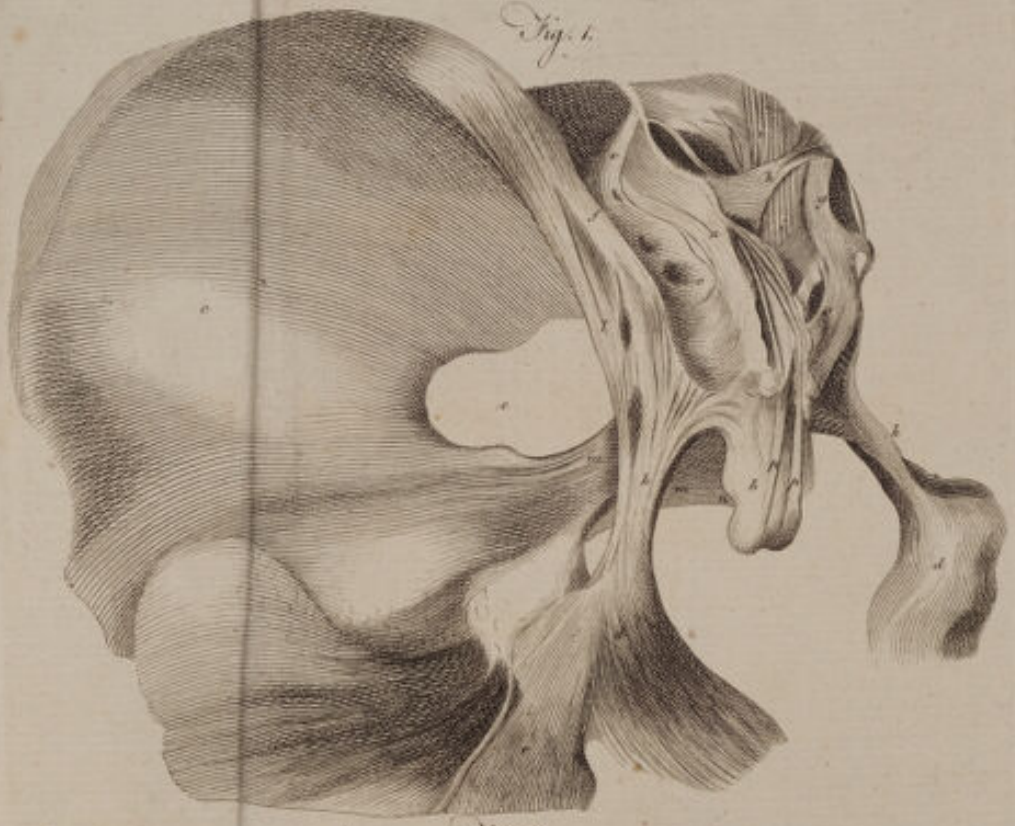
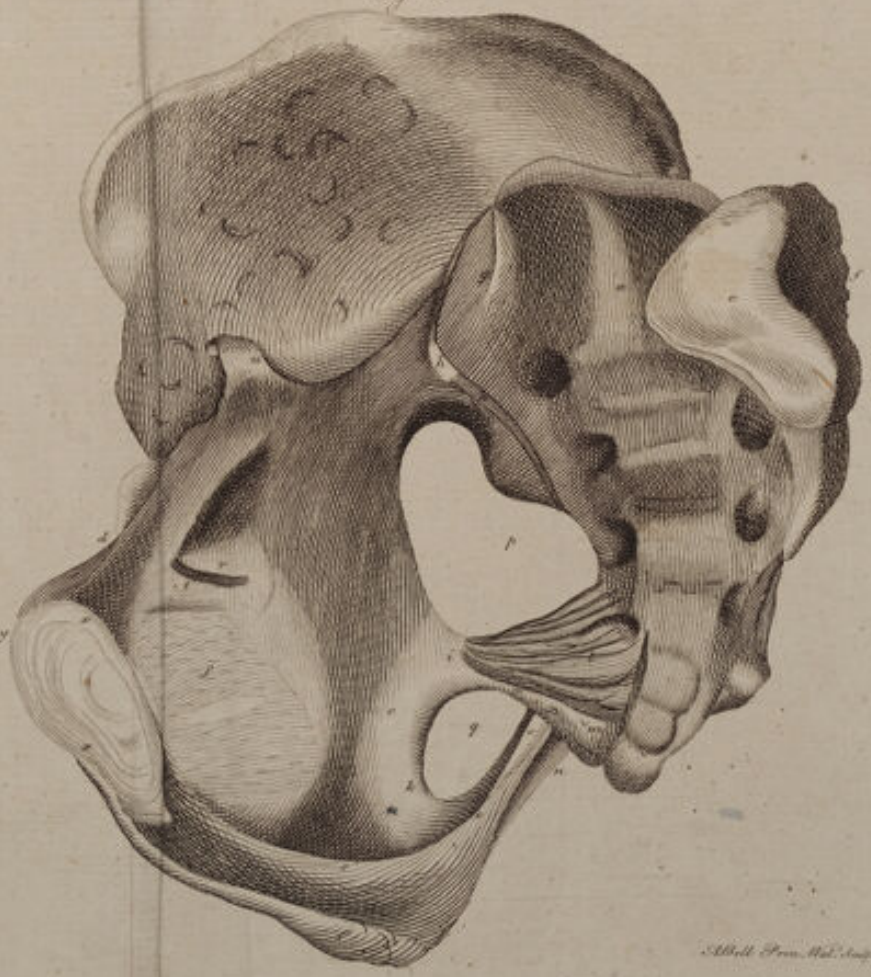


Fig. 2.



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