A short description of the human muscles : arranged as they appear on dissection : together with their several uses, and the synonyma of the best authors / by John Innes.

Contributors

Innes, John, 1739-1777.
Monro, Alexander, 1733-1817.
Maverick, Peter, 1780-1831
Collins & Co.
New Hampshire Historical Society
National Library of Medicine (U.S.)

Publication/Creation

New-York : Printed and sold by Collins & Co. ..., 1818.

Persistent URL

https://wellcomecollection.org/works/tkmnjdk3

License and attribution

Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
https://wellcomecollection.org

GPO 16—67244-1

4.5

Wm. Prescott, M.D.

to the N.H. Hist. Society

A

SHORT DESCRIPTION

OF THE

HUMAN MUSCLES,

ARRANGED AS THEY APPEAR ON DISSECTION.

TOGETHER WITH

THEIR SEVERAL USES,

AND THE

SYNONYMA OF THE BEST AUTHORS.

BY JOHN INNES.

From the seventh London Edition, revised and corrected by Alexander Monro, jun. M.D. F.R.S.

ILLUSTRATED WITH SEVENTEEN PLATES DESCRIPTIVE OF THE BONES AND MUSCLES.

New-York:

PRINTED AND SOLD BY COLLINS & CO. NO. 189, PEARL-STREET.

1818.

TO

ALEXANDER MONRO, M. D.

PROFESSOR OF ANATOMY AND MEDICINE IN THE UNIVERSITY OF EDINBURGH.

SIR,

HAVING been repeatedly solicited, for several years past, by many of your Pupils, to publish a short Description of the Muscles, as they appear upon Dissection of the Human Body, I have at last ventured to comply with their request. Your anxiety to promote the Science of Anatomy, and to encourage every thing that may be useful to the Gentlemen who attend your Theatre, was the principal motive which induced me to undertake this task. I have no knowledge of the subject but what I derived from you. If, therefore, this Treatise,

which you have never seen till I now present it to you, should communicate any advantage to the Gentlemen under your care, it is to you alone they are indebted for the obligation. I am,

SIR,

With respect,

Gratitude, and esteem,

Your much obliged,

And very humble Servant,

JOHN INNES.

EDINDURGH,
1776.

PREFACE.

SEVERAL full and accurate descriptions of the Muscles have already been published. But their size and prolixity have rendered them of less value to the dissector than the small Treatise of Dr. Douglas, which was first published about the beginning of this century, and, since that time, has undergone various impressions, without receiving any improvement, excepting the addition of the synonyma from Albinus. It is therefore presumed, that a simple and concise description of the muscles, which should contain all the improvements of the moderns, is still wanting.

To class the muscles according to their uses, may do very well in a large work, or in describing their compound actions; but this method can never answer the purposes of dis-

section. To remedy this inconvenience, the muscles in the following treatise are described chiefly as they appear in dissecting the human body.

The describing of the muscles according to their origins and insertions prevents much circumlocution. This is the method pursued by Dr. Douglas; and wherever his descriptions seemed tolerably accurate, they have been followed with little alteration. But Dr. Douglas's book is peculiarly defective with regard to the muscles of the abdomen, back, and neck: in describing these, therefore, the method of Albinus has been preferred.

Those who have not opportunity, or are averse from undergoing the labour of dissecting, may derive considerable advantages from comparing the descriptions now given with the beautiful and correct tables of Albinus; and, to facilitate still more the study of these intricate organs, I have caused to be published eight of Albinus's tables, with concise explanations on a small scale adapted for the pocket.

For the benefit of those who wish to examine the history of the muscles more minutely, the synonyma of the best authors are added; and, for the sake of brevity, the compound action of the muscles, and the origin and insertion of several inconsiderable fibres, are omitted.

The reader will observe, that, in general, the muscles of one side only are described; because all the muscles of the body, with very few exceptions, have correspondent ones on the opposite side.

A

SHORT ACCOUNT OF THE AUTHOR,

AND OF

HIS WRITINGS.

Mr. JOHN INNES, author of the following Treatise, was born at Collart, an obscure village in the Highlands of Scotland. He came to Edinburgh at an early period of life, where he obtained the patronage and protection of Dr. Alexander Monro, professor of Anatomy; who instructed him in the knowledge of the human body, and in the art of dissection. When about the age of eighteen years, Dr. Monro appointed him dissector to the Anatomical Theatre. The functions of this important and difficult office he continued to perform with much reputation for near twenty years.

But his abilities were not confined to the

dexterity of dissecting the most minute parts of the human frame. He described the various organs with ease and with perspicuity. This happy talent attracted the notice of the students; and, at their solicitation, and by the approbation of Dr. Monro, he opened an evening course of anatomical demonstrations.

The number of pupils who annually attended these demonstrations afforded the best evidence of his abilities, and of the advantages derived from his labours. During his last course, he was attended by near two hundred students.

For some time before his death, he was troubled with an affection of the lungs, which terminated in a phthisis pulmonalis, and proved fatal to him on the 12th of January, 1777.

On the 15th of the same month, the following account of him appeared in the public papers:

"Mr. John Innes, at an early period of life, had been educated in the dissecting art: he made a rapid progress in his profession, and his genius and industry were rewarded with the

privilege of giving private lectures for his own emolument. The utility of his lessons was soon perceived. Numbers of students resorted to him for instruction ; and all of them acknowledged the advantages they had received. At that stage of life when men are most capable of benefiting themselves, and of being useful to the public, death hurried him out of the world. He has given two small specimens of what was to be expected from his anatomical skill. The year before his death, he published A Short Description of the Human Muscles as they appear on Dissection, together with their several Uses, and the Synonyma of the best Authors. The merit of this work was universally acknowledged. Some months after, he published, as a *vade mecum* for students, eight anatomical tables, containing the principal parts of the skeleton and muscles represented in the large Tables of Albinus, with accurate explanations. These are all the monuments he has left by which the public is to judge of his ability. To his numerous friends and acquaintance, it is unnecessary to mention the warmth of his heart, or the integrity of his disposition."

ADVERTISEMENT.

DURING the illness of which Mr. Innes died, he put into my hands the first edition of his Description of the Muscles, with a few, chiefly verbal, corrections of it.

On perusing that Work lately, at the request of the Bookseller, I have found it necessary to make a very considerable number of alterations in what relates to the description, as well as to the uses, of the Muscles.

ALEX. MONRO.

EDINBURGH,
Jan. 1813.

A

DESCRIPTION

OF THE

HUMAN MUSCLES.

CHAP. I.

MUSCLES OF THE TEGUMENTS OF THE CRANIUM.

THE skin that covers the cranium is moved by a single broad digastric muscle, and one small pair.

1. OCCIPITO-FRONTALIS,

Arises fleshy from the transverse protuberant ridge near the middle of the os occipitis laterally, where it joins with the temporal bone; and tendinous from the rest of that ridge backwards, opposite to the lateral sinus; it arises after the same manner on the other side; from thence it comes straight forwards, by a broad thin tendon, which covers the upper part of the cranium at each side, as low down as the attolens aurem, to which it is connected, as al-

so to the zygoma, and covers a part of the aponeurosis of the temporal muscle; when it comes as far forwards as near the hair of the front, it becomes fleshy, and descends with straight fibres.

Inserted into the orbicularis palpebrarum of each side, and into the skin of the eye-brows, sending down a fleshy slip between them, as far as the compressor naris and levator labii superioris alæque nasi.

Use. Pulls the skin of the head backwards; raises the eye-brows upwards; and, at the same time, it draws up and wrinkles the skin of the forehead.

Epicranius, Albinus.

Frontalis et occipitalis, Winslow.

2. CORRUGATOR SUPERCILII,

Arises fleshy from the internal angular process of the os frontis, above the joining of the os nasi, and nasal process of the superior maxillary bone; from thence it runs outwards, and a little upwards.

Inserted into the inner and inferior fleshy part of the occipito-frontalis muscle, where it joins with the orbicularis palpebrarum, and extends outwards as far as the middle of the superciliary ridge.

Use. To draw the eye-brow of that side to-

wards the other, and make it project over the inner canthus of the eye: when both act, they pull down the skin of the forehead, and make it wrinkle, particularly between the eye-brows.

Musculus supercilii, Winslow.

Musculus frontalis verus, seu Corrugator, Douglas.

CHAP. II.

OF THE MUSCLES OF THE EAR.

THE muscles of the ear may be divided into three classes, viz. the common, proper, and internal. The common may move the whole ear: the proper only affect the particular parts to which they are connected; and the internal, the small bones within the tympanum.

The common muscles are,

1. ATTOLENS AUREM,

Arises thin, broad, and tendinous, from the tendon of the occipito-frontalis, from which it is almost inseparable, where it covers the aponeurosis of the temporal muscle.

Inserted into the upper part of the ear, opposite to the antihelix.

Use. To draw the ear upwards, and make the parts into which it is inserted tense.

Superior auris, Winslow.

2. ANTERIOR AURIS,

Arises thin and membraneous near the posterior part of the zygoma.

Inserted into a small eminence on the back of the helix, opposite to the concha.

Use. To draw this eminence a little forwards and upwards.

3 RETRAHENTES AURIS,

Arises, sometimes, by three, but always by two distinct small muscles, from the external and posterior part of the root of the mastoid process, immediately above the insertion of the sterno-cleido mastoid muscle.

Inserted into that part of the back of the ear which is opposite to the septum that divides the scapha and concha.

Use. To draw the ear back, and stretch the concha.

Posterior auris, Winslow.

The proper muscles are,

1. HELICIS MAJOR,

Arises from the upper and acute part of the helix anteriorly.

Inserted into its cartilage a little above the tragus.

Use. To depress that part from which it arises a little downwards and forwards.

2. HELICIS MINOR,

Arises from the inferior and anterior part of the helix.

Inserted into the crus of the helix, near the fissure in the cartilage opposite to the concha.

Use. To contract the fissure.

3. TRAGICUS,

Arises from the middle and outer part of the concha, at the root of the tragus, along which it runs.

Inserted into the point of the tragus.

Use. Pulls the point of the tragus a little forwards.

4. ANTITRAGICUS,

Arises from the internal part of the cartilage that supports the antitragus; and, running upwards, is

Inserted into the tip of the antitragus, as far as the inferior part of the antihelix, where there is a fissure in the cartilage.

Use. Turns the tip of the antitragus a little outwards, and depresses the extremity of the antihelix towards it.

5. TRANSVERSUS AURIS,

Arises from the prominent part of the concha on the dorsum of the ear; the fibres not so fleshy as in the former.

Inserted opposite to the outer side of the antihelix.

Use. Draws the parts to which it is connected towards each other, and stretches the scapha and concha.

The muscles of the internal ear are three:

1. LAXATOR TYMPANI,

Arises by a small beginning from the extremity of the spinous process of the sphenoid bone, behind the entry of the artery of the dura mater; then running backwards, and a little upwards, along with the nerve called *chorda tympani*, in a fissure of the os temporis near the fossa that lodges the condyle of the lower jaw.

Inserted into the long process of the malleus, within the tympanum, where it rests upon the edge of the fissure between the pars squamosa and petrosa.

Use. To draw the malleus obliquely forwards towards its origin, consequently the membrana tympani, by which that membrane is made less concave, or is relaxed.

Externus mallei. Albinus.

Anterior mallei, Winslow.

Obliquus auris, Douglas.

2. TENSOR TYMPANI,

Arises, by a very small beginning, from the cartilaginous extremity of the Eustachian tube, just where it begins to be covered by the pars petrosa, and spinous process of the sphenoid bone, near the entry of the artery of the dura mater; from thence running backwards near the osseous part of the Eustachian tube, forms a very distinct fleshy belly, below a thin osseous plate, between the pars squamosa and labyrinth; and sends off a slender tendon, which makes a turn into the tympanum along with the nerve called *chorda tympani*.

Inserted into the posterior part of the handle of the malleus, a little lower than the root of its long process.

Use. To pull the malleus and membrana tympani inwards towards the pars petrosa, by which the membrane is made more concave and tense.

Internus mallei, Winslow.

Internus auri, Douglas.

3. STAPEDIUS,

Arises, by a small fleshy belly, from a little cavern in the pars petrosa, near the cells of the mastoid process, before the inferior part of the passage for the portio dura of the auditory nerve; its tendon passes straight through a small round hole in the same cavern, enters the anterior part of the tympanum, and is

Inserted into the posterior part of the head of the stapes.

Use. To draw the stapes obliquely upwards towards the cavern, by which the posterior part of its base is moved inwards, and the anterior part outwards.

Musculis stapedis, Winslow.

Stapidæus, Douglas.

CHAP. III.

OF THE MUSCLES OF THE EYE-LIDS.

The palpebræ, or eye-lids, have one muscle common to both, and the upper eye-lid one proper to itself.

1. ORBICULARIS PALPEBRARUM,

Arises, by a number of fleshy fibres, from the outer edge of the orbitar process of the superior maxillary bone, and from a tendon near the inner angle of the eye; these run a little downwards, then outwards, over the upper part of the cheek, below the orbit, covering the under eye-lid, and surround the external angle, being loosely connected only to the skin and fat; run over the superciliary ridge of the os frontis, towards the inner canthus, where they intermix with those of the occipito-frontalis and corrugator supercilii; then covering the upper eye-lid, descend to the inner angle opposite to the inferior origin of this muscle, firmly adhering to the internal angular process of the os frontis, and to the short round tendon which serves to fix the palpebræ and muscular fibres arising from it.

Inserted, by the short round tendon, into the nasal process of the superior maxillary bone, covering the anterior and upper part of the la-

chrymal sac; which tendon can be easily felt at the inner canthus of the eye.

Use. To shut 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.

The *ciliaris* of some authors is only a part of this muscle, covering the cartilages of the eye-lids, called *cilia* or *tarsi.*

There is often a small fleshy slip which runs down from the outer and inferior part of this muscle above the zygomaticus minor, and joins with the levator labii superioris alæque nasi.

2. LEVATOR PALPEBRÆ SUPERIORIS,

Arises from the upper part of the foramen opticum of the sphenoid bone, through which the optic nerve passes, above the levator oculi, near the trochlearis muscle.

Inserted, by a broad thin tendon, into the cartilage that supports the upper eye-lid, named *tarsus.*

Use. To open the eye, by drawing the eye-lid upwards; which it does completely, by being fixed to the tarsus, pulling it below the eye-brow, and within the orbit.

Aperiens palpebram rectus, Douglas.

CHAP. IV.

MUSCLES OF THE EYE-BALL.

THE muscles which move the globe of the eye, are six, viz.

Four *straight* and two *oblique*.

The four straight muscles very much resemble each other; all

Arising, by a narrow beginning, a little tendinous and fleshy, from the bottom of the orbit around the foramen opticum of the sphenoid bone, where the optic nervè enters, so that they may be taken out adhering to this nerve; and all having strong fleshy bellies.

Inserted at the fore part of the globe of the eye, into the anterior part of the tunica sclerotica, and under the tunica adnata, at opposite sides, which indicates both their names and *Use*; so that they scarcely require any further description, but to name them singly.

1. LEVATOR OCULI,

Arises from the upper part of the foramen opticum of the sphenoid bone, below the levator palpebræ superioris; and runs forwards to be

Inserted into the superior and fore-part of the tunica sclerotica, by a broad thin tendon.

Use. To raise up the globe of the eye.
Attolens, Albinus.
Elevator, Douglas.

2. DEPRESSOR OCULI.

Arises from the inferior part of the foramen opticum.
Inserted opposite to the former.
Use. To pull the globe of the eye down.
Deprimens, Albinus.

3. ADDUCTOR OCULI,

Arises, as the former, between the obliquus superior and depressor, being, from its situation, the shortest.
Inserted opposite to the inner angle.
Use. To turn the eye towards the nose.

4. ABDUCTOR OCULI,

Arises from the bony partition between the foramen opticum and lacerum, being the longest from its situation ; and is
Inserted into the globe opposite to the outer canthus.
Use. To move the globe outwards.
The oblique muscles are two :

1. OBLIQUUS SUPERIOR, SEU TROCHLEARIS,

Arises, like the straight muscles, from the edge of the foramen opticum, at the bottom of

the orbit, between the levator and adductor oculi; from hence runs straight along the pars plana of the ethmoid bone to the upper part of the orbit, where a cartilaginous trochlea is fixed to the inside of the internal angular process of the os frontis, through which its tendon passes, and runs a little downwards, and outwards, inclosed i · ose membraneous sheath.

Inserted, by a broad thin tendon, into the tunica sclerotica, about halfway between the insertion of the attolens oculi and optic nerve.

Use. To roll the globe of the eye, and to turn the pupil downwards and outwards, so that the upper side of the globe is turned inwards, and the inferior part to the outside of the orbit, and the whole globe drawn forwards towards the inner canthus.

Obliquus major, Winslow.

2. OBLIQUUS INFERIOR,

Arises, by a narrow beginning, from the outer edge of the orbitar process of the superior maxillary bone, near its juncture with the os unguis; and, running obliquely outwards, is

Inserted into the sclerotica, in the space between the abductor and optic nerve, by a broad thin tendon.

Use. To draw the globe of the eye forwards, inwards, and downwards, and, contrary to the superior, to turn the pupil upwards, towards

the inner extremity of the eyebrow; at the same time, the external part of the globe is turned towards the inferior side, and the internal rolls towards the upper part.

Obliquus minor, Winslow.

CHAP. V.

OF THE MUSCLE OF THE NOSE.

THERE is only one muscle on each side that can be called proper to the nose, though it is affected by several muscles of the face.

COMPRESSOR NARIS,

Arises, by a narrow beginning, from the root of the ala nasi externally, where part of the levator labii superioris alæque nasi is connected to it; it spreads into a number of thin disgregated fibres, which run up along the cartilage in an oblique manner, towards the dorsum of the nose, where it joins with its fellow, and is

Inserted slightly into the anterior extremity of the os nasi and nasal process of the superior maxillary bone, where it meets with some of the fibres descending from the occipito-frontalis muscle.

Use. To compress 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 assists to pull the ala outwards. It also corrugates the skin of the nose, and assists in expressing certain passions.

Rinæus, vel nasalis, Douglas.

CHAP. VI.

MUSCLES OF THE MOUTH AND LIPS.

The mouth has nine pair of muscles, which are inserted into the lips, and a common one formed by the termination of these, viz. three *above*, three *below*, three *outwards*, and the common muscle surrounds the mouth.

The three above are,

1. LEVATOR ANGULI ORIS,

Arises, thin and fleshy, from the hollow of the superior maxillary bone, between the root of the socket of the first dens molaris and the foramen infra-orbitarium.

Inserted into the angle of the mouth and under-lip, where it joins with its antagonist.

Use. To draw the corner of the mouth upwards, and make that part of the cheek opposite to the chin prominent, as in smiling.

Elevator labiorum communis, Douglas.

Caninus, Winslow.

2. LEVATOR LABII SUPERIORIS ALÆQUE NASI,

Arises by two distinct origins; the first broad and fleshy, from the external part of the orbitar

process of the superior maxillary bone which forms the lower part of the orbit immediately above the foramen infra-orbitarium; the second portion arises from the nasal process of the superior maxillary bone, where it joins the os frontis at the inner canthus descending along the edge of the groove for the lachrymal sac. The first and shortest portion is

Inserted into the upper lip and orbicularis labiorum; the second and longest, into the upper lip and outer part of the ala nasi.

Use. To raise the upper lip towards the orbit and a little outwards; the second portion serves to draw the skin of the nose upwards and outwards, by which the nostril is dilated.

Elevator labii superioris proprius, Douglas.

Incisivus lateralis, First portion; *Pyramidalis*, Second portion; Winslow.

3. DEPRESSOR LABII SUPERIORIS ALÆQUE NASI,

Arises, thin and fleshy, from the os maxillare superius, immediately above the joining of the gums with the two dentes incisivi, and the dens caninus; from thence it runs up under part of the levator labii superioris alæque nasi.

Inserted into the upper lip and root of the ala nasi.

Use. To draw the upper lip and ala nasi downwards and backwards.

Depressor alæ nasi, Albinus.

Incisivus medius, Winslow.
Depressor labii superioris proprius, Douglas.

The three below are,

1. DEPRESSOR ANGULI ORIS,

Arises, broad and fleshy, from the lower edge of the maxilla inferior, at the side of the chin, being firmly connected to that part of the platysma myoides, which runs over the maxilla to the angle of the mouth, to the depressor labii inferioris within, and to the skin and fat without, gradually turning narrower ; and is

Inserted into the angle of the mouth, joining with the zygomaticus major and levator anguli oris.

Use. To pull down the corner of the mouth.

Triangularis, Winslow.
Depressor labiorum communis, Douglas.

2. DEPRESSOR LABII INFERIORIS,

Arises, broad and fleshy, intermixed with fat, from the inferior part of the lower jaw next the chin ; runs obliquely upwards; and is

Inserted into the edge of the under-lip, extends along one half of the lip, and is lost in its red part.

Use. To pull the under-lip and the skin of the side of the chin downwards, and a little outwards.

Quadratus, Winslow.
Depressor labii inferioris proprius, Douglas.

3. LEVATOR LABII INFERIORIS,

Arises, from the lower jaw, at the roots of the alveoli of two dentes incisivi and of the caninus; is

Inserted into the under-lip and skin of the chin.

Use. To pull the parts into which it is inserted upwards.

Levator menti, Albinus.
Incisivus inferior, Winslow.
Elevator labii inferioris proprius, Douglas.

The three outward are,

1. BUCCINATOR,

Arises, tendinous and fleshy, from the lower jaw, as far back as the last dens molaris and forepart of the root of the coronoid process; fleshy from the upper jaw, between the last dens molaris and pterygoid process of the sphenoid bone; from the extremity of which it arises tendinous, being continued between both jaws to the constrictor pharyngis superior, with which it joins; from thence proceeding with straight fibres, and adhering close to the membrane that lines the mouth, it is

Inserted into the angle of the mouth within the orbicularis oris.

Use. To draw the angle of the mouth backwards and outwards, and to contract its cavity, by pressing the cheek inwards, by which the food is thrust between the teeth.

Retractor anguli oris, Albinus.

2. ZYGOMATICUS MAJOR,

Arises, fleshy, from the os malæ, near the zygomatic suture.

Inserted into the angle of the mouth, appearing to be lost in the depressor anguli oris and orbicularis oris.

Use. To draw the corner of the mouth and under-lip towards the origin of the muscle, and make the cheek prominent, as in laughing.

Zygomaticus, Douglas.

3. ZYGOMATICUS MINOR,

Arises from the upper prominent part of the os malæ, above the origin of the former muscle; and, descending obliquely downwards and forwards, is

Inserted into the upper-lip, near the corner of the mouth, along with the levator anguli oris.

Use. To draw the corner of the mouth obliquely outwards, and upwards, towards the external canthus of the eye.

This muscle is frequently wanting.

The common muscle is the

ORBICULARIS ORIS.

This muscle is, in a great measure, formed by the muscles that move the lips: the fibres of the superior descending, those of the inferior ascending, and decussating each other about the corner of the mouth, run along the lip to join those of the opposite side, so that the fleshy fibres appear to surround the mouth like a sphincter.

Use. To shut the mouth, by contracting and drawing both lips together, and to counteract all the muscles that assist in forming it.

Sphincter labiorum, Douglas.

Semi orbicularis, Winslow.

Constrictor oris, Cowper.

There is another small muscle described by Albinus, which he calls *Nasalis labii superioris*; but it seems to be only some fibres of the former connected to the septum nasi.

CHAP. VII.

MUSCLES OF THE LOWER JAW.

THE lower jaw has four pair of muscles for its elevation or lateral motions, viz. two, which are seen on the side of the face, and two concealed by the angle of the jaw.

1. TEMPORALIS,

Arises, fleshy, from a semicircular ridge of the lower and lateral part of the parietal bone, from all the pars squamosa of the temporal bone, from the external angular process of the os frontis, from the temporal process of the sphenoid bone, and from an aponeurosis which covers it: from these different origins the fibres descend like radii towards the jugum, under which they pass; and are

Inserted, by a strong tendon, into the upper part of the coronoid process of the lower jaw; in the duplicature of which tendon this process is inclosed as in a sheath, being continued down all its fore part to near the last dens molaris.

Use. To pull the lower jaw upwards, and press it against the upper, at the same time drawing it a little backwards.

N. B. This muscle is covered by a tendinous membrane, called its *aponeurosis*, which arises

from the bones that give origin to the upper and semicircular part of the muscle; and, descending over it, is inserted into all the jugum, and the adjoining part of the os frontis.

The use of this membrane is, to give room for the origin of a greater number of fleshy fibres, to fortify the muscle in its action, and to serve as a defence to it.

Crotaphite muscle, Winslow.

2. MASSETER,

Arises, by strong, tendinous, and fleshy fibres, which run in different directions, from the superior maxillary bone, where it joins the os malæ, and from the inferior and interior part of the zygoma, its whole length, as far back as the tubercle before the socket for the condyle of the lower jaw; the external fibres slanting backwards, and the internal forwards.

Inserted into the angle of the lower jaw, and from that upwards to near the top of its coronoid process.

Use. To pull the lower to the upper jaw, and, by means of its oblique decussation, a little forwards and backwards.

3. PTERYGOIDEUS INTERNUS,

Arises, tendinous and fleshy, from the inner and upper part of the internal plate of the pterygoid process, filling all the space between the

two plates; and from the pterygoid process of the os palati between these plates.

Inserted into the angle of the lower jaw internally.

Use. To draw the jaw upwards, and obliquely towards the opposite side.

Pterygoideus major, Winslow.

4. PTERYGOIDEUS EXTERNUS,

Arises from the outer side of the external plate of the pterygoid process of the sphenoid bone, from part of the tuberosity of the os maxillare adjoining to it, and from the root of the temporal process of the sphenoid bone.

Inserted into a cavity in the neck of the condyloid process of the lower jaw; some of its fibres are inserted into the ligament that connects the moveable cartilage and that process to each other.

Use. To pull the lower jaw forwards, and to the opposite side; and to pull the ligament from the joint, that it may not be pinched during these motions: when both external pterygoid muscles act, the foreteeth of the under jaw are pushed beyond those of the upper jaw.

Pterygoideus minor, Winslow.

CHAP. VIII.

THE MUSCLES WHICH APPEAR ABOUT THE ANTERIOR PART OF THE NECK.

On the side of the neck are two muscles or layers.

1. MUSCULUS CUTANEUS, VULGO, PLATYSMA MYOIDES,

Arises, by a number of slender disgregated fleshy fibres, from the cellular substance that covers the upper parts of the deltoid and pectoral muscles; in their ascent they all unite to form a thin muscle, which runs obliquely upwards along the side of the neck, adhering to the skin.

Inserted into the lower jaw, between its angle and the origin of the depressor anguli oris, to which it is firmly connected, and but slightly to the skin that covers the inferior part of the masseter muscle and parotid glands.

Use. To assist the depressor anguli oris in drawing the skin of the cheek downwards; and, when the mouth is shut, it draws all that part of the skin, to which it is connected, below the lower jaw, upwards.

Platysma myoides, Galen.

Musculus cutaneus, Winslow.

Quadratus genæ, vel *Latissimus colli*, Douglas.

Latissimus colli, Albinus.

2. STERNO-CLEIDO MASTOIDEUS,

Arises by two distinct origins; the anterior, tendinous and a little fleshy, from the top of the sternum near its junction with the clavicle; the posterior, fleshy, from the upper and anterior part of the clavicle; both unite a little above the anterior articulation of the clavicle, to form one muscle, which runs obliquely upwards and outwards, to be

Inserted, by a thick strong tendon, into the mastoid process, which it surrounds; and, gradually turning thinner, is inserted as far back as the lambdoid suture.

Use. To turn the head to one side, and bend it forwards.

Sterno-mastoideus and *Cleido-mastoideus*, Albinus.

Mastoideus, Douglas.

CHAP. IX.

MUSCLES SITUATED BETWEEN THE LOWER JAW AND OS HYOIDES.

THERE are four layers before, and two muscles at the side;

The four layers are,

1. DIGASTRICUS,

Arises, by a fleshy belly, intermixed with tendinous fibres, from the fossa at the root of the mastoid process of the temporal bone, and soon becomes tendinous; runs downwards and forwards: the tendon passes generally through the stylo hyoideus muscle; then it is fixed by a ligament to the os hyoides; and, having received from that bone an addition of tendinous and muscular fibres, runs obliquely forwards, turns fleshy again, and is

Inserted, by this anterior belly, into a rough sinuosity at the inferior and interior edge of that part of the lower jaw called the *chin*.

Use. To open the mouth, by pulling the lower jaw downwards and backwards; and when the jaws are shut, to raise the larynx, and consequently the pharynx, upwards, as in deglutition.

Biventer maxillæ inferioris, Albinus.

2. MYLO-HYOIDES,

Arises, fleshy, from all the inside of the lower jaw between the last dens molaris and the middle of the chin, where it joins with its fellow.

Inserted into the lower edge of the basis of the os hyoides, and joins with its fellow.

Use. To pull the os hyoides forwards, upwards, and to a side.

3. GENIO-HYOIDEUS.

Arises, tendinous, from a rough protuberance in the middle of the lower jaw internally, or inside of the chin.

Inserted into the basis of the os hyoides.

Use. To draw this bone forwards to the chin.

4. GENIO-HYO-GLOSSUS,

Arises, tendinous, from a rough protuberance in the inside of the middle of the lower jaw; its fibres run, like a fan, forwards, upwards, and backwards; and are

Inserted into the tip, middle, and root of the tongue, and base of the os hyoides, near its cornu.

Use. According to the direction of its fibres, to draw the tip of the tongue backwards into the mouth, the middle downwards, and to render its dorsum concave; to draw its root and os hyoides forwards, and to thrust the tongue out of the mouth.

The two muscles at the sides are,

1. HYO-GLOSSUS,

Arises, broad and fleshy, from the base, cornu, and appendix of the os hyoides; the fibres run upwards and outwards, to be

Inserted into the side of the tongue near the stylo-glossus.

Use. To pull the tongue inwards and downwards.

Basio cerato-chondro-glossus, Albinus.

Cerato-glossus, Douglas.

2. LINGUALIS,

Arises from the root of the tongue laterally; runs forwards between the hyo-glossus and genio-glossus, to be

Inserted into the tip of the tongue, along with part of the stylo-glossus.

Use. To contract the substance of the tongue, and bring it backwards.

CHAP. X.

MUSCLES SITUATED BETWEEN THE OS HYOIDES AND TRUNK.

THESE may be divided into two layers.

The first layer consists of two muscles.

1. STERNO-HYOIDEUS,

Arises, thin and fleshy, from the cartilaginous extremity of the first rib, the upper and inner part of the sternum, and from the clavicle where it joins with the sternum.

Inserted into the base of the os hyoides.

Use. To pull the os hyoides downwards.

2. OMO-HYOIDEUS,

Arises, broad, thin and fleshy, from the superior costa of the scapula, near the semilunar nitch, and from the ligament that runs across it; thence ascending obliquely, it becomes tendinous below the sterno-cleido-mastoid muscle; and, growing fleshy again, is

Inserted into the base of the os hyoides between its cornu and the insertion of the sterno-hyoideus.

Use. To pull the os hyoides obliquely downwards.

Coraco hyoideus, Albinus and Douglas.

The second layer consists of three muscles.

1. STERNO-THYROIDEUS,

Arises, fleshy, from the whole edge of the uppermost bone of the sternum internally, opposite to the cartilage of the first rib, from which it receives a small part of its origin.

Inserted into the surface of the rough line at the external part of the inferior edge of the thyroid cartilage.

Use. To draw the larynx downwards.

2. THYREO-HYOIDEUS,

Inserted into part of the basis, and almost all the cornu of the os hyoides.

Arises from the rough line, opposite to the former.

Use. To pull the os hyoides downwards, or the thyroid cartilage upwards.

Thyro-hyoideus, vel *Hyo-thyroideus*, Winslow.

3. CRICO-THYROIDEUS,

Arises from the side and fore part of the cricoid cartilage, running obliquely upwards.

Inserted by two portions; the first, into the lower part of the thyroid cartilage; the second, into its inferior cornu.

Use. To pull forwards and depress the thyroid, or to elevate and draw backwards the cricoid cartilage.

CHAP. XI.

MUSCLES SITUATED BETWEEN THE LOWER JAW AND OS HYOIDES LATERALLY.

THEY are five in number. Three proceed from the styloid process of the temporal bone, from which they have half their names; and two from the pterygoid process of the sphenoid bone.

The three from the styloid process are,

1. STYLO-GLOSSUS,

Arises, tendinous and fleshy, from the stylo process, and from a ligament that connects that process to the angle of the lower jaw.

Inserted into the root of the tongue, runs along its side, and is insensiby lost near its tip.

Use. To draw the tongue laterally and backwards.

2. STYLO-HYOIDEUS,

Arises, by a round tendon, from the middle and inferior part of the styloid process.

Inserted into the os hyoides at the junction of the base and cornu.

Use. To pull the os hyoides to one side, and a little upwards.

N. B. Its fleshy belly is generally perforated by the tendon of the digastric muscle, on one or both sides. There is often another accompanying it, called *stylo-hyoideus alter ;* and has the same origin, insertion and use.

3. STYLO-PHARYNGEUS.

Arises, fleshy, from the root of the styloid process.

Inserted into the side of the pharynx and back part of the thyroid cartilage.

Use. To dilate and raise the pharynx and thyroid cartilage upwards.

The two from the pterygoid process are,

1. CIRCUMFLEXUS, OR TENSOR PALATI,

Arises from the spinous process of the sphenoid bone, behind the foramen ovale, which transmits the third branch of the fifth pair of nerves ; from the Eustachian tube, not far from its osseous part: it then runs down along the pterygoides internus, passes over the hook of the internal plate of the pterygoid process by a round tendon, which soon spreads into a broad membrane.

Inserted into the the velum pendulum palati, and the semilunar edge of the os palati, and extends as far as the suture which joins the two bones. Generally some of its posterior fibres join with the constrictor pharyngis superior, and the palato-pharyngeus.

Use. To stretch the velum, to draw it down

wards, and to a side towards the hook. It has little effect upon the tube, being chiefly connected to its osseous part.

Circumflexus palati, Albinus.

Spheno-salpingo-staphilinus, seu *Staphilinus externus*, Winslow.

Musculus tubæ novus, Valsalva; vel *Palato-salpingeus*, Douglas.

2. LEVATOR PALATI,

Arises, tendinous and fleshy, from the extremity of the pars petrosa of the temporal bone, where it is perforated by the Eustachian tube, and also from the membranous part of the same tube.

Inserted into the whole length of the velum pendulum palati, as far as the root of the uvula, and unites with its fellow.

Use. To draw the velum upwards and backwards, so as to shut the passage from the fauces into the mouth and nose.

Levator palati mollis, Albinus.

Petro salpingo-staphilinus, vel *Salpingo staphilinus internus*, Winslow.

Salpingo-staphilinus, Valsalva. *Pterygo staphilinus externus, vulgo*, Douglas.

Spheno staphilinus, Cowper.

Previous to the description of the muscles situated about the passage into the throat, it will be necessary to mention the principal parts to which they are connected.

Upon looking into any person's mouth, when wide opened, we see a soft curtain hanging from the palate-bones, named *velum pendulum palati*. In the middle of which, we likewise observe a papilla projecting from the velum, named *uvula*, or *pap of the throat*. From each side of the uvula, at its root, two arches, or columns, are sent down; the anterior to the root of the tongue, the posterior to the pharynx. Between these arches, on each side, the cellular glands called *amygdalæ*, or *almonds of the ears*,* are situated.

The common opening between the anterior arch may be named *fauces*, or *top of the throat*, from which there are six passages, viz. two upwards, being one to each nostril; two at the sides, or one to each ear, called the *Eustachian tubes;* two downwards; the anterior is the passage through the *glottis* and *larynx*, into the *trachea*, which terminates in the lungs; the posterior is the largest, named *pharynx*, or top of the *œsophagus*, which leads to the stomach.

* Tonsils.

CHAP. XII.

MUSCLES SITUATED ABOUT THE ENTRY TO THE FAUCES.

THERE are two on each side, and a single one in the middle.

The two on each side are,

1. CONSTRICTOR ISTHMI FAUCIUM,

Arises, by a slender beginning, from the side of the tongue, near its root; from thence running upwards, within the anterior arch, before the amygdala, it is

Inserted into the middle of the velum pendulum palati, at the root of the uvula anteriorly, being connected with its fellow, and with the beginning of the palato-pharyngeus.

Use. Draws the velum towards the root of the tongue, which it raises at the same time, and, with its fellow, contracts the passage between the two arches, by which it shuts the opening into the fauces.

Glosso-staphilinus, Winslow and Douglas.

2. PALATO-PHARYNGEUS,

Arises, by a broad beginning, from the middle of the velum pendulum palati, at the root of the

uvula posteriorly, from the tendinous expansion of the circumflexus palati, and from the cartilaginous extremity of the Eustachian tube. The fibres are collected within the posterior arch, behind the amygdala, and run backwards to the top and lateral part of the pharynx, where the fibres are scattered, and mix with those of the stylo-pharyngeus.

Inserted into the edge of the upper and back part of the thyroid cartilage; some of its fibres being lost between the membrane of the pharynx and the two inferior constrictors.

Use. Draws the uvula and velum downwards and backwards; and at the same time pulls the thyroid cartilage and pharynx upwards, and shortens it; with the constrictor superior and tongue, it assists in shutting the passage into the nostrils; in swallowing, it thrusts the food from the fauces into the pharynx, and dilates the mouth of the Eustachian tube.

Thyro-staphilinus, Douglas.

Thyro-pharyngo-staphilinus, Winslow.

The one in the middle is the

AZYGOS UVULÆ,

Arises, fleshy, from the extremity of the suture which joins the palate-bones, runs down the whole length of the velum and uvula, resembling a small earth worm, and adhering to the tendons of the circumflexi.

Inserted into the tip of the uvula.

Use. Raises the uvula upwards and forwards, and shortens it.

Palato-staphilinus, Douglas.

Staphilinus, or *Epistaphilinus*, Winslow.

CHAP. XIII.

MUSCLES SITUATED ON THE POSTERIOR PART OF THE PHARYNX.

Of these there are three pair.

1. CONSTRICTOR PHARYNGIS INFERIOR,

Arises from the side of the thyroid cartilage, near the attachment of the sterno-hyoideus and thyreo-hyoideus muscles; and from the cricoid cartilage, near the crico-thyroideus. This muscle is the largest of the three, and is

Inserted into the white line, where it joins with its fellow; the superior fibres running obliquely upwards, covering nearly one half of the middle constrictor, and terminating in a point; the inferior fibres run more transversely, and cover the beginning of the œsophagus.

Use. To compress that part of the pharynx which it covers, and to raise it with the larynx a little upwards.

Thyro-pharyngeus, Crico-pharyngeus, Douglas.

2. CONSTRICTOR PHARYNGIS MEDIUS,

Arises from the appendix of the os hyoides, from the cornu of that bone, and from the ligament which connects it to the thyroid cartilage; the fibres of the superior part running obliquely

upwards, and covering a considerable part of the superior constrictor, terminate in a point

Inserted into the middle of the cuneiform process of the os occipitis, before the foramen magnum, and joined to its fellow at a white line in the middle back part of the pharynx. The fibres at the middle part run more transversely than those above or below.

Use. To compress that part of the pharynx which it covers, and to draw it and the os hyoides upwards.

Hyo-pharyngeus, Syndesmo-pharyngeus, Douglas.

3. CONSTRICTOR PHARYNGIS SUPERIOR,

Arises, above, from the cuneiform process of the os occipitis, before the foramen magnum, near the holes where the ninth pair of nerves passes out; lower down, from the pterygoid process of the sphenoid bone; from the upper and under jaw, near the roots of the last dentes molares; and between the jaws, it is continued with the buccinator muscle, and with some fibres from the root of the tongue and from the palate.

Inserted into a white line in the middle of the pharynx, where it joins with its fellow, and is covered by the constrictor medius.

Use. To compress the upper part of the pharynx, and draw it forwards and upwards.

Cephalo-pharyngeus, Pterygo-pharyngeus, Mylo-pharyngeus, Glosso-pharyngeus, Douglas.

CHAP. XIV.

MUSCLES SITUATED ABOUT THE GLOTTIS.

THEY consist generally of four pair of small muscles, and a single one.

1. CRICO-ARYTÆNOIDEUS POSTICUS,

Arises, fleshy, from the back-part of the cricoid cartilage, and is

Inserted into the posterior part of the base of the arytenoid cartilage.

Use. To open the rima glottidis a little; and by pulling back the arytenoid cartilage, to stretch the ligament so as to make it tense.

2. CRICO-ARYTÆNOIDEUS LATERALIS,

Arises, fleshy, from the cricoid cartilage, laterally, where it is covered by part of the thyroid, and is

Inserted into the side of the base of the arytenoid cartilage near the former.

Use. To open the rima glottidis, by pulling the ligaments from each other.

3. THYREO-ARYTÆNOIDEUS,

Arises from the under and back part of the middle of the thyroid cartilage; and, running

backwards and a little upwards, along the side of the glottis, is

Inserted into the arytenoid cartilage, higher up and farther forwards than the crico arytænoideus lateralis.

Use. To pull the arytenoid cartilage forwards nearer to the middle of the thyroid, and consequently to shorten and relax the ligament of the larynx or glottis vera.

4. ARYTÆNOIDEUS OBLIQUUS.

Arises from the base of one arytenoid cartilage; and, crossing its fellow, is

Inserted near the tip of the other arytenoid cartilage.

Use. When both act, they pull the arytenoid cartilages towards each other.

N. B. Very often one of these is wanting.

Arytænoideus minor, Douglas.

The single muscle is the

ARYTÆNOIDEUS TRANSVERSUS,

Arises from the side of the one arytenoid cartilage, from near its articulation with the cricoid to near its tip. The fibres run straight across; and are

Inserted, in the same manner, into the other arytenoid cartilage.

Use. To shut the rima glottidis, by bringing

these two cartilages, with the ligaments, nearer one another.

Arytænoideus major, Douglas.

Besides these, there are a few disgregated muscular fibres on each side; which, from their general direction, are named,

1. THYREO-EPIGLOTTIDEUS,

Arises, by a few pale disgregated fibres, from the thyroid cartilage; and is

Inserted into the epiglottis laterally.

Use. To draw the epiglottis obliquely downwards, or, when both act, directly downwards; and, at the same time, it expands that soft cartilage.

2. ARYTÆNO-EPIGLOTTIDEUS,

Arises, by a number of small fibres, from the lateral and upper part of the arytænoid cartilage; and, running along the outer side of the external rima, is

Inserted into the epiglottis along with the former.

Use. To pull that side of the epiglottis towards the external rima; or, when both act, to pull it close upon the glottis. It is counteracted by the elasticity of the epiglottis.

CHAP. XV.

MUSCLES SITUATED ON THE ANTERIOR PART OF THE ABDOMEN.

They consist of three broad layers on each side of the belly; always a long one, and generally also a short one, on each side of the linea alba.

The three layers are,

1. OBLIQUUS DESCENDENS EXTERNUS,

Arises, by eight heads, from the lower edges of an equal number of inferior ribs, at a little distance from their cartilages: it always intermixes, in a serrated manner, with portions of the serratus major anticus; and generally coheres to the pectoralis major, intercostals, and latissimus dorsi; which last covers the edge of a portion of it extended from the last rib to the spine of the os ilium. From these origins, the fibres run down obliquely forwards, and terminate in a thin broad tendon, whose fibres are continued in the same direction.

Inserted into the whole length of the *linea alba*,*

* The *linea alba* is formed by the tendinous fibres of the two oblique and transverse muscles, interlaced with those of the opposite side, the whole way from the cartilage ensiformis to the os pubis; so that some think they should be called three digastric muscles, with a broad middle tendon and two fleshy bellies.

becomes thicker towards the lower part of the abdomen, and is perforated in the middle by the umbilicus.* On the outside of the rectus muscle, the tendon of the external oblique appears whiter than elsewhere, by its being there connected with the tendons of the internal oblique and transverse muscles; so that this part has been called *Linea semilunaris*, from its curved shape. The under part of the tendon divides into two columns, which leaves an oval space between them, named the *ring* of the external oblique muscle, for the passage of the spermatic cord in the male, or round ligament of the womb: the anterior superior column passes over the cartilage between the ossa pubis, and is fixed to the opposite os pubis; the other is fixed to the os pubis of the same side. It is also inserted, tendinous and fleshy, into the middle of the spine of the ilium.

From that part, which is named its *anterior superior spinous process*, it is stretched tendinous to the os pubis, and is named *Poupart's* or *Fallopius's ligament*.† From this ligament, it sends

* The *umbilicus* was originally the passage for the vessels that connected the fœtus to the secundines; and is really a hole through the teguments and tendons filled only by a cellular substance, and covered within by the peritoneum.

† *Poupart's*, or *Fallopius's ligament*, is the inferior part of the tendon of the external oblique, extending from the anterior superior spinous process of the ilium to the os pubis, where it is thickest, in

a tendinous layer, which is lost in the membranous fascia of the thigh.

Use. Supports and compresses the peritoneum and abdomen; assists the evacuations of fæces and urine, and likewise in the exclusion of the fœtus; thrusts the diaphragm upwards, and draws down the ribs in expiration; bends the body obliquely when the ribs are fixed, and raises the pelvis obliquely.

Obliquus externus abdominis, Albinus.

Obliquus descendens, Douglas.

2. OBLIQUUS ASCENDENS INTERNUS,

Arises from the spine of the ilium, the whole length between the posterior and superior an-

order to strengthen the inferior part of the abdomen: here it passes over the blood vessels of the inferior extremity: and in women, from the greater size of the pelvis, is longer and looser, by which they are more subject to crural herniæ; but, by the size of the spermatic cord, men are more liable to the inguinal.

This ligament splits into three fasciæ, two superior and one inferior. The first passes behind the transversalis muscle, and has been called by Mr. Astley Cooper, the fascia transversalis; the second, which has been described by Gembernot, passes upon the iliacus internus muscle; and the third, forming, is the anterior part of the fascia lata of the thigh. Through the fascia transversalis passes the spermatic cord from the abdomen, the cord being united to the edge of the aperture, by a thinner fascia than that of the transversalis. Thus, then, the cord passes through the fascia transversalis and through the ring of the external oblique muscle.

terior spinous process; from the os sacrum and the three undermost lumbar vertebræ, by a tendon common to it and to the serratus posticus inferior muscle; from Poupart's ligament, at the middle of which it sends off the beginning of the cremaster muscle; and the spermatic cord in the male, or round ligament of the womb passes under its thin edge, except a few detached fibres.

Inserted into the cartilage ensiformis, into the cartilages of the seventh and those of all the false ribs; but, at the upper part, it is extremely thin, resembling a cellular membrane, and only becomes fleshy at the cartilage of the tenth rib. Here its tendon divides into two layers;* the anterior layer, with a great portion of the inferior part of the posterior layer, joins the tendon of the external oblique, and runs over the rectus to be inserted into the whole length of the linea alba. The posterior layer joins the tendon of the transversalis muscle as

* To obtain a proper view of the two layers of the tendon of the internal oblique muscle, both the oblique muscles should be raised as far forwards as their joining near the linea semilunaris; then the tendon before the rectus must be cut parallel to the linea alba, and turned outwards as far as the outer edge of the rectus; by which the whole of the rectus is brought into view, and the tendons are preserved. But Douglas directs to cut the posterior layer of the internal oblique, where it joins with the transversalis: by this method the rectus is laid bare; but the structure of the tendinous sheath, which encloses it, is destroyed.

low as half-way between the umbilicus and os pubis; but, below this place, only a few fibres of the posterior layer are seen, and the rest of it passes before the rectus muscle, and is inserted into the linea alba; so that the whole tendon of the external oblique muscle, with the anterior layer of the internal oblique, passes before the rectus muscle; and the whole posterior layer of the internal oblique, together with the whole tendon of the transversalis muscle, excepting at the inferior part, pass behind the rectus, and are inserted into the linea alba. At its undermost part it is inserted into the linea part of the os pubis.

Use. To assist the former; but it bends the trunk in the reverse direction.

Obliquus internus abdominis, Albinus and Winslow.

Obliquus ascendens, Douglas.

3. TRANSVERSALIS,

Arises tendinous, but soon becoming fleshy from the inner or back part of the cartilages of the seven lower ribs, where some of its fibres are continued with those of the diaphragm and the intercostal muscles, by a broad thin tendon, connected to the transverse processes of the last vertebra of the back and the four superior vertebræ of the loins; fleshy, from the whole spine of the os ilium internally, and from the tendon of the external oblique muscle, where

it intermixes with some fibres of the internal oblique.

Inserted into the cartilago ensiformis, into the linea alba, and into the pubis.

Use. To support and compress the abdominal bowels; and it is so particularly well adapted for the latter purpose, that it might be called the *proper constrictor* of the abdomen.

Transversus abdominis, Albinus.

The long muscle in the middle is named,

RECTUS ABDOMINIS,

Arises, by two heads, from the ligament of the cartilage which joins the two ossa pubis to each other; runs upwards the whole length of, and parallel to, the linea alba, growing broader and thinner as it ascends.

Inserted into the cartilages of the three inferior true ribs, and often intermixes with some fibres of the pectoral muscle.

It is generally divided by three tendinous intersections; the first is at the umbilicus, the second where it runs over the cartilage of the seventh rib, the third in the middle between these; and there is commonly a half intersection below the umbilicus: these seldom penetrate through the whole thickness of the muscle; they adhere firmly to the anterior part of the sheath, but very slightly to the posterior layer.

Use. To compress the fore-part, but more

particularly the lower part of the belly; to bend the trunk forwards, or to raise 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.

A principal use of the tendinous intersections of this muscle is to prevent its fibres being separated by the pressure of the viscera.

The short muscle in the middle is named

PYRAMIDALIS,

Arises along with the rectus; and running upwards within the same sheath, is

Inserted, by an acute termination, near halfway between the os pubis and umbilicus, into the linea alba and inner edge of the rectus muscle.

As it is frequently wanting in both sides, without any inconvenience, its

Use seems to be, to assist the inferior part of the rectus.

CHAP. XVI.

MUSCLES ABOUT THE MALE ORGANS OF GENERATION.

THE *testicles* are said to have a thin muscle common to both, and have one proper to each.

The supposed common muscle is called the

DARTOS.

This appears commonly to be no more than a condensation of the cellular membrane lining the scrotum; yet the skin here is capable of being corrugated and relaxed in a greater degree than in other places, and in some subjects, muscular fibres can be seen.

The muscle proper to each testicle is the

CREMASTER,

Arises from the internal oblique, where a few fibres of that muscle intermix with the transversalis, near the junction of the os ilium and pubis, over which part it passes, after having pierced the ring of the external oblique; and then it descends upon the spermatic cord.

Inserted into the tunica vaginalis of the testicle, upon which it spreads, and is insensibly lost.

Use. To suspend and draw up the testicle, and to compress it in the act of coition.

The penis has three pair of muscles.

1. ERECTOR PENIS,

Arises, tendinous and fleshy, from the tuberosity of the os ischium, and runs upwards, embracing the whole crus of the penis.

Inserted into the strong tendinous membrane that covers the corpora cavernosa penis, near as far up as the union of these bodies.

Use. To compress the crus penis, by which the blood is pushed from it into the fore-part of the corpora cavernosa; and the penis is by that means more completely distended. The erectores seem likewise to keep the penis in its proper direction.

Ischio cavernosus, Winslow.

2. ACCELERATOR URINÆ SEU EJACULATOR SEMINIS,

Arises, fleshy, from the sphincter ani and membranous part of the urethra; and tendinous from the crus, near as far forwards as the beginning of the corpus cavernosum penis; the inferior fibres run more transversely, and the superior descend in an oblique direction.

Inserted into a line in the middle of the bulb, where it joins with its fellow, by which the bulb is completely enclosed.

Use. To drive the urine or semen forwards; and, by grasping the bulb of the urethra, to push the blood towards its corpus cavernosum and the glans, by which they are distended.

Bulbo-cavernosus, Winslow.

TRANSVERSUS PERINEI,

Arises from the tough fatty membrane that covers the tuberosity of the os ischium; from thence it runs transversely inwards, and is

Inserted into the accelerator urinæ, and into that part of the sphincter ani which covers the bulb.

Use. To dilate the bulb, and draw the perineum and verge of the anus a little outwards and backwards.

Transversalis urethræ, Winslow.

Transversus perinei, Albinus.

Levator parvus, seu *externus*, Douglas.

There is often a fourth muscle, named

TRANSVERSUS PERINEI ALTER,

Arises behind the former, runs more obliquely forwards, and is

Inserted into that part of the accelerator urinæ which covers the anterior part of the bulb of the urethra.

Use. To assist the former.

Inferior prostate, Winslow.

Transversus perinei alter, Albinus.

CHAP. XVII.

MUSCLES OF THE ANUS.

THE *anus* has a single muscle, and one pair.

The single muscle is

SPHINCTER ANI,

Arises from the skin and fat that surround the verge of the anus on both sides, near as far out as the tuber of the os ichium; the fibres are gradually collected into an oval form, and surround the extremity of the rectum.

Inserted, before, by a narrow point, into the perineum, acceleratores unrinæ, and transversi perinei; behind, by an acute termination, into the extremity of the os coccygis.

Use. 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.

Sphincter externus, Albinus and Douglas.

Sphincter cutaneus, Winslow.

N. B. The sphincter internus of Albinus and Douglas, is only that part of the circular fibres of the muscular coat of the rectum which surrounds its extremity.

LEVATOR ANI,

Arises from the os pubis within the pelvis, as far up as the upper edge of the foramen thyroideum and joining of the os pubis with the os ischium; from the thin tendinous membrane that covers the obturator internus and coccygeus muscles; from the spinous process of the os ischium; and its fibres run down like rays from a circumference to a centre.

Inserted into the sphincter ani, acceleratores urinæ, and anterior part of the two last bones of the coccygis; surrounds the extremity of the rectum, neck of the bladder, prostate gland, and part of the vesiculæ seminales; so that its fibres behind and below the os coccygis joining it with its fellow, they, together, very much resemble the shape of a funnel.

Use. To draw the rectum upwards after the evacuation of the fæces, and to assist in shutting it, to sustain the contents of the pelvis, and to help in ejecting the semen, urine, and contents of the rectum; and, perhaps, by pressing upon the veins, to contribute greatly to the erection of the penis.

CHAP. XVIII.

MUSCLES OF THE FEMALE ORGANS OF GENERATION.

The *clitoris* has one pair.

ERECTOR CLITORIDIS,

Arises from the crus of the os ischium internally, and in its ascent covers the crus of the clitoris as far up as the os pubis.

Inserted into the upper part of the crus and body of the clitoris.

Use. Draws the clitoris downwards and backwards; and may serve to make the body of the clitoris more tense, by squeezing the blood into it from its crus.

First muscle of the clitoris, Douglas.

The vagina has one pair.

SPHINCTER VAGINÆ,

Arises from the sphincter ani, and from the posterior side of the vagina, near the perineum; from thence it runs up the side of the vagina, near its external orifice, opposite to the nymphæ, and covers the corpus cavernosum vaginæ.

Inserted into the crus and body, or union of the crura clitoridis.

Use. Contracts the mouth of the vagina, and compresses its corpus cavernosum.

Constrictor cunni, Albinus.

Second muscle of the clitoris, Douglas.

The perineum has one pair.

TRANSVERSUS PERINEI,

Arises, as in the male, from the fatty cellular membrane which covers the tuberosity of the os ischium.

Inserted into the upper part of the sphincter ani, and into a white, hardish, tough substance in the perineum, between the lower part of the pudendum and anus.

Use. To sustain and keep the perineum in its proper place.

The anus, as in the male, has a single muscle, and one pair.

SPHINCTER ANI,

Arises, as in the male, from the skin and fat surrounding the extremity of the rectum.

Inserted, above, into the white tough substance of the perineum; and, below, into the point of the os coccygis.

Use. To shut the passage into the rectum; and, by pulling down the perineum, to assist in contracting the mouth of the vagina.

Arises, as in the male, within the pelvis, and descends along the inferior part of the vagina and rectum.

Inserted into the perineum, sphincter ani, extremity of the vagina, and rectum.

Use. To raise the extremity of the rectum upwards, to contract the inferior part of the rectum, and to assist in contracting and supporting the vagina; and, perhaps, by pressing on the veins, to contribute to the distention of the cells of the clitoris and corpus cavernosum of the vagina.

CHAP. XIX.

MUSCLES SITUATED WITHIN THE PELVIS.

Of these there are two pair.

1. OBTURATOR INTERNUS,

Arises from more than one half of the internal circumference of the foramen thyroideum, formed by the os pubis and ischium; its inside is covered by a portion of the levator ani; and appears to be divided into a number of fasciculi, which unite and form a roundish tendon, that passes out of the pelvis, between the posterior sacro-ischiatic ligament and tuberosity of the os ischium, where it passes over the capsular ligament of the thigh bone: it is enclosed, as in a sheath, by the gemini muscles.

Inserted, by a round tendon, into the large fossa at the root of the trochanter major.

Use. To roll the os femoris obliquely outwards.

Marsupialis, seu *Obturator internus*, Douglas.

N. B. The insertion of this muscle should not be prosecuted, until the muscles of the thigh, to which it belongs, are dissected. *Vid.* Chap. xxix.

2. COCCYGEUS.

Arises, tendinous and fleshy, from the spinous process of the os ischium, and covers the inside of the posterior sacro-ischiatic ligament; from this narrow beginning, it gradually increases, to form a thin fleshy belly, interspersed with tendinous fibres.

Inserted into the extremity of the os sacrum, and near the whole length of the os coccygis laterally.

Use. To support and move the os coccygis forwards, and to tie it more firmly to the sacrum.

CHAP. XX.

MUSCLES SITUATED WITHIN THE CAVITY OF THE ABDOMEN.

These consist of a single muscle, and four pair.

DIAPHRAGMA.

This broad thin muscle, which makes a complete septum between the thorax and abdomen, is concave below and convex above; the middle of it on each side reaching as high within the thorax of the skeleton as the fourth rib, and is commonly divided into two portions.

1. The Superior or Greater Muscle of the

DIAPHRAGM,

Arises, by distinct fleshy fibres, from the cartilago ensiformis, from the cartilages of the seventh, and of all the inferior ribs on both sides. The fibres from the cartilago ensiformis, and from the seventh and eight ribs, run obliquely upwards and backwards; from the ninth and tenth, transversely inwards and upwards; and from the eleventh and twelfth, obliquely upwards. From these different origins the fibres run, like radii from the circumference to the centre of a circle; and are

Inserted into a cordiform tendon, of a considerable breadth, which is situated in the middle of the diaphragm; and in which, therefore, the fibres from opposite sides are interlaced. Towards the right side the tendon is perforated by a triangular hole, for the passage of the vena cava inferior; and to the upper convex part of it the pericardium and mediastinum are connected.

2. The Inferior, Lesser Muscle, or Appendix of the DIAPHRAGM,

Arises from the second, third, and fourth lumbar vetebræ, by eight heads; of which two in the middle, commonly called its *crura*, are the longest, and begin tendinous. Between the crura, the aorta and thoracic duct pass; and on the outside of these, the great sympathetic nerves and branches of the vena azygos perforate the shorter heads. The muscular fibres run obliquely upwards and forwards, and form in the middle two fleshy columns, which decussate and leave an oval space between them for the passage of the œsophagus and eighth pair of nerves.

Inserted, by strong fleshy fibres, into the posterior part of the middle tendon.

Use. The diaphragm is the principal agent in respiration, particularly in inspiration; for when it is in action, the fibres, from their different attachments, endeavour to bring themselves into a plane 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 inside 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 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 pectoral muscles, the serrati antici majores, the serrati postici superiores, and scaleni muscles, are brought into action. And in laborious inspiration, the muscles which arise from the upper part of the thorax, 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 it upwards, they also, together with the sterno costales and serrati postici inferiores, 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, sacrolumbales, and longissimi dorsi, concur in pulling down the ribs.

The four pair are,

1. QUADRATUS LUMBORUM,

Arises, pretty broad, tendinous and fleshy, from the posterior part of the spine of the os ilium.

Inserted into the transverse processes of the vertebræ of the loins, into the last rib near the spine, and by a small tendon into the side of the last vertebra of the back.

Use. To move the loins to one side, pull down the last rib, and, when both act, to bend the loins forwards.

Quadratus, seu *Lumbaris externus*, Winslow.

2. PSOAS PARVUS,

Arises, fleshy, from the sides of the two upper vertebræ of the loins, and sends off a small long tendon which ends thin and flat, and is

Inserted into the brim of the pelvis, at the junction of the os ilium and pubis.

Use. To assist the psoas magnus in bending the loins forwards; and, in certain positions, to assist in raising the pelvis.

N. B. This muscle is very often wanted.

3. PSOAS MAGNUS,

Arises, fleshy, from the side of the body, and transverse process of the last vertebræ of the back; and, in the same manner, from all those of the loins, by as many distinct slips.

Inserted, tendinous, into the trochanter minor of the os femoris; and fleshy into that bone, a little below the same trochanter.

Use. To bend the thigh forwards; or, when the inferior extremity is fixed, to assist in bending the body.

Psoas, seu *Lumbaris internus*, Winslow.

4. ILIACUS INTERNUS,

Arises, fleshy, from the transverse process of the last vertebra of the loins, from all the inner lip of the spine of the os ilium, from the edge of that bone between its anterior superior spinous process and the acetabulum, and from most of the hollow part of the ilium. It joins with the psoas magnus, where it begins to become tendinous; and is

Inserted along with it.

Use. To assist the psoas in bending the thigh, and to bring it directly forwards.

N. B. The insertion of the two last muscles should not be prosecuted till the muscles of the thigh are dissected.

CHAP. XXI.

MUSCLES SITUATED ON THE ANTERIOR PART OF THE THORAX.

THESE may be divided into two layers. The first layer consists of one muscle, named

PECTORALIS MAJOR,

Arises from the cartilaginous extremity of the fifth and sixth ribs, where it always intermixes with the external oblique muscle of the abdomen; from almost the whole length of the sternum, and from near half of the anterior part of the clavicle: The fibres run towards the axilla in a folding manner.

Inserted, by two broad tendons, which cross each other at the upper and inner part of the os homeri, above the insertion of the deltoid muscle, and outer side of the groove for lodging the tendon of the long head of the biceps.

Use. To move the arm forwards and obliquely upwards, towards the sternum.

Pectoralis, Albinus.

The second layer consists of three muscles;

1. SUBCLAVIUS,

Arises, tendinous, from the cartilage that joins the first rib to the sternum.

Inserted, after becoming fleshy, into the inferior part of the clavicle, which it occupies from within an inch or so of the sternum, as far outwards as to its connection, by ligament, with the coracoid process of the scapula.

Use. To pull the clavicle downwards and forwards.

2. PECTORALIS MINOR,

Arises, tendinous and fleshy, from the upper edge of the third, fourth and fifth ribs, near where they join with their cartilages.

Inserted, tendinous, into the coracoid process of the scapula; but soon grows fleshy and broad.

Use. To bring the scapula forwards and downwards, or to raise the ribs upwards.

Serratus anticus, Albinus.

Serratus minor anticus, Douglas.

3. SERRATUS MAGNUS,

Arises from the nine superior ribs, by an equal number of fleshy digitations, resembling the teeth of a saw.

Inserted, fleshy, into the whole base of the scapula internally, between the insertion of the

rhomboid and the origin of the subscapularis muscles, being folded about the two angles of the scapula.

Use. To move the scapula forwards; and, when the scapula is forcibly raised, to draw upwards the ribs.

Serratus major anticus, Douglas.

CHAP. XXII.

MUSCLES STIUATED BETWEEN THE RIBS, AND WITHIN THE THORAX.

Between the ribs, on each side, there are eleven double rows of muscles, which are therefore named *intercostals*. These decussate each other like the strokes of the letter X.

Arise from the inferior acute edges of each superior rib, and run obliquely forwards, the whole length from the spine to near the joining of the ribs with their cartilages; from which, to the sternum, there is only a thin membrane covering the internal intercostals.

Inserted into the upper obtuse edge of each inferior rib, as far back as the spine, into which the posterior portion is fixed.

INTERCOSTALES INTERNI,

Arise in the same manner as the external; but they begin at the sternum, and run obliquely backwards, as far as the angle of the rib; and from that to the spine they are wanting.

Inserted in the same manner as the external.

Use. By means of these muscles, the ribs are equally raised upwards during inspiration. Their fibres being oblique, give them a greater power of bringing the ribs near each other, than

could be performed by straight ones. But, by the obliquity of the fibres, they are almost brought contiguous; and, as the fixed points of the ribs are before and behind, if the external had been continued forwards to the sternum, and the internal backwards to the spine, it would have hindered their motion, which is greatest in the middle, though the obliquity of the ribs renders it less perceptible; and, instead of raising the fibres fixed to the sternum and spine, would have depressed the ribs.

N. B. The portions of the external intercostals which arise from the transverse processes of the vertebræ, where the ribs are fixed to them, and other portions that pass over one rib and terminate in the next below it, Albinus calls *Levatores costarum longiores et breviores.*

The portions of the internal that pass over one rib, and are inserted into the next below it, Douglas calls *Costarum depressores proprii Conperii.*

Supra-costales, and *Infra-costales*, Winslow.

The muscles within the thorax are one pair, viz.

TRIANGULARIS, OR STERNO COSTALIS,

Arises, fleshy and a little tendinous, from all the length of the cartilago ensiformis laterally, and from the edge of the lower half of the middle bone of the sternum, from whence its fibres ascend obliquely upwards and outwards.

Inserted, generally by three triangular terminations, into the lower edge of the cartilages of the third, fourth and fifth ribs, near where these join with the ribs.

Use. To depress these cartilages, and the extremities of the ribs; and consequently to assist in contracting the cavity of the thorax.

This muscle often varies; and is sometimes inserted into the cartilage of the second rib, sometimes into the cartilage of the sixth rib.

CHAP. XXIII.

MUSCLES SITUATED ON THE ANTERIOR PART OF THE NECK CLOSE TO THE VERTEBRÆ.

THESE consist of one layer, formed by four muscles.

1. LONGUS COLLI.

Arises, tendinous and fleshy, from the bodies of the three superior vertebræ of the back laterally; and from the transverse processes of the third, fourth, fifth, and sixth vertebræ of the neck, near their roots.

Inserted into the fore part of the bodies of all the vertebræ of the neck, by as many small tendons, which are covered with flesh.

Use. To bend the neck gradually forwards, and to one side.

2. RECTUS CAPITIS INTERNUS MAJOR,

Arises, from the anterior points of the transverse processes of the third, fourth, fifth, and sixth vertebræ of the neck, by four distinct beginnings.

Inserted into the cuneiform process of the os occipitis, a little before the condyloid process.

Use. To bend the head forwards.

Rectus anterior longus, Winslow.

3. RECTUS CAPITIS INTERNUS MINOR.

Arises, fleshy, from the fore-part of the body, of the first vertebra of the neck, opposite to the superior oblique process.

Inserted near the root of the condyloid process of the os occipitis, under, and a little farther outwards than the former muscle.

Use. To nod the head forwards.

Rectus anterior brevis, Winslow.

4. RECTUS CAPITIS LATERALIS,

Arises, fleshy, from the anterior part of the point of the transverse process of the first vertebra of the neck.

Inserted into the os occipitis, opposite to the foramen stylo-mastoideum of the temporal bone.

Use. To bend the head a little to one side.

Transversalis anticus primus, Winslow.

On the side of the neck,

1. SCALENUS ANTICUS,

Arises, from the fourth, fifth, and sixth transverse processes of the first vertebra of the neck, by as many tendons.

Inserted, tendinous and fleshy, into the upper side of the first rib, near its cartilage.

Scalenus prior, Albinus.

Anterior portion of the first scalenus, Winslow.

First scalenus, Douglas.

2. SCALENUS MEDIUS,

Arises, from all the transverse processes of the vertebræ ef the neck by as many strong tendons; the nerves to the superior extremity pass between it and the former.

Inserted into the upper and outer part of the first rib, from its root, to within the distance of an inch from its cartilage.

Posterior portion of the first scalenus, Winslow.

Second scalenus, Douglas.

3. SCALENUS POSTICUS,

Arises from the fifth and sixth transverse processes of the vertebræ of the neck.

Inserted into the upper edge of the second rib, not far from the spine.

Posterior portion of the second scalenus, Winslow.

Third scalenus, Douglas.

Use of the three scaleni: to bend the neck to one side; or, when the neck is fixed, to elevate the ribs, and to dilate the thorax.

CHAP. XXIV.

MUSCLES SITUATED ON THE POSTERIOR PART OF THE TRUNK.

THE following muscles are described as they appear on dissection.

1. TRAPEZIUS, SEU CUCULARIS,

Arises, by a strong round tendon, from the lower part of the protuberance in the middle of the os occipitis behind; and, by a thin membranous tendon, which covers part of the splenius and complexus muscles, from the rough curved line that extends from the protuberance towards the mastoid process of the temporal bone; runs down along the nape of the neck, where it seems to arise from its fellow, and covers the spinous processes of the superior vertebræ of the neck; but arises from the spinous processes of the two inferior, and from the spinous processes of all the vertebræ of the back; adhering, tendinous, to its fellow, the whole length of its origin.

Inserted, fleshy, into the posterior half of the clavicle; tendinous and fleshy, into the acromion, and into almost all the spine of the scapula.

Use. Moves the scapula according to the three different directions of its fibres; for the upper descending fibres draw it obliquely upwards, the

middle transverse straight fibres draw it directly backwards, and the inferior ascending fibres draw it obliquely downwards and backwards.

N. B. Where it is inseparably united to its fellow in the nape of the neck, it is named *Ligamentum Nuchæ*, or *Colli*.

2. LATISSIMUS DORSI,

Arises, by a broad thin tendon, from the posterior part of the spine of the os ilium, from all the spinous processes of the os sacrum and vertebræ of the loins, and from the seven inferior ones of the vertebræ of the back; also, tendinous and fleshy, from the extremities of the three or four inferior ribs, a little beyond their cartilages, by as many distinct slips. The inferior fibres ascend obliquely, and the superior run transversely, over the inferior angle of the scapula, towards the axilla, where they are all collected, twisted, and folded.

Inserted, by a strong thin tendon, into the inner edge of the groove for lodging the tendon of the long head of the biceps.

Use. To pull the arm backwards and downwards, and to roll the os humeri.

N. B. The insertion of this muscle should not be prosecuted till the muscles of the os humeri, to which it belongs, is dissected.

3. SERRATUS POSTICUS INFERIOR,

Arises, by a broad thin tendon, in common with that of the latissimus dorsi, from the spinal

processes of the two inferior vertebræ of the back, and from the three superior of the loins.

Inserted into the lower edges of the four inferior ribs, at a little distance from their cartilages, by as many distinct fleshy slips.

Use. To depress the ribs into which it is inserted

4. RHOMBOIDEUS.

This muscle is divided into two portions.

1. *Rhomboideus major*, *arises*, tendinous, from the spinous processes of the five superior vertebræ of the back.

Inserted into all the basis of the scapula below its spine.

Use. To draw the scapula obliquely upwards and directly inwards.

2. *Rhomboideus minor*, *arises*, tendinous, from the spinous processes of the three inferior vertebræ of the neck, and from the ligamentum nuchæ.

Inserted into the base of the scapula, opposite to its spine.

Use. To assist the former.

5. SERRATUS SUPERIOR POSTICUS,

Arises, by a broad thin tendon, from the spinous processes of the three last vertebræ of the neck, and the two uppermost of the back.

Inserted into the second, third, fourth and fifth ribs, by as many fleshy slips.

Use. To elevate the ribs, and dilate the thorax.

6. LEVATOR SCAPULÆ,

Arises, tendinous and fleshy, from the transverse processes of the five superior vertebræ of the neck, by as many distinct slips, which soon unite to form a muscle that runs downwards and outwards.

Inserted, fleshy, into the superior angle of the scapula.

Use. To pull the scapula upwards, and a little forwards.

Angularis, vulgo *Levator proprius*, Winslow.

Elevator, seu *Musculus patientiæ*, Douglas.

On the neck,

1. SPLENIUS,

Arises, tendinous, from the four superior spinous processes of the vertebræ of the back; tendinous and fleshy, from the five inferior of the neck, and adheres firmly to the ligamentum nuchæ. At the third vertebra of the neck, the splenii recede from each other, so that part of the complexus muscle is seen.

Inserted, by as many tendons, into the five superior transverse processes of the vertebræ of the neck; and tendinous and fleshy, into the posterior part of the mastoid process, and into the os occipitis, where it joins with the root of that process.

Use. To bring the head and upper vertebræ of the neck backwards laterally; and when both act, to pull the head directly backwards.

N. B. Albinus divides this muscle into two; viz. That portion which arises from the five inferior spinous processes of the neck, and is inserted into the mastoid process and os occipitis, he calls *Splenius Capitis;* and that portion which arises from the third and fourth of the back, and is inserted into the five superior transverse processes of the neck, is called by him, *Splenius Colli.*

2. COMPLEXUS,

Arises from the transverse processes of the seven superior vertebræ of the back, and four inferior of the neck, by as many distinct tendinous origins; in its ascent it receives a fleshy slip from the spinous process of the first vertebra of the back: from these different origins it runs upwards, and is every where intermixed with tendinous fibres.

Inserted, tendinous and fleshy, into the inferior edge of the protuberance in the middle of the os occipitis, and into a part of the curved line that runs forwards from that protuberance.

Use. To draw the head backwards, and to one side; and, when both act, to draw the head directly backwards.

N. B. The long portion of this muscle, that is situated next the spinous processes, lies more loose, and has a roundish tendon in the middle of it; for which reason Albinus calls it *Biventer cervicis.*

3. TRACHELO-MASTOIDEUS,

Arises from the transverse processes of the three uppermost vertebræ of the back, and from the five lowermost of the neck, where it is connected to the transversalis cervicis, by as many thin tendons, which unite into a belly, and run up under the splenius.

Inserted into the middle of the posterior side of the mastoid process, by a thin tendon.

Use. To assist the complexus; but it pulls the head more to a side.

Complexus minor, seu *Mastoideus lateralis*, Winslow.

Trachelo-mastoideus, seu *Capitis par tertium Fallopii*, Douglas.

4. TRANSVERSALIS COLLI,

Arises from the transverse processes of the five uppermost vertebræ of the back, by as many tendinous and fleshy origins; runs between the trachelo-mastoideus and splenius colli and cervicalis descendens.

Inserted into the transverse processes of all the cervical vertebræ, except the first and the last.

Use. To turn the neck obliquely backward, and a little to one side.

5. RECTUS CAPITIS POSTICUS MAJOR,

Arises, fleshy, from the external part of the spinous process of the second vertebra of the

neck; and grows broader in its ascent, which is not straight, but obliquely outwards.

Inserted, tendinous and fleshy, into the os occipitis, near the rectus capitis lateralis, and the insertion of the obliquus capitis superior.

Use. To pull the head backwards, and to assist a little in its rotation.

Rectus major, Winslow and Douglas.

6. RECTUS CAPITIS POSTICUS MINOR,

Arises, by a narrow beginning, close by its fellow, from a little protuberance in the middle of the back part of the first vertebra of the neck, its outer edge being covered by the rectus major.

Inserted, pretty broad, into the sides of a dimple in the occipitis, near its foramen magnum.

Use. To assist the rectus major in moving the head backwards.

Obliquus minor, Winslow and Douglas.

7. OBLIQUUS CAPITIS SUPERIOR,

Arises from the transverse process of the first vertebra of the neck.

Inserted, tendinous and fleshy, into the os occipitis behind the back part of the mastoid process of the temporal bone, and under the insertion of the complexus muscle.

Use. To draw the head backward.

Obliquus major, Winslow.

Obliquus superior, Douglas.

8. OBLIQUUS CAPITIS INFERIOR,

Arises, fleshy, from the spinous process of the second vertebra of the neck, its whole length; and, forming a thick fleshy belly, is

Inserted into the transverse process of the first vertebra of the neck.

Use. To give a rotatory motion to the head.

On the back, near to the spine,

1. SACRO-LUMBALIS,

Arises in common with the longissimus dorsi.

Inserted into all the ribs, where they begin to be curved forwards, by as many long and thin tendons; and,

From the upper part of the six or eight lower ribs, arise as many bundles of thin fleshy fibres, which soon terminate in the inner-side of this muscle, and are named *Musculi ad Sacrolumbalem Accessorii.*

Use. To pull the ribs down, and assist to erect the trunk of the body.

N. B. There is a fleshy slip which runs from the upper part of this muscle into the fourth, fifth, and sixth transverse processes of the vertebræ of the neck, by three distinct tendons; it is named *Cervicalis Descendens;* and its *use* is to turn the neck obliquely backwards, and to one side.

2. LONGISSIMUS DORSI,

Arises, tendinous without, and fleshy within, from the side, and all the spinous processes of the os sacrum; from the posterior spine of the os ilium; from all the spinous processes; and from the roots of the transverse processes of the vertebræ of the loins.

Inserted into all the transverse processes of the vertebræ of the back, chiefly by small double tendons; also, by a tendinous and fleshy slip, into the lower edge of all the ribs, except the two inferior, at a little distance from their tubercles.

Use. To extend the vertebræ, and to raise and keep the trunk of the body erect.

N. B. From the upper part of this muscle there runs up a round fleshy portion which joins with the cervicalis descendens.

3. SPINALIS DORSI,

Arises from the spinous processes of the two uppermost vertebræ of the loins, and the three inferior of the back, by as many tendons.

Inserted into the spinous processes of the nine uppermost vertebræ of the back, except the first, by as many tendons.

Use. To erect and fix the vertebræ, and to assist in raising the spine.

4. SEMI-SPINALIS DORSI,

Arises, from the transverse processes of the seventh, eighth, ninth and tenth vertebræ of the back, by as many distinct tendons, which soon grow fleshy, and then become tendinous again; and are

Inserted into the spinous processes of all the vertebræ of the back above the eighth, and into the two lowermost of the neck, by as many tendons.

Use. To extend the spine obliquely backwards.

Semi-spinalis externus, seu *Transverso-spinalis dorsi*, Winslow.

On the neck,

1. SEMI-SPINALIS COLLI,

Arises, from the transverse processes of the uppermost six vertebræ of the back, by as many distinct tendons, ascending obliquely under the complexus.

Inserted into the spinous processes of all the vertebræ of the neck, except the first and the last.

Use. To extend the neck obliquely backwards.

Semi-spinalis, sive *Transverso-spinalis colli*, Winslow.

2. MULTIFIDUS SPINÆ,

Arises, from the side and spinous processes of the os sacrum, and from the posterior part of

the os ilium, where it joins with the sacrum; from all the oblique and transverse processes of the vertebræ of the loins; from all the transverse processes of the vertebræ of the back, and from those of the neck, except the three first, by as many distinct tendons, which soon grow fleshy, run in an oblique direction, and are

Inserted, by distinct tendons, into all the spinous processes of the vertebræ of the loins, of the back and of the neck, except the first.

Use. When the different portions of this muscle act on one side, they extend the back obliquely, or move it laterally; but if they act together on both sides, they extend the vertebræ backwards.

Transverso-spinalis lumborum, veterib. Sacer.

Semi-spinalis, internus sive *Transverso-spinalis dorsi.*

Semi-spinalis, sive *Transverso-spinalis colli, Pars interna*, Winslow.

Transversalis lumborum, vulgo *Sacer.*

Transversalis dorsi.

Transversalis colli, Douglas.

There are a number of small muscles situated between the spinous and transverse processes of contiguous vertebræ, which are accordingly named,

1. INTERSPINALES COLLI.

The space between the spinous processes of the vertebræ of the neck, most of which are bifurcated, is filled up with fleshy portions; which

Arise, double, from the spinous process of the inferior vertebræ of the neck; and ascend to be

Inserted, in the same manner, into the spinous process of the superior vertebræ. They are five in number.

Use. To draw these processes nearer to each other.

2. INTERTRANSVERSALES COLLI.

They begin from the transverse process of the first vertebra of the back, and fill up the spaces between the transverse processes of the vertebræ of the neck, which are likewise bifurcated; and, consequently, there are six distinct double muscles, which

Arise from the inferior transverse process of each vertebra of the neck, and first of the back, and are

Inserted into the superior transverse processes.

Use. To draw these processes towards each other, and turn the neck a little to one side.

3, 4, 5. INTERSPINALES DORSI ET LUMBORUM, AND THE INTERTRANSVERSALES DORSI,

Are rather small tendons than muscles, serving to connect the spinal and transverse processes.

6. INTERTRANSVERSALES LUMBORUM,

Are four distinct small bundles of flesh which fill up the spaces between the transverse processes of the vertebræ of the loins, and serve to draw them towards each other.

CHAP. XXV.

MUSCLES OF THE SUPERIOR EXTREMITIES.

THESE may be divided into the muscles that are situated on the scapula, on the os humeri, on the cubit or fore arm, and on the hand.

Muscles situated on the scapula.

These are called *muscles* of the *os humeri ;* and are three behind, one along its inferior costa, two before, and one beneath it.

Behind,

1. SUPRASPINATUS,

Arises, fleshy, from all that part of the base of the scapula that is above its spine ; also from the spine and superior costa ; passes under the acromion, and adheres to the capsular ligment of the os humeri.

Inserted, tendinous, into that part of the large protuberance on the head of the os humeri that is next the groove for lodging the tendon of the long head of the biceps.

Use. To raise the arm upwards.

2. INFRASPINATUS,

Arises, fleshy, from all that part of the base of the scapula that is between its spine and inferior angle; from the spine, as far as the cervix of the scapula. The fibres ascend and descend

obliquely towards a tendon in the middle of the muscle, which runs forwards, and adheres to the capsular ligament.

Inserted, by a thick and short tendon, into the upper and middle part of the large protuberance on the head of the os humeri.

Use. To roll the humerus outwards; to assist in raising, and in supporting it when raised.

N. B. These two museles are covered with a tendinous membrane, from which a number of their fleshy fibres arise. It serves besides to strengthen their actions, and keeps them from swelling too much outwardly when in action.

3. TERES MINOR,

Arises, fleshy, from all the round edge of the inferior costa of the scapula, and runs forwards along the inferior edge of the infraspinatus muscle, and adheres to the ligament.

Inserted, tendinous, into the back part of the large protuberance on the head of the os humeri, a little behind and below the termination of the last-named muscle.

Use. To roll the humerus outwards, and to draw the humerus backwards.

Along the inferior costa of the scapula,

TERES MAJOR,

Arises, fleshy, from the inferior angle of the scapula, and from all that portion of its inferior

costa that is rough and thicker than the rest; its fleshy fibres are continued over part of the infraspinatus muscle, to which they firmly adhere.

Inserted, by a broad, short, and thin tendon, into the ridge at the inner side of the groove for lodging the tendon of the long head of the biceps, along with the latissimus dorsi.

Use. To roll the humerus inwards, and to draw it backwards and downwards.

The two before the scapula,

1. DELTOIDES.

Arises, fleshy, from all the posterior part of the clavicle that the pectoralis major does not possess: tendinous and fleshy, from the acromion, and lower margin of almost the whole spine of the scapula opposite to the insertion of the cucularis muscle; from these origins, it runs in three different directions, *i. e.* from the clavicle outwards and downwards; from the spine of the scapula outwards, forwards, and downwards; and from the acromion straight downwards; and is composed of a number of fasciculi, which form a strong fleshy muscle that covers the anterior part of the joint of the os humeri.

Inserted, tendinous, into a rough protuberance in the outer side of the os humeri, near its middle, where the fibres of this muscle intermix with some part of the brachialis externus.

Use. To pull the arm directly outwards and

upwards, and a little forwards or backwards, according to the different directions of its fibres.

2. CORACO BRACHIALIS,

Arises, tendinous and fleshy, from the forepart of the coracoid process of the scapula; adhering, in its descent, to the short head of the biceps.

Inserted tendinous and fleshy, about the middle of the internal part of the os humeri, near the origin of the third head of the triceps, called *brachialis externus*, where it sends down a thin tendinous expansion to the internal condyle of the os humeri.

Use. To raise the arm upwards and forwards.

N. B. There passes a nerve through this muscle, called *Musculo-cutaneus*.

The one beneath the scapula,

SUBSCAPULARIS,

Arises, fleshy, from all the base of the scapula internally, and from its superior and inferior costæ, being composed of a number of tendinous and fleshy fasciculi, which make prints on the bone; they all join together, fill up the hollow of the scapula, and pass over the joint, adhering to the capsular ligament.

Inserted, tendinous, into the upper part of the internal protuberance at the head of the os humeri.

Use. To roll the humerus inwards, and to draw it to the side of the body.

CHAP. XXVI.

MUSCLES SITUATED ON THE OS HUMERI.

THESE are called

Muscles of the *Cubit* or *Fore-arm.*

They consist of two before, and two behind.

Before,

1. BICEPS FLEXOR CUBITI,

Arises, by two heads. The first and outermost, called *longus*, begins tendinous from the upper edge of the glenoid cavity of the scapula; passes over the head of the os humeri within the joint; and, in its descent without the joint, is enclosed in a groove near the head of the os humeri, by a membranous ligament that proceeds from the capsular ligament and adjacent tendons. The second, or innermost head, called *brevis*, arises, tendinous and fleshy, from the coracoid process of the scapula, in common with the coraco brachialis muscle. A little below the middle of the fore part of the os humeri, these heads unite.

Inserted, by a strong roundish tendon, into the tubercle on the upper end of the radius internally.

Use. To turn the hand supine, and to bend the fore arm.

N. B. At the bending of the elbow, where it begins to grow tendinous, it sends off an aponeurosis, which covers all the muscles on the inside of the fore-arm, and joins with another tendinous membrane, which is sent off from the triceps extensor cubiti, and covers all the muscles on the outside of the fore-arm; and a number of the fibres, from opposite fibres, decussate each other. It serves to strengthen the muscles, by keeping them from swelling too much outwardly, when in action; and a number of their fleshy fibres take their origin from it.

Biceps brachii, Albinus.

Coraco-radialis, seu *biceps*, Winslow.

Biceps internus, Douglas.

2. BRACHIALIS INTERNUS,

Arises, fleshy, from the middle of the os humeri, at each side of the insertion of the deltoid muscle, covering all the inferior and fore-part of this bone, runs over the joint, and adheres firmly to the ligament.

Inserted, by a strong short tendon, into the coronoid process of the ulna.

Use. To bend the fore-arm.

Brachialis, Winslow.

Behind,

1. TRICEPS EXTENSOR CUBITI,

Arises, by three heads; the first caleld *longus*, pretty broad and tendinous, from the inferior costa of the scapula, near its cervix. The se-

cond head, called *brevis*, arises by an acute, tendinous, and fleshy beginning, from the back part of the os humeri, a little below its head, outwardly. The third, called *brachialis externus*, arises by an acute beginning, from the back part of the os humeri. These three heads unite lower than the insertion of the teres major, and cover the whole posterior part of the humerus, from which they receive addition in their descent.

Inserted into the upper and external part of the process of the ulna, called *olecranon*, and partly into the condyles of the os humeri, adhering firmly to the ligament.

Use. To extend the fore-arm.

Anconeus major, *Anconeus externus*, and *Anconeus internus*, Winslow.

Biceps externus, and *Brachialis externus*, Douglas.

3. ANCONEUS,

Arises, tendinous, from the posterior part of the external condyle of the os humeri ; it soon grows fleshy, and is continued from the third head of the triceps.

Inserted, fleshy and thin, into a ridge on the outer and posterior edge of the ulna, being continued some way below the olecranon, and covered with a tendinous membrane.

Use. To assist in extending the fore-arm.

Anconeus minor, Winslow.

Anconeus vel *Cubitalis Riolani*, Douglas.

CHAP. XXVII.

MUSCLES SITUATED ON THE CUBIT OR FORE-ARM.*

THESE may be divided into three classes: *first*, flexors and extensors of the whole *hand*; *second*, flexors and extensors of the *fingers*; and, *third*, supinators and pronators, or those that roll the *radius on the ulna*.

First class consists of three flexors, and three extensors.

Flexors:

1. PALMARIS LONGUS,

Arises, tendinous, from the internal condyle of the os humeri, soon grows fleshy, and, after a short progress, sends off a long slender tendon.

Inserted into the ligamentum carpi annulare, and into a tendinous membrane that is expanded

* In the following description, the arm is supposed to hang by the side, with the palm turned forwards; so that the radius and thumb are upon its outer side, and the ulna and little finger upon its inner side; whereas, when the muscles are described in the less straining posture of pronation, as has been generally done by authors, the utmost confusion is necessarily introduced in the application of the terms *outer* and *inner*, from the decussation of the radius and ulna.

on the palm of the hand, named *aponeurosis palmaris*; which, above, begins at the transverse or annular ligament of the wrist, and, below, is fixed to the roots of the fingers.

Use. To bend the hand, and to stretch the membrane that is expanded on the palm.

Ulnaris gracilis, Winslow.

N. B. This muscle is sometimes wanting; bu the aponeurosis palmaris is always to be found.

2. FLEXOR CARPI RADIALIS,

Arises, tendinous and fleshy, from the internal condyle of the os humeri, and from the anterior part of the upper end of the ulna, where it firmly adheres to the pronator radii teres.

Inserted, by a flat tendon, into the fore and upper part of the metacarpal bone that sustains the fore-finger, after running through a fossa in the os trapezium.

Use. To bend the hand, and to assist in its pronation.

Radialis internus, Albinus and Winslow.

3. FLEXOR CARPI ULNARIS,

Arises, tendinous, from the internal condyle of the os humeri. It has likewise a small fleshy beginning from the outer side of the olecranon; between which and the condyle, the ulna nerve passes to the fore-arm; and a number of its fleshy fibres arise from the tendinous membrane which covers the fore-arm.

Inserted, by a short strong tendon, into the os pisiforme; at a little distance from its insertion, a small ligament is sent off to the metacarpal bone that sustains the little finger.

Use. To assist the former in bending the hand.

Ulnaris internus, Albinus and Winslow.

Extensors.

1. EXTENSOR CARPI RADIALIS LONGIOR,

Arises, broad, thin, and fleshy, immediately below the supinator radii longus, from the lower part of the external ridge of the os humeri, above its external condyle.

Inserted, by a round tendon, into the posterior and upper part of the metacarpal bone that sustains the fore-finger.

Use. To extend and bring the hand backwards.

Radialis externus longior, Albinus.

Radialis externus primus, Winslow.

2. EXTENSOR CARPI RADIALIS BREVIOR,

Arises, tendinous, from the external condyle of the os humeri, and from the ligament that connects the radius to it, and runs along the outside of the radius.

Inserted, by a round tendon, into the upper and back part of the metacarpal bone that sustains the middle finger.

Use. To assist the last-mentioned muscle.

Radialis externus brevior, Albinus.

Radialis secundus, Winslow.

3. EXTENSOR CARPI ULNARIS,

Arises, tendinous, from the external condyle of the os humeri; and, in its progress, fleshy from the middle of the ulna, where it passes over it. Its round tendon is enclosed by a membranous sheath, in a groove which is situated at the extremity of the ulna.

Inserted, by its round tendon, into the posterior and upper part of the metacarpal bone that sustains the little finger.

Use. To assist the former in extending the hand.

Ulnaris externus, Albinus and Winslow.

PALMARIS BREVIS,

Arises, from the ligamentum carpi annulare, and tendinous membrane that is expanded on the palm of the hand.

Inserted, by small bundles of fleshy fibres, into the skin and fat that covers the abductor minimi digiti, and into the os pisiforme.

Use. To assist in contracting the palm of the hand.

Palmaris cutaneus, Winslow.

Second Class.

The flexors and extensors of the four fingers are, two long, and one small flexor to each finger, and one extensor.

1. FLEXOR SUBLIMUS PERFORATUS,

Arises, tendinous and fleshy, from the internal condyle of the os humeri; tendinous from the coronoid process of the ulna, near the edge of the cavity that receives the head of the radius; fleshy from the tubercle of the radius; and membranous and fleshy from the middle of the forepart of the radius, where the flexor pollicis longus arises. Its fleshy belly sends off four round tendons before it passes under the ligament of the wrist.

Inserted into the anterior and upper part of the second bone of each finger, being, near the extremity of the first bone, divided for the passage of the perforans.

Use. To bend the second joint or phalanx of the fingers.

Sublimis, Albinus.

Perforatus, Douglas

2. FLEXOR PROFUNDUS PERFORANS,

Arises, fleshy, from the external side and upper part of the ulna, for some way downwards, and from a large share of the interosseous ligament. It splits into four tendons, a little before it passes under the ligamentum carpi annulare; and these pass through the slits in the tendons of the flexor sublimis.

Inserted into the fore and upper part of the third or last bone of all the four fingers.

Use. To bend the last joint of the finger.
Profundus, Albinus.
Perforans, Douglas.

The four small flexors are named

LUMBRICALES,

Arise, thin and fleshy, from the outside of the tendons of the flexor profundus, a little above the lower edge of the ligamentum carpi annulare.

Inserted, by long slender tendons, into the outer sides of the broad tendons of the interrossei muscles, about the middle of the first joint.

Use. To increase the flexion of the fingers while the long flexors are in full action.

Extensors :

EXTENSOR DIGITORUM COMMUNIS,

Arises, by an acute, tendinous and fleshy beginning, from the external condyle of the os humeri, where it adheres to the supinator radii brevis. Before it passes under the ligamentum carpi annulare externum, it splits into four tendons ; some of which may be divided into several smaller ; and about the fore part of the metacarpal bones they remit tendinous filaments to each other.

Inserted into the posterior part of all the bones of the four fingers, by a tendinous expansion.

Use. To extend all the joints of the fingers.

Third Class.

Consists of four muscles, viz. two *supinators*, and two *pronators*.

1. SUPINATOR RADII LONGUS,

Arises, by an acute and fleshy origin, from the external ridge of the os humeri, above the external condyle, near as far up as the middle of that bone.

Inserted into the outer side of the inferior extremity of the radius.

Use. To roll the radius outwards, and consequently the palm of the hand upwards.

Supinator longus, Albinus, Winslow, and Douglas.

2. SUPINATOR RADII BREVIS,

Arises, tendinous, from the external condyle of the os humeri; tendinous and fleshy, from the external and upper part of the ulna, and adheres firmly to the ligament that joins these two bones.

Inserted into the head, neck, and tubercle of the radius, near the insertion of the biceps, and ridge running from that downwards and outwards.

Use. To roll the radius outwards, and so bring the hand supine.

Pronators:

1. PRONATOR RADII TERES,

Arises, fleshy, from the internal condyle of the os humeri, and tendinous from the coronoid process of the ulna.

Inserted, thin, tendinous, and fleshy, into the middle of the posterior part of the radius.

Use. To roll the radius, together with the hand, inwards.

2. PRONATOR RADII QUADRATUS,

Arises, broad, tendinous, and fleshy, from the lower and inner part of the ulna; the fibres run transversely, to be inserted into the lower and anterior part of the radius, opposite its origin.

Use. To turn the radius, together with the hand, inwards.

CHAP. XXVIII.

MUSCLES SITUATED ON THE HAND CHIEFLY.

THESE may be divided into four classes, viz. muscles of the *thumb*, *fore finger*, *little finger*, and *metacarpal bones*.

Muscles of the Thumb.

These consist of *three flexors*, *three extensors*, *one abductor*, and *one adductor*.

Flexors:

1. FLEXOR LONGUS POLLICIS MANUS,

Arises, by an acute fleshy beginning, from the upper part of the radius, immediately below its tubercle, and is continued down for some space on the fore part of this bone. It has likewise generally another origin from the internal condyle of the os humeri, which forms a distinct fleshy slip that terminates near the upper part of the origin from the radius.

Inserted into the last joint of the thumb after having passed its tendon under the ligament of the wrist.

Use. To bend the last joint of the thumb.

Flexor tertii internodii, Douglas.

2. FLEXOR BREVIS POLLICIS MANUS,

Arises, from the os trapezoides, magnum, and unciforme of the carpus, and is divided into two portions by the tendon of the flexor pollicis longus.

Inserted into the ossa sesamoidea and first bone of the thumb.

Use. To bend the first joint of the thumb.

Flexor secundi internodii, Douglas.

3. FLEXOR OSSIS METACARPI POLLICIS, OR OPPONENS POLLICIS,

Arises, fleshy, from the os trapezium and ligamentum carpi annulare, lying under the abductor pollicis.

Inserted, tendinous and fleshy, into the under and anterior part of the metacarpal bone of the thumb.

Use. To bring the thumb inwards, opposite to the other fingers.

Flexor primi internodii, Douglas.

Extensors:

1. EXTENSOR OSSIS METACARPI POLLICIS MANUS,

Arises, fleshy, from the middle and posterior part of the ulna, immediately below the inser-

tion of the anconæus muscle, from the posterior part of the middle of the radius, and from the interosseous ligament.

Inserted, generally by two tendons, into the os trapezium, and upper back part of the metacarpal bone of the thumb, and often joins with the abductor pollicis.

Use. To extend the metacarpal bone of the thumb outwardly.

Abductor longus pollicis manus, Albinus.
Extensor primi internodii, Douglas.

2. EXTENSOR PRIMI INTERNODII,

Arises, fleshy, from the posterior part of the ulna near the former muscle, and from the interosseous ligament.

Inserted, tendinous, into the posterior part of the first bone of the thumb; and part of it may be traced as far as the second bone.

Use. To extend the first bone of the thumb obliquely outwards.

Extensor minor pollicis manus, Albinus.
This and the preceding muscle is called
Extensor pollicis primus, Winslow
Extensor secundi internodii, Douglas.

3. EXTENSOR SECUNDI INTERNODII,

Arises, by an acute, tendinous, and fleshy beginning, from the middle back part of the ulna, and from the interosseous ligament; its tendon

runs through a small groove at the inner and back part of the lower end of the radius.

Inserted into the last bone of the thumb.

Use. To extend the last joint of the thumb obliquely backwards.

Extensor major pollicis manus, Albinus.

Extensor pollicis secundus, Winslow.

Extensor tertii internodii, Douglas.

ABDUCTOR POLLICIS MANUS,

Arises, by a broad, tendinous and fleshy beginning, from the ligamentum carpi annulare, and from the os trapezium.

Inserted, tendinous, into the outer side of the root of the first bone of the thumb.

Use. To draw the thumb from the fingers.

N. B. Albinus names the inner portion of this muscle, *abductor brevis alter.*

Abductor, Thenar Riolani, Douglas.

ADDUCTOR POLLICIS MANUS,

Arises, fleshy, from almost the whole length of the metacarpal bone that sustains the middle finger; from thence its fibres are collected together.

nserted, tendinous, into the inner part of the root of the first bone.

Use. To pull the thumb towards the fingers.

Fore-finger,

INDICATOR,

Arises, by an acute fleshy beginning, from the middle of the posterior part of the ulna; its tendon passes under the same ligament with the extensor digitorum communis, with part of which it is

Inserted into the posterior part of the fore-finger.

Adductor ad minimum digitum, Douglas.

Extensor secundi internodii indicis proprius, vulgo *Indicator*, Douglas.

ABDUCTOR INDICIS MANUS,

Arises from the os trapezium, and from the superior part and inner side of the metacarpal bone of the thumb.

Inserted, by a short tendon, into the outer and back part of the first bone of the fore-finger.

Use. To bring the fore-finger towards the thumb.

Semi-interosseus, Winslow.

Little finger,

ABDUCTOR MINIMI DIGITI MANUS,

Arises, fleshy, from the os pisiforme, and from that part of the ligamentum carpi annulare next it.

Inserted, tendinous, into the inner side of the upper end of the first bone of the little finger.

Use. To draw this finger from the rest.

Hypothenar minor, Winslow.

Extensor tertii internodii minimi digiti, Douglas.

ADDUCTOR METACARPI MINIMI DIGITI MANUS,

Arises, fleshy, from the thin edge of the os unciforme, and from that part of the ligament of the wrist next it.

Inserted, tendinous, into the inner side and anterior part of the metacarpal bone of this finger.

Use. To bend and bring the metacarpal bone of this finger towards the rest.

Flexor primi internodii minimi digiti, Douglas.

Metacarpus, Winslow.

FLEXOR PARVUS MINIMI DIGITI,

Arises, fleshy, from the outer side of the os unciforme, and from the ligament of the wrist which joins with that bone.

Inserted, by a roundish tendon, into the inner and anterior part of the upper end of the first bone of this finger.

Use. To bend the little finger, and assist the adductor.

Abductor minimi digiti, *Hypothenar Riolani*, Douglas.

Between the metacarpal bones, there are *four internal* and *three external* muscles, named *interossei*.

Interossei interni:

1. PRIOR INDICIS,

Arises, tendinous and fleshy, from the upper and outer part of the metacarpal bone that sustains the fore finger.

Inserted into the outside of that part of the tendinous expansion from the extensor digitorum communis, which covers the posterior part of the fore finger.

Use. To draw the fore-finger inwards towards the thumb, and extend it obliquely.

Extensor tertii internodii indicis, Douglas.

2. POSTERIOR INDICIS,

Arises, tendinous and fleshy, from the root and inner part of the metacarpal bone that sustains the fore finger.

Inserted into the inner side of the tendinous expansion which is sent off from the extensor digitorum communis, along the posterior part of the fore finger.

Use. To extend the fore finger obliquely, and to draw it outwards.

First interosseus, Douglas.

3. PRIOR ANNULARIS,

Arises, from the root of the outside of the metacarpal bone that sustains the ring finger.

Inserted into the outside of the tendinous expansion of the extensor digitorum communis which covers the ring finger.

Use. To extend and pull the ring finger towards the thumb.

Fourth interosseus, Douglas.

4. INTEROSSEUS AURICULARIS,

Arises, from the root and outer side of the metacarpal bone of the little finger; and is

Inserted into the outside of the tendinous expansion of the extensor digitorum communis, which covers the posterior part of the little finger.

Use. To extend and draw the little finger outwards.

Sixth interosseus, Douglas.

Interossei externi, seu bicipites:

1. PRIOR MEDII,

Arises, by two origins, from the roots of the metacarpal bones that sustain the fore and middle fingers externally, and next each other: runs along the outside of the middle finger; and, being conspicuous on both sides of the hand, is

Inserted into the outside of the tendinous expansion from the extensor digitorum communis, which covers the posterior part of the middle finger.

Use. To extend and draw the middle finger inwards.

Second interosseus, Douglas.

2. POSTERIOR MEDII,

Arises, by two origins, from the roots of the metacarpal bones, next each other, that sustain the middle and ring fingers.

Inserted into the inside of the tendinous expansion from the extensor digitorum communis, which runs along the posterior part of the middle finger.

Use. To extend and draw the middle finger outwards.

Third interosseus, Douglas.

3. POSTERIOR ANNULARIS,

Arises, by two origins, from the roots of the metacarpal bones that sustain the ring and little fingers next each other.

Inserted into the inside of the tendinous expansion of the extensor digitorum communis, which runs along the posterior part of the ring finger.

Use. To extend and draw the ring finger inwards.

Fifth interosseus, Douglas.

N. B. The internal interossei are only conspicuous on the palm of the hand; but the external are apparent on both the palm and back of the hand.

CHAP. XXIX.

MUSCLES OF THE INFERIOR EXTREMITIES.

THESE may be divided into the muscles *situated* on the *outside* of the *pelvis*, on the *thigh*, on the *leg*, and on the *foot*.

Muscles on the outside of the *pelvis*, which are called *muscles of the thigh*.

These are composed of *one layer before* and *three layers behind*.

The layer before consists of five muscles.

1. PSOAS MAGNUS.
2. ILIACUS INTERNUS.

} These were formerly described.

Vid. p. 65, 66.

3. PECTINALIS,

Arises, broad and fleshy, from the upper and anterior part of the os pubis or pectinis, immediately above the foramen thyroideum.

Inserted into the anterior and upper part of the linea aspera of the os femoris, a little below the trochanter minor, by a flat and short tendon.

Use. To bring the thigh upwards and inwards, and to give it a degree of rotation outwards.

Pectineus, Albinus.

4. TRICEPS ADDUCTOR FEMORIS.

Under this appellation are comprehended three distinct muscles,

1. ADDUCTOR LONGUS FEMORIS,

Arises, by a pretty strong roundish tendon, from the upper and anterior part of the os pubis, and ligament of its synchondrosis, on the inner-side of the pectinalis.

Inserted, tendinous, near the middle of the posterior part of the linea aspera, being continued for some way down.

Adductor femoris primus, Douglas.

Triceps minus, Winslow.

2. ADDUCTOR BREVIS FEMORIS,

Arises, tendinous, from the os pubis near its joining with the opposite os pubis below and behind the former.

Inserted, tendinous and fleshy, into the inner and upper part of the linea aspera, from a little below the trochanter minor, to the beginning of the insertion of the adductor longus.

Adductor femoris secundus, Douglas.

Triceps secundus, Winslow.

3. ADDUCTOR MAGNUS FEMORIS,

Arises, a little lower down than the former, near the symphysis of the ossa pubis: tendinous

and fleshy, from the tuberosity of the os ischium; the fibres run outwards and downwards.

Inserted into almost the whole length of the linea aspera; into a ridge above the internal condyle of the os femoris; and, by a roundish long tendon, into the upper part of that condyle, a little above which the femoral artery takes a spiral turn towards the ham, passing between this muscle and the bone.

Use of these three muscles or triceps. To bring the thigh inwards and upwards, according to the different directions of their fibres; and, in some degree, to roll the thigh outwards.

Adductor femoris tertius, and

Adductor femoris quartus, Douglas.

Triceps tertius, Winslow.

5. OBTURATOR EXTERNUS,

Arises, fleshy, from the lower fore part of the os pubis, and fore part of the inner crus of the ischium; surrounds the foramen thyroideum; a number of its fibres, arising from the membrane which fills up that foramen, are collected like rays towards a centre, and pass outwards around the root of the back part of the cervix of the os femoris.

Inserted, by a strong tendon, into the cavity at the inner and back part of the root of the trochanter major, adhering in its course to the capsular ligament of the thigh-bone.

Use. To roll the thigh-bone obliquely outwards.

Behind:

First Layer.

GLUTEUS MAXIMUS,

Arises, fleshy, from the posterior part of the spine of the os ilium, a little higher up than the joining of the ilium with the os sacrum, from the whole external side of the os sacrum, below the posterior spinous process of the os ilium; from the posterior sacro-ischiatic ligament, over which part of the inferior edge of this muscle hangs in a folded manner, from the os coccygis. All the fleshy fibres run obliquely forwards, and a little downwards, to form a thick broad muscle which is divided into a number of strong fasciculi. The upper part of it covers almost the whole of the trochanter major, between which and the tendon of this muscle there is a large bursa mucosa, and where it is inseparably joined to the broad tendon of the *tensor vaginæ femoris*.

Inserted, by a strong, thick, and broad tendon into the upper and outer part of the linea aspera, which is continued from the trochanter major, for some way downwards.

Use. To extend the thigh, by pulling it directly backwards, and a little outwards.

Gluteus magnus, Albinus.

Gluteus major, Cowper.

Second Layer.

GLUTEUS MEDIUS,

Arises, fleshy, from the anterior superior spinous process of the os ilium, and from all the outer edge of the spine of the ilium, except the posterior part, where it arises from the dorsum of that bone.

Inserted, by a broad tendon, into the outer and posterior part of the trochanter major.

Use. To draw the thigh-bone outwards, and a little backward; to roll the thigh-bone outwards, especially when it is bended.

N. B. The anterior and uper part of this muscle is covered by a tendinous membrane, from which a number of its fleshy fibres arise, and which joins with the broad tendons of the gluteus maximus, tensor vaginæ femoris, and latissimus dorsi.

Third Layer consists of four muscles.

1. GLUTEUS MINIMUS.

Arises, fleshy, from a ridge that is continued from the superior anterior spinous process of the os ilium, and from the middle of the dorsum of that bone, as far back as its great nitch.

Inserted, by a strong tendon, into the fore and upper part of the trochanter major.

Use. To assist the former in pulling the thigh outwards and backwards, and in rolling it.

Gluteus minor, Albinus.

2. PYRIFORMIS,

Arises, within the pelvis, by three tendinous and fleshy origins, from the second, third, and fourth pieces of the os sacrum; from thence growing gradully narrower, it passes out of the pelvis along with the posterior crural nerve, below the nitch in the posterior part of the os ilium, where it receives a few fleshy fibres.

Inserted, by a roundish tendon, into the upper part of the cavity at the inner side of the root of the trochanter major.

Use. To move the thigh a little upwards, and roll it outwards.

Pyriformis, seu *iliacus externus*, Douglas.

3. GEMINI,

Arise by two distinct origins; the superior from the spinous process, and the inferior from the tuberosity of the os ischium; also, from the posterior sacro-ischiatic ligament. They are both united by a tendinous and fleshy membrane, and form a purse for the tendon of the obturator internus muscle, which was formerly described.

Inserted, tendinous and fleshy, into the cavity at the inner side of the root of the trochanter major, on each side of the tendon of the obturator internus, to which they firmly adhere.

Use. To roll the thigh outwards, and to preserve the tendon of the obturator internus from being hurt by the hardness of that part of the

ischium over which it passes; also, to hinder it from starting out of its place, while the muscle is in action.

Gemelli, Winslow.

4. QUADRATUS FEMORIS,

Arises, tendinous and fleshy, from the outside of the tuberosity of the os ischium; and running transversely, is

Inserted, fleshy, into a rough ridge, continued from the root of the large trochanter to the root of the small one.

Use. To roll the thigh outwards.

CHAP. XXX.

MUSCLES SITUATED ON THE THIGH.

THESE are called *muscles* of the *leg*; and consist of *one* on the *outside*; *two* on the *inside*; *four before*; and *four behind*.

Previous to the description of the muscles that are situated on the thigh and leg, it is necessary to take notice of a broad tendinous fascia or sheath, which is sent off from the back and from the tendons of the glutei and adjacent muscles.

It is a strong thick membrane on the outside of the thigh and leg: but, towards the inside of both, it gradually turns thinner, and has rather the appearance of cellular substance, than a tendinous membrane. A little below the trochanter major, it is firmly fixed to the linea aspera; and, farther down, to that part of the head of the tibia that is next the fibula; where it sends off the tendinous expansion along the outside of the leg.

It serves to strengthen the action of the muscles by keeping them firm in their proper places while in action, particularly the tendons that pass over the joints, where this membrane is thickest, and it gives origin to a number of the fleshy fibres of the muscles.

Outside:

TENSOR VAGINÆ FEMORIS,

Arises, by a narrow, tendinous, and fleshy beginning from the external part of the anterior superior spinous process of the os ilium.

Inserted, a little below the trochanter major, into the inner side of the membranous fascia, which covers the outside of the thigh.

Use. To stretch the membranous fascia, to assist in the abduction of the thigh, and somewhat in its rotation inwards.

Musculus aponeurosis, vel *Fasciæ latæ*, Winslow.

Inside:

1. SARTORIUS,

Arises, tendinous, from the anterior superior spinous process of the os ilium, soon grows fleshy, runs down for some space upon the rectus, and going obliquely inwards, it passes over the vastus internus, and about the middle of the os femoris, over part of the triceps, it runs down further between the tendon of the adductor magnus, and that of the gracilis muscle.

Inserted, by a broad and thin tendon, into the inner side of the tibia, near the inferior part of its tubercle.

Use. To bend the leg obliquely inwards, or to bring one leg across the other.

2. GRACILIS,

Arises, by a thin tendon, from the os pubis, near the symphysis of these two bones; soon grows fleshy; and, descending by the inside of the thigh, is

Inserted, tendinous, into the tibia under the sartorius.

Use. To assist the sartorius.

Gracilis internus, sive *Rectus internus*, Winslow.

Before:

1. RECTUS,

Arises, fleshy, from the inferior anterior spinous process of the os ilium, and tendinous from the dorsum of the ilium, a little above the acetabulum; runs down over the anterior part of the cervix of the os femoris, the fibres not being straight, but running down like the plumage of a feather obliquely outwards and inwards, from a tendon in the middle.

Inserted, tendinous, into the upper part of the patella, from which a thin tendon runs down, on the fore-part of this bone, to terminate in a thick strong ligament, which is sent off from the inferior part of the patella, and inserted into the tubercle of the tibia.

Use. To extend the leg, and, in a powerful manner, by the intervention of the patella, like a pulley.

Rectus, sive *Gracilis anterior*, Winslow.

2. VASTUS EXTERNUS,

Arises, broad, tendinous and fleshy, from the root of the trochanter major, and upper part of the linea aspera, its origin being continued from near the insertion of the gluteus minimus, the whole length of the linea aspera, by fleshy fibres which run obliquely forwards to a middle tendon, where they terminate.

Inserted into a large share of the upper part of the patella ; and part of it ends in an aponeurosis, which is continued down to the leg, and, in its passage, is firmly fixed to the head of the tibia.

Use. To extend the leg.

3. VASTUS INTERNUS,

Arises, tendinous and fleshy, from between the fore-part of the os femoris, and root of the trochanter minor, and from almost all the inside of the linea aspera, by fibres running obliquely forwards and downwards.

Inserted, tendinous, into the upper and inside of the patella, continuing fleshy lower than the vastus externus. Part of it likewise ends in an aponeurosis continued down to the leg, and fixed in its passage to the upper part of the tibia.

Use. To extend the leg.

4. CRURALIS,

Arises, fleshy, from between the two trochanters of the os femoris, but nearer the minor,

and firmly adhering to most of the fore-part of the os femoris, and connected to both vasti muscles.

Inserted, tendinous, into the upper part of the patella, behind the rectus.

Use. To assist in the extension of the leg.

Cruralis, Albinus.

N. B. These four muscles *before*, being inserted into the patella, have the same effect upon the leg, as if they were immediately inserted into it, by means of the strong tendon, or rather ligament, which is sent off from the inferior part of the patella to the tibia.

Behind:

1. SEMITENDINOSUS,

Arises, tendinous and fleshy, in common with the long head of the biceps, from the posterior part of the tuberosity of the os ischium; and sending down a long roundish tendon, which ends flat, is

Inserted into the inside of the ridge of the tibia, a little below its tubercle.

Use. To bend the leg backwards, and a little inwards.

Seminervosus, Winslow and Douglas.

2. SEMIMEMBRANOSUS,

Arises, tendinous, from the upper and posterior part of the tuberosity of the os ischium, sends down a broad flat tendon, which ends in a fleshy belly, and, in its descent, runs at first on the fore-

part of the biceps, and, lower, between it and the semitendinosus.

Inserted, tendinous, into the inner and back part of the head of the tibia.

Use. To bend the leg, and bring it directly backwards.

N. B. The two last form what is called the *inner ham-string*.

3. BICEPS FLEXOR CRURIS,

Arises, by two distinct heads. The first, called *longus*, arises, in common with the semitendinosus, from the upper and posterior part of the tuberosity of the os ischium. The second, called *brevis*, arises from the linea aspera, a little below the termination of the gluteus maximus, by a fleshy, acute beginning, which soon grows broader as it descends to join with the first head, a little above the external condyle of the os femoris.

Inserted, by a strong tendon, into the upper part of the head of the fibula.

Use. To bend the leg.

Biceps cruris, Albinus.

Biceps, Winslow and Douglas.

N. B. This muscle forms what is called the *outer ham-string*; and between it and the inner, the nervus popliteus, and arteria and vena poplitea are situated.

4. POPLITEUS,

Arises, by a round tendon, from the lower and back part of the external condyle of the os femoris; then runs over the ligament that involves the joint, firmly adhering to it, and part of the semilunar cartilage. As it runs over the joint, it becomes fleshy, and the fibres run obliquely inwards, being covered with a thin tendinous membrane.

Inserted, broad, thin, and fleshy, into a ridge at the upper and internal edge of the tibia, a little below its head.

Use. To assist in bending the leg; roll it inwards when bent, and prevent the capsular ligament from being pinched.

CHAP. XXXI.

MUSCLES SITUATED ON THE LEG.

THESE are called *Muscles* of the *Foot;* and may be divided into *two classes*, viz. *Extensors* and *Flexors* of the *Foot*. 2. *Common Extensors* and *Flexors* of the *Toes*.

First Class.

Extensors.

These consist of three:

1. GASTROCNEMIUS EXTERNUS, SEU GEMELLUS.

Arises by two distinct heads. The first head arises from the upper and back part of the internal condyle of the os femoris, and from that bone, a little above its condyle, by two distinct tendinous origins. The second head arises tendinous from the upper and back part of the external condyle of the os femoris. A little below the joint, their fleshy bellies unite in a middle tendon; and, below the middle of the tibia, it sends off a broad thin tendon, which joins a little above the extremity of the tibia with the tendon of the following.

2. SOLEUS, SEU GASTROCNEMIUS INTERNUS,

Arises by two origins. The first is from the upper and back part of the head of the fibula, continuing to receive many of its fleshy fibres from the posterior part of that bone for some space below its head. The other origin begins from the posterior and upper part of the middle of the tibia; and runs inwards along the inferior edge of the popliteus, towards the inner part of the tibia, from which it receives fleshy fibres for some way down. The flesh of this muscle, covered by the tendon of the gemellus, runs down near as far as the extremity of the tibia: a little above which the tendons, of both gastrocnemii unite, and form a strong round chord, which is called *tendo Achillis*.

Inserted into the upper and posterior part of the os calcis; by the projection of which the tendo Achillis is at a considerable distance from the tibia.

Use. To extend the foot, by raising the heel.

Gemellus and *Soleus*, Albinus.

Gastrocnemii and *Soleus*, Winslow.

Extensor tarsi suralis, vel *Extensor magnus*, Douglas.

3. PLANTARIS,

Arises, thin and fleshy, from the upper and back part of the root of the external condyle of the os femoris, near the inferior extremity of that bone, adhering to the ligament that involves the

joint in its descent. It passes along the second origin of the soleus, and under the gemellus, where it sends off a long, slender, thin tendon, which comes from between the great extensors, where they join tendons; then runs down by the inside of the tendo Achillis.

Inserted into the inside of the posterior part of the os calcis, below the tendo Achillis.

Use. To assist the former. It seems likewise to assist in rolling the foot inwards; and to pull the capular ligament from between the bones.

Tibialis gracilis, vulgo *Plantaris*, Winslow.

Extensor tarsi minor, vulgo *Plantaris*, Douglas.

N. B. This muscle, though seldom, has been found wanting on both sides.

Flexors:

These consist of four; two that belong to the tibia, and two to the fibula.

1. TIBIALIS ANTICUS,

Arises, tendinous and fleshy, from the middle of that process of the tibia, to which the fibula is connected above, then it runs down fleshy on the outside of the tibia; from which, and the upper part of the interosseus ligament, it receives a number of distinct fleshy fibres; near the extremity of the tibia, it sends off a strong round tendon, which passes under part of the ligamentum tarsi annulare near the malleolus internus.

Inserted, tendinous, into the inside of the os cuneiforme internum, and base of the metatarsal bone that sustains the great toe.

Use. To bend the foot, by drawing it upwards, and, at the same time, to turn the toes inwards.

2. TIBIALIS POSTICUS,

Arises, by a narrow fleshy beginning, from the fore and upper part of the tibia, just under the process which joins it to the fibula; then passing through a perforation in the upper part of the interosseus ligament, it continues its origin from the back part of the fibula next the tibia, and from near one half of the upper part of the last-named bone; as also, from the interosseus ligament, the fibres running towards a middle tendon, which sends off a round one that passes in a groove behind the malleolus internus.

Inserted, tendinous, into the upper and inner part of the os naviculare, being further continued to the os cuneiforme internum and medium; besides, it gives some tendinous filaments to the os calcis, os cuboides, and to the root of the metatarsal bone that sustains the middle toe.

Use. To extend the foot, turn the toes inwards, and the outer edge of the foot downwards.

3. PERONEUS LONGUS,

Arises, tendinous and fleshy, from the fore part of the head of the perone, or fibula, the fibres running straight down; also from the upper and external part of the fibula, where it

begins to rise into a round edge; as also, from the hollow between that and its anterior edge, as far down as to reach within a hand-breadth of the ankle, by a number of fleshy fibres, which run outwards towards a tendon, that sends off a long round one, which passes through a channel at the outer ankle, in the back part of the inferior extremity of the fibula; then, being reflected to the sinuosity of the os calcis, it runs along a groove in the os cuboides, above the muscles in the sole of the foot.

Inserted, tendinous, into the outside of the root of the metatarsal bone that sustains the great toe, and by some tendinous fibres in the os cuneiforme internum.

Use. To move the foot outwards, and to extend it a little.

Peroneus maximus, vulgo *Peroneus posterior*, Winslow.

Peroneus primus, seu *Posticus*, Douglas.

4. PERONEUS BREVIS,

Arises, by an acute fleshy beginning, from above the middle of the external part of the fibula; from the outer side of the anterior spine of this bone; as also, from its round edge externally, the fibres running obliquely outwards towards a tendon on its external side: it sends off a round tendon which passes through the groove at the outer ankle, being there included under the same ligament with that of the preceding muscle; and a little further, it runs through a particular one of its own.

Inserted, tendinous, into the root and external part of the metatarsal bone that sustains the little toe.

Use. To assist the former in pulling the foot outwards, and extending it a little.

Peroneus medius, vulgo *Peroneus anticus*, Winslow.

Peroneus secundus, seu *Anticus*, Douglas.

Second Class.

Common Extensors.

These consist of two:

1. EXTENSOR LONGUS DIGITORUM PEDIS,

Arises, tendinous and fleshy, from the upper and outer part of the head of the tibia, and from the head of the fibula where it joins with the tibia, and from the interosseus ligament; also from the tendinous fascia, which covers the upper and outside of the leg by a number of fleshy fibres; and tendinous and fleshy, from the anterior spine of the fibula, almost its whole length, where it is inseparable from the *peroneus tertius*. It splits into four round tendons, under the ligamentum tarsi annulare.

Inserted, by a flat tendon, into the root of the first joint of each of the four small toes, and is expanded over the upper side of the toes, as far as the root of the last joint.

Use. To extend all the joints of the four small toes.

Extensor longus, Douglas.

N. B. A portion of this muscle, which

Arises from the middle of the fibula, continues down to near its inferior extremity, and sends its fleshy fibres forwards to a tendon, which passes under the annular ligament, and is

Inserted into the root of the metatarsal bone that sustains the little toe: it is called by Albinus, *Peroneus tertius;* and by others, the *Nonus Vesalii.*

Use. To assist in bending the foot.

2. EXTENSOR BREVIS DIGITORUM PEDIS,

Arises, fleshy and tendinous, from the fore and upper part of the os calcis; and soon forms a fleshy belly, divisible into four portions, which sends off an equal number of tendons that pass over the upper part of the foot, under the tendons of the former.

Inserted, by four slender tendons, into the tendinous expansion from the extensor longus, which covers the small toes, except the little one; also into the tendinous expansion from the extensor pollicis, that covers the upper part of the great toe.

Use. To extend the toes.

Extensor brevis, Douglas.

Flexors.

These may be reckoned three.

1. FLEXOR BREVIS DIGITORUM PEDIS, PERFORATUS, OR SUBLIMIS,

Arises, by a narrow fleshy beginning, from the inferior and posterior part of a protuberance of the os calcis, between the abductors of the great and little toes; and soon forms a thick fleshy belly, which sends off four tendons that split for the passage of the flexor longus.

Inserted into the second phalanx of the four lesser toes. The tendon of the little toe is often wanting.

Use. To bend the second joint of the toes.

Perforatus, seu *Sublimis*, Douglas.

2. FLEXOR LONGUS DIGITORUM PEDIS, PROFUNDUS, OR PERFORANS,

Arises, by an acute tendon, which soon becomes fleshy, from the back part of the tibia, some way below its head, near the entry of the medullary artery; which beginning, is continued down the inner edge of this bone by short fleshy fibres, ending in its tendon; also, by tendinous and fleshy fibres, from the outer edge of the tibia: and between this double order of fibres the tibialis posticus muscle lies enclosed. Having passed under two annular ligaments, it then passes through a sinuosity at the inside of the os calcis; and, about the middle of the sole of the foot, divides into four tendons, which pass through the slits of the perforatus; and, just before its division, it receives a considerable tendon from that of the flexor pollicis longus.

Inserted into the base of the third phalanx of the four lesser toes.

Use. To bend the last joint of the toes.

This muscle is assisted by the

FLEXOR DIGITORUM ACCESSORIUS, SEU MASSA CARNEA JACOBI SYLVII,

Arises, by a thin fleshy origin, from most part of the sinuosity at the inside of the os calcis, which is continued forwards for some space on the same bone; also, by a thin tendinous beginning, from before the tuberosity of the os calcis externally; and, soon becoming all fleshy, is

Inserted into the tendon of the flexor longus, just at its division into four tendons.

Use. To assist the flexor longus.

3. LUMBRICALES PEDIS,

Arise, by four tendinous and fleshy beginnings, from the tendon of the flexor profundus, just before its division, near the insertion of the massa carnea.

Inserted, by four slender tendons, into the inside of the first joint of the four lesser toes, and are lost in the tendinous expansion that is sent from the extensors to cover the upper parr of the toes.

Use. To increase the flexion of the toes, and to draw them inwards.

CHAP. XXXII.

MUSCLES WHICH ARE CHIEFLY SITUATED ON THE FOOT.

THESE may be divided into the *muscles* of the *great toe*, of the *little toe*, and of the *metatarsal bones*.

Muscles of the great toe.

These are five:

1. EXTENSOR PROPRIUS POLLICIS PEDIS,

Arises, by an acute, tendinous, and fleshy beginning, some way below the head and anterior part of the fibula, along which it runs to near its lower extremity, connected to it by a number of fleshy fibres, which descend obliquely towards a tendon.

Inserted, tendinous, into the posterior part of the first and last joint of the great toe.

Use. To extend the great toe.

Extensor longus, Douglas.

2. FLEXOR LONGUS POLLICIS PEDIS,

Arises, by an acute, tendinous, and fleshy beginning, from the posterior part of the fibula, some way below its head, being continued down the same bone, almost to its inferior extremity,

by a double order of oblique fleshy fibres ; its tendon passes under an annular ligament at the inner ankle.

Inserted, into the last joint of the great toe and generally sends a small tendon to the os calcis.

Use. To bend the last joint of this toe.

Flexor Longus, Douglas.

3. FLEXOR BREVIS POLLICIS PEDIS,

Arises, tendinous, from the under and fore part of the os calcis, where it joins with the os cuboides from the os cuneiforme externum, and is inseparably united with the abduetor and adductor pollicis.

Inserted into the external os sesamoideum and root of the first joint of the great toe.

Use. To bend the first joint.

4. ABDUCTOR POLLICIS PEDIS,

Arises, fleshy, from the inside of the root of the protuberance of the os calcis, where it forms the heel ; and tendinous from the same bone, where it joins with the os naviculare.

Inserted, tendinous, into the internal os sesamoideum, and root of the first joint of the great toe.

Use. To pull the great toe from the rest.

Thenar, Winslow.

5. ADDUCTOR POLLICIS PEDIS,

Arises by a long thin tendon, from the os calcis, from the os cuboides, from the os cunei-

forme externum, and from the root of the metasal bone of the second toe.

Inserted into the external os sesamoideum and root of the metatarsal bone of the great toe.

Use. To bring this toe nearer the rest.

Antithenar, Winslow.

Muscles of the little toe.

These, besides the common extensors and flexors, are two, viz.

1. ABDUCTOR MINIMI DIGITI PEDIS,

Arises, tendinous and fleshy, from the semicircular edge of a cavity on the inferior part of the protuberance of the os calcis, and from the root of the metatarsal bone of the little toe.

Inserted into the root of the first joint of the little toe externally.

Use. To draw the little toe outwards from the rest.

Parathenar major, and *Matatarseus*, Winslow.

2. FLEXOR BREVIS MINIMI DIGITI PEDIS,

Arises, tendinous, from the os cuboides, near the sulcus or furrow for lodging the tendon of the peroneus longus; fleshy from the outside of the metatarsal bone that sustains this toe, below its protuberant part.

Inserted into the anterior extremity of the metetarsal bone, and root of the first joint of this toe.

Use. To bend this toe.

Parathenar minor, Winslow.

The muscle which brings the extremities of the metatarsal bones towards each other, is named

TRANSVERSALIS PEDIS,

Arises, tendinous, from the under part of the anterior extremity of the metatarsal bone of the great toe, and from the internal os sesamoideum of the first joint, adhering to the adductor pollicis.

Inserted, tendinous, into the under and outer part of the anterior extremity of the metatarsal bone of the little toe, and ligament of the next toe.

Use. To contract the foot, by bringing the great toe and the two outermost toes nearer each other.

N. B. The muscles situated on the sole of the foot are covered by a strong tendinous aponeurosis, which is extended from the os calcis to the first joints of all the toes, and serves to preserve the subjacent parts from being compressed in standing and walking.

Muscles from the metatarsal bones.

These are four external and three internal interossei, and one muscle which is common to all the metatarsal bones.

Interossei Pedis externi, Bicipites.

1. ABDUCTOR INDICIS PEDIS,

Arises, tendinous and fleshy, by two origins, from the root of the inside of the metatarsal

bone o the fore-toe, from the outside of the root of the metatarsal bone of the great-toe, and from the os cuneiforme internum.

Inserted, tendinous, into the inside of the root of the first joint of the fore-toe.

Use. To pull the fore-toe inwards from the rest of the small toes.

2. ADDUCTOR INDICIS PEDIS,

Arises, tendinous and fleshy, from the roots of the metatarsal bones of the fore and second toes.

Inserted, tendinous, into the outside of the root of the first joint of the fore-toe.

Use. To pull the fore-toe outwards towards the rest.

3. ADDUCTOR MEDII DIGITI PEDIS,

Arises, tendinous and fleshy, from the roots of the metatarsal bones of the second and third toes.

Inserted, tendinous, into the outside of the root of the first joint of the second toe.

Use. To pull the second toe outwards.

4. ADDUCTOR TERTII DIGITI PEDIS,

Arises, tendinous and fleshy, from the roots of the metatarsal bones of the third and little toes.

Inserted, tendinous, into the outside of the root of the first joint of the third toe.

Use. To pull the third toe outwards.

Interossei Pedis interni.

1. ABDUCTOR MEDII DIGITI PEDIS,

Arises, tendinous and fleshy, from the inside of the root of the metatarsal bone of the middle toe internally.

Inserted, tendinous, into the inside of the root of the first joint of the midlde toe.

Use. To pull the middle toe inwards.

2. ABDUCTOR TERTII DIGITI PEDIS,

Arises, tendinous and fleshy, from the inside and inferior part of the root of the metatarsal bone of the third toe.

Inserted, tendinous, into the inside of the root of the first joint of the third toe.

Use. To pull the third toe inwards.

3. ADDUCTOR MINIMI DIGITI PEDIS,

Arises, tendinous and fleshy, from the inside of the root of the metatarsal bone of the little toe.

Inserted, tendinous, into the inside of the root of the first joint of the little toe.

Use. To pull the little toe inwards.

INDEX.

A.

INDEX.

C

Plate 1.

Mogdridge Del.

P. Maverick & Durand Sc.

In this plate are exhibited the outermost of the muscles, as they are situated behind the common integuments, on the anterior part of the body.

PLATE I.

A. Platysma myoides.
B. Deltoides.
C. Biceps brachii.
D. Pronator radii teres.
E. Supinator radii longus.
F. Flexor carpi radialis.
G. Palmaris longus.
H. Flexor carpi ulnaris.
I. Pectoralis major.
K. Obliquus descendens externus.
L. Linea semilunaris.
M. Linea alba.
N. Poupart's or Fallopius's ligament.
O.O. Sartorius.
P. Tensor Vaginæ femoris.
Q. Gracilis.
R. Iliacus internus.
S. Pectinalis.
T. Triceps adductor femoris.
U. Psoas magnus.
V. Vastas externus.
W. Rectus.
X. Vastus internus.

Some of the external muscles contained in the first table being removed, the next order are brought into view in this plate.

PLATE II.

A. Sterno cleido mastoideus.
B. Sterno hyoideus.
C. Biceps brachii.
D. Flexor sublimis perforatus.
E. Pectoralis minor.
F. Serratus magnus.
G. Obliquus ascendens internus.
H. Pyramidalis.
I. Rectus abdominis.
K. Iliacus internus.
L. Psoas magnus.
M. Pectinalis.
N. Triceps adductor femoris.
O. Gracilis.
P. Vastus externus.
Q. Cruralis.
R. Vastus internus.
S. Ligamentum patella.

Plate 2.

Magotridge Del. *P. Maverick & Durand Sc.*

Plate 3.

Mogdridge Del.

P. Maverick & Durand Sc.

Most of the parts in the preceding plate being removed, the third order of muscles are exhibited in this plate.

PLATE III.

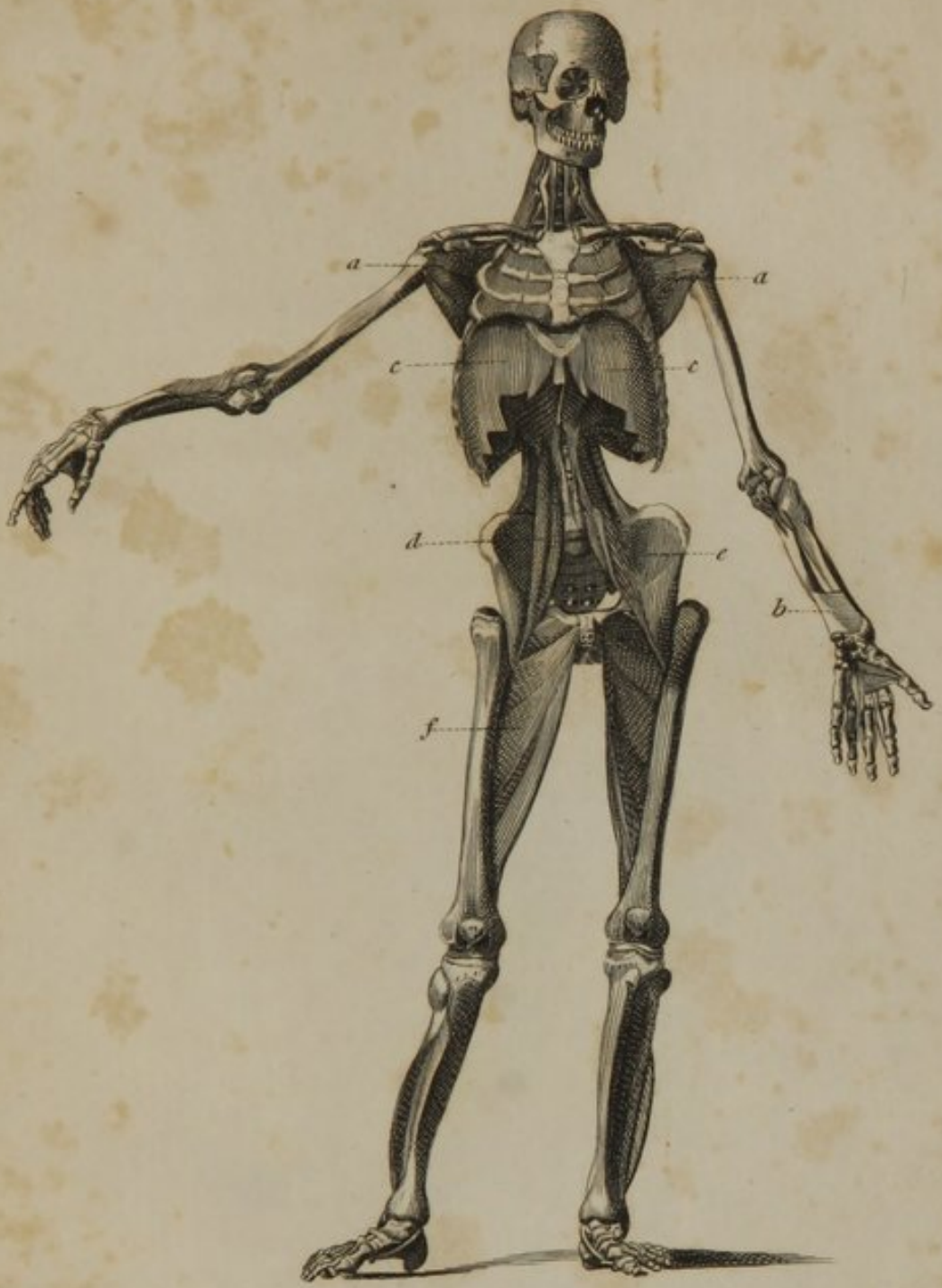
A. Thyroid cartilage.
B. Sterno thyroideus.
C. Coracho brachialis.
D. Brachialis internus.
E. Brachialis externus.
F. Transversus abdominis.
G. Posterior Lamellæ of the Aponeuroses of the internal oblique muscles, spread over the Aponeuroses of the transverse muscles.
H. Peritoneum.
I. Gluteus maximus.
K. Flexor profundus perforans.
L. Extensor carpi radialis longior.
M. Iliacus internus.
N. Triceps adductor femoris.
O. Gracilis.

The fourth order of muscles, with the bones and ligaments.

PLATE IV.

A. A. Subscapularis.
B. Pronator radii quadratus.
C. C. Diaphragma.
D. Psoas magnus.
E. Iliacus internus.
F. Triceps adductor femoris.

Plate 4.



Magdridge Del.

P. Maverick & Durand Sc.

Plate 5.

Meydridge Del.

T. Maverick & Durand Sc.

In this plate some of the external muscles on the back part of the body are exposed.

PLATE V.

A. A. Trapezius, seu cucularis.
B. Latissimus dorsi.
C. Deltoides.
D. Triceps extensor cubiti.
E. Gluteus maximus.
F. Biceps flexor cruris.
G. Semitendinosus.
H. Semimembranosus.
I. Gastrocnemius externus.

In this plate are expressed the second order of muscles on the back part of the body.

PLATE VI.

A. Levator scapulæ.
B. Supra spinatus.
C. Infra spinatus.
D. Rhomboideus minor.
E. Rhomboideus major.
F. Triceps extensor cubiti.
G. Serratus posticus inferior.
H. Gluteus medius.
I. Obliquus ascendens internus.
K. Biceps flexor cruris.
L. Semitendinosus.
M. Semimembranosus.
N. Plantaris.
O. Gastrocnemius internus.
P. Serratus superior posticus.

Plate 6

P. Maverick & Durand sc

Plate 7.

P. Maverick & Dunwud sc.

In this plate the third order of muscles on the back part of the body are brought into view.

PLATE VII.

A. Trachelo mastoideus.
B. Teres major.
C. Extensor carpi radialis longior.
D. Extensor carpi radiaiis brevior,
E. Sacro lumbalis.
F. Longissimus dorsi.
G. Transversus abdominis.
H. Gluteus minimus.
I. Trochanter major.
K. Obturator externus.
L. Obturator internus.
M. Semimembranosus.
N. Gracilis.
O. Popliteus.
P. Biceps flexor cruris brevis, or short head.

In this plate the innermost layer of muscles on the back part of the body, together with some of the bones and ligaments, are exposed.

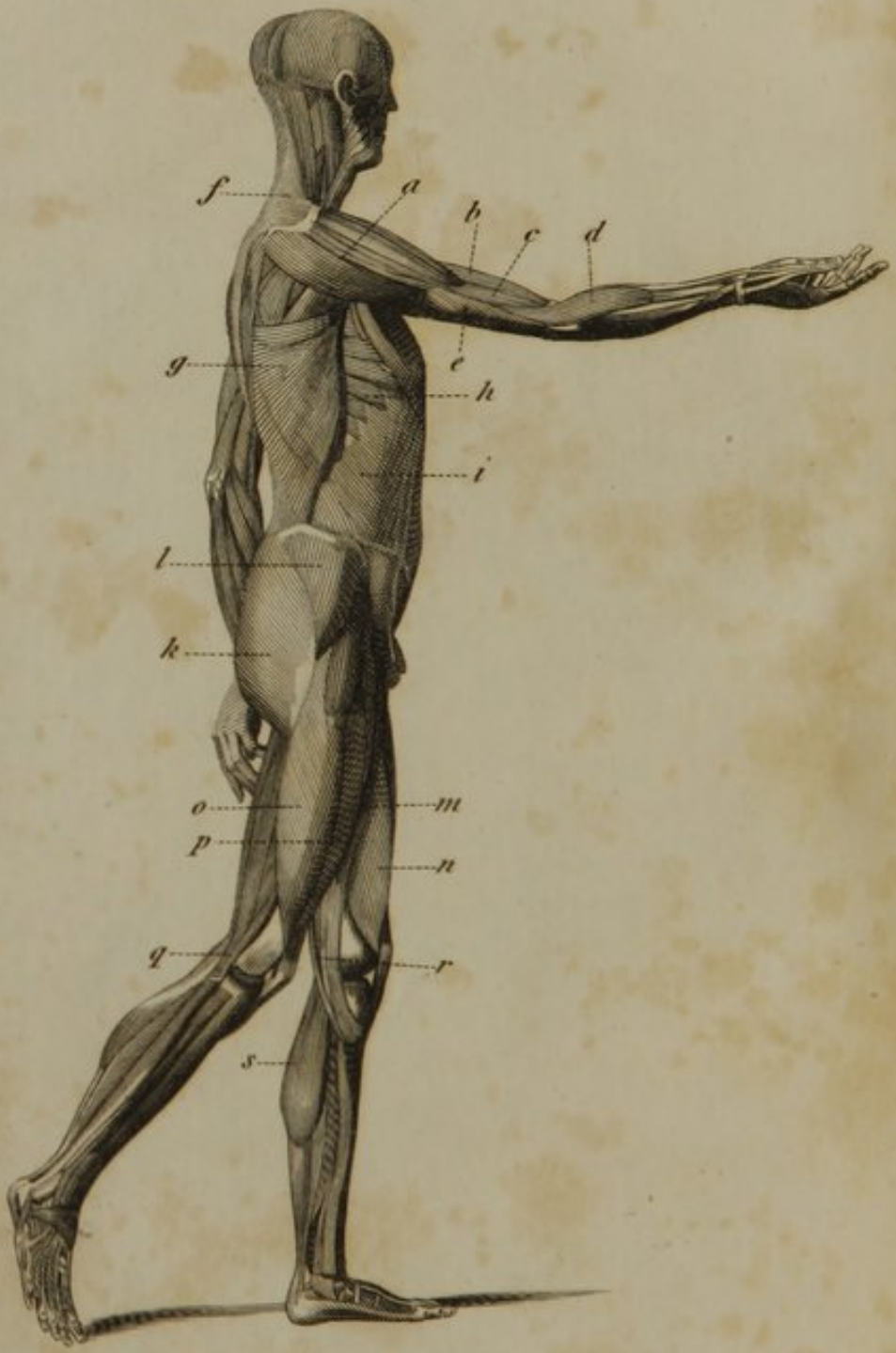
PLATE VIII.

A. Scaleni.
B. B. Spinæ multifidus.
C. Supinator radii brevis.
D. Obturator externus.
E. E. Tibialis posticus.
F. Peroneus brevis.
G. G. Ossa perietalia.
H. Os occipitis.
I. Clavicula,
K. Scapula.
L. Os humeri.
M. Ulna.
N. Radius.
O. Carpus.
P. Olecranon.
Q. Os ilium.
R. Os innominatum.
S. Trochanter major.
T. Ischium tuberosity.
U. Os femoris.
V. Os femoris condyles.
W. Semilunar cartilages.
X. Fibula.
Y. Tibia.
Z. Os calcis.
&. Tarsus.

Plate 8.

P. Maverick & Durand sc.

Plate 9.



P. Maverick & Durand sc.

In this plate is represented a side view of the external muscles.

PLATE IX.

A. Deltoides.
B. Biceps brachii.
C. Brachialis internus.
D. Supinator radii longus.
E. Triceps extensor cubiti.
F. Trapezius seu cucularis.
G. Latissimus dorsi.
H. Serratus magnus.
I. Obliquus descendens externus.
K. Gluteus maximus.
L. Gluteus medius.
M. Sartorius.
N. Vastus internus.
O. Vastus externus.
P. Rectus.
Q. Tendon of the biceps muscle, forming the outer ham-string.
R. Tendons of the semimembranosus, and semitendinosus muscles, forming the inner ham-string.
S. Gastrocnemius externus.

In this plate some of the external muscles on the face, hands, and feet, are exposed.

PLATE X.

FIG. I.

A. Occipito-frontalis.
B. Attolens aurem.
C. Anterior auris.
D. Orbicularis palpebrarum.
E. Compressor naris.
F. Levator anguli oris.
G. Levator labii superioris alæque nasi.
H. Zygomaticus major.
I. Zygomaticus minor.
K. Masseter.
L. Depressor anguli oris.
M. Sterno cleido mastoideus.
N. Platysma myoides.
O. Depressor labii inferioris.
P. Orbicularis oris.

FIG. II.

A. Supinator radii longus.
B. Flexor carpi radialis.
C. Palmaris longus.
D. Aponeurosis palmaris.
E. Abductor pollicis manus.
F. Palmaris brevis.
G. Flexor sublimis perforatus.

FIG. III.

A. Extensor digitorum communis.
B. Extensor carpi radialis longior.
C. Extensor carpii radialis brevior.
D. Abductor indicis manus.

FIG. IV.

A. Tibialis anticus.
B. Extensor longus digitorum pedis.
C. Extensor proprius pollicis pedis.

FIG. V.

A. Tibialis anticus.
B. Extensor proprius pollicis pedis.
C. Malleolus internus.

P. Maverick & Durand sc.

Plate 10.

F. 4.

F. 5.

F. 1.

F. 2.

F. 3.

P. Maverick & Durand sc.

Plate II.

F. 4.

F. 5.

F. 1.

F. 2.

P. Maverick & Durand sc.

In this plate the second order of the muscles on the face, hands and feet, are brought into view.

PLATE XI.

FIG. I.

A. Corrugator supercilii.
B. Temporalis.
C. Masseter.
D. Buccinator.
E. Orbicularis oris.
F. Depressor labii inferioris.
G. Lævator anguli oris.
H. Sterno cleido maistoideus.

FIG. II.

A. Flexor sublimus perforatus.
B. Lumbricales.
C. Flexor ossis metacarpi pollicis.
D. Abductor minimi digiti manus.
E. Flexor parvus minimi digiti.

FIG. III.

A. Extensor ossis metacarpi pollicis manus.
B. Extensor primi internodii.
C. Extensor secundi internodii.
D. Indicator.
E. Abductor indicis manus.

FIG. IV. AND V.

A.A. Extensor proprius pollicis pedis.
B.B. Extensor longus digitorum pedis.
C.C. Malleolus internus.

The third order of muscles on the face, hands and feet exposed.

PLATE XII.

FIG. I.

A. Orbicularis oris.
B. Buccinator.
C. Thyro-hyoideus.
D. Sterno-thyroideus.
E. Scalenus anticus.
F. Scalenus medius.
G. Thyroid cartilage.
H. Os hyoides.

FIG. II.

A. Adductor metacarpi minimi digiti manus.
B. Lumbricales.
C. Flexor brevis pollicis manus.

FIG. III.

A. Extensor carpi radialis.
B. Extensor carpi radialis longior.
C. Adductor pollicis manus.

FIG. IV. AND V.

A.A. Extensor brevis digitorum pedis.

Plate 12.

F. 4.

F. 5.

F. 1.

F. 2.

F. 3.

P. Maverick & Durand sc.

Plate 13.

F. 1.

F. 2.

F. 3.

P. Maverick & Durand sc.

In this plate the fourth order of muscles on the face and hands are exposed.

PLATE XIII.

FIG. I.

A. Levator oculi.
B. Adductor oculi.
C. Abductor oculi.
D. Depressor oculi.
E. Longus colli.

FIG. II.

A. Pronator radii quadratus.
B. Flexor brevis pollicis manus.

FIG. III.

A. Adductor pollicis manus.

In this plate some of the external muscles on the back part of the head, on the hands, and on the feet, are exposed.

PLATE XIV.

FIG. I.

A. Occipito frontalis.
B. Temporalis.
C. Trapezius seu cucularis.
D. Sterno cleido mastoideus.

FIG. II.

A. Extensor digitorum communis.

FIG. III.

A. Extensor ossis metacarpi pollicis manus.
B. Extensor primi internodii.
C. Extensor secundi internodii.
D. Extensor digitorum communis.

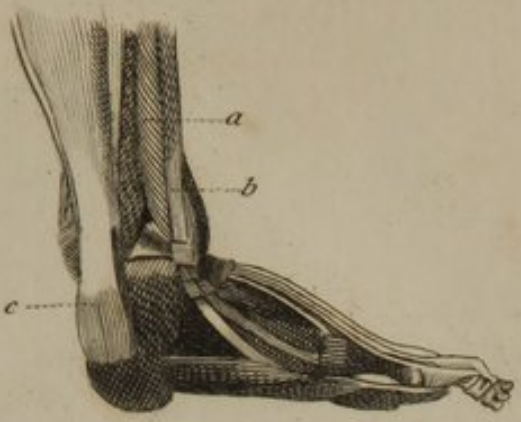
FIG. IV. AND V.

A.A. Peroneus brevis.
B.B. Peroneus longus.
C.C. Tendo achillis.

Plate 14.

F. 4.

F. 5.



F. 1.

F. 3.

a

F. 2.

Mogdridge Del.

P. Maverick & Durand Sc.

Plate 15.

F. 3.

F. 4.

F. 1.

F. 2.

Mogdridge Del.

P. Maverick & Durand Sc.

The second order of muscles on the back part of the neck, with some on the hands and feet, brought into view.

PLATE XV.

FIG. I.

A. Temporalis.
B. Complexus.
C. Splenius.

FIG. II.

A. Extensor primi internodii.
B. Extensor secundi internodii.
C. Indicator.

FIG. III. AND IV.

A.A. Gastrocnemius internus.
B.B. Gastrocnemius externus, part cut off.
C.C. Tendo achillis.

Magdridge Del. *P. Maverick & Durand Sc.*

In this plate some of the deep-seated muscles on the back part of the neck, on the hands, and on the feet, are exposed.

PLATE XVI.

FIG. I.

A. Complexus.
B. Trachelo-mastoideus.

FIG. II.

A. Extensor carpi radialis brevior.
B. Extensor carpi radialis longior.

FIG. III. AND IV.

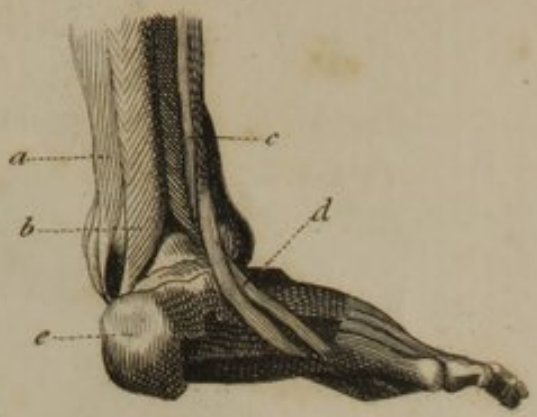
A.A. Flexor longus digitorum pedis, profundus perforans.
B.B. Flexor longus pollicis pedis.
C.C. Peroneus longus.
D.D. Peroneus brevis.
E.E. Os calcis.

Mogdridge Del. *P. Maverick & Durand Sc.*

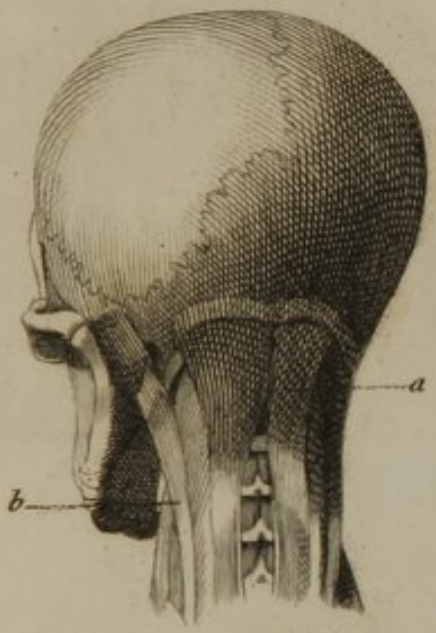
Plate 16.

F. 3.

F. 4.



F. 1.



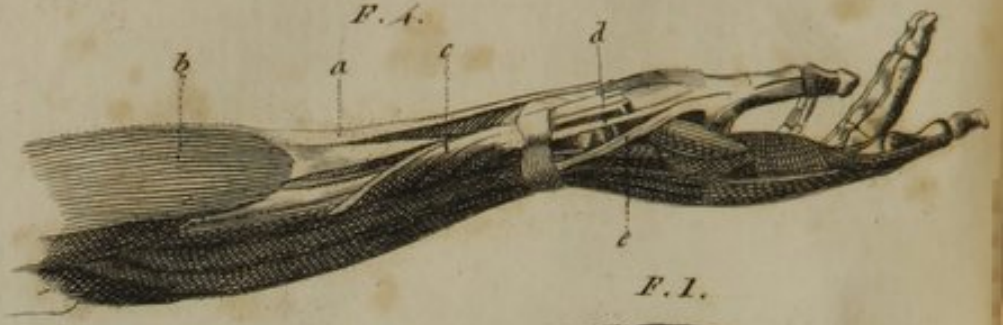
F. 2.

Mogdridge Del.

P. Maverick & Durand Sc.

Plate 17.

F. 4.



F. 1.

F. 2.

F. 3.

Mogridge Del

P. Maverick & Durand Sc.

In this plate some muscles on the side of the head and neck, and some on the arms and feet, are exposed.

PLATE XVII.

FIG. I.

A. Temporalis.
B. Occipito-frontalis.
C. Platysma myoides.
D. Sterno cleido mastoideus.
E. Trachelo-mastoideus.
F. Splenius.

FIG. II.

A.A. Peroneus brevis.
B. *Extensor longus* digitorum pedis.
C. Extensor brevis digitorum pedis.

FIG. III.

A. Plantaris.
B. Gastrocnemius.
C. Tendo achillis.

FIG. IV.

A. Flexor carpi radialis.
B. Supinator radii longus.
C. Extensor ossis metacarpi pollicis manus.
D. Extensor primi internodii.
E. Extensor secundi internodii.

MEDICAL BOOKS,

RECENTLY PUBLISHED AND FOR SALE

BY COLLINS & CO.

NO. 189 PEARL-STREET, NEW-YORK.

THE MODERN PRACTICE OF PHYSIC; exhibiting the characters, causes, symptoms, prognostic, morbid appearances, and improved methods of treating the diseases of all climates, by Robert Thomas, M. D. fourth American edition, corrected and considerably enlarged by the author; to which is added, an appendix by David Hosack, M. D. Professor of the Practice of Physic, &c. in the University of New-York. The price is four dollars fifty cents; though the English edition, executed on paper much inferior, sells at six dollars.

A COMPENDIUM OF THE THEORY AND PRACTICE OF MIDWIFERY, containing Practical Instructions for the management of Women, during pregnancy, in labour, and in child-bed. Illus- by many cases, and particularly adapted to the use of students. Fourth edition—enlarged. By Samuel Bard, M. D. L. L. D. President of the College of Physicians and Surgeons in the University of the State of New-York. 8vo. with engravings. Price $ 3, bound.

BELL'S ANATOMY OF THE HUMAN BODY, illustrated by 125 engravings, in three volumes, price 11 dollars—The London edition of this highly important work sells at 24 dollars, although the engravings are not so well executed as those of the American copy.

A TREATISE ON SURGICAL DISEASES, and the operations suited to them, by Baron Boyer, member of the Legion of Honour, Professor of Surgery of the Faculty of Medicine of Paris, Principal Adjunct Surgeon of the Hospital de la Charité, Member of several National and Foreign learned Societies, &c. Translated from the French by Alexander H. Stevens, M. D. Professor of the Principles and Practice of Surgery in the medical Institution of New-York, and of Queen's College, New-Jersey, one of the consulting Physicians of the New-York Dispensary, &c. with Notes, and an Appendix, by the Translator. The price of the work, printed on fine vellum paper, is six dollars in boards, or seven dollars bound.

THE CHEMICAL CATECHISM, with Notes, Illustrations, and Experiments, by Samuel Parkes, F. L. S. member of the Geological Society, author of the Rudiments of Chemistry, and proprietor of the Aqua-Fortis Works and Chemical Manufactory in Goswell-Street, London, from the sixth English edition, with emendations and considerable additions. Price $3 50, bound.

THE ELEMENTS OF EXPERIMENTAL CHEMISTRY, by William Henry, M. D. F. R. S. Fourth American from the seventh London edition, greatly enlarged—with Notes and Plates by John R. Coxe. 8vo. Price $5.

TRANSACTIONS OF THE PHYSICO-MEDICAL SOCIETY OF NEW-YORK, Illustrated with Plates. 8vo. Price $3, bds.

THE APHORISMS OF HIPPOCRATES, from the Latin version of Verhoofd, with a literal translation on the opposite page, and explanatory Notes. The work intended as a book of reference to the Medical Student. By Elias Marks, M. D. Member of the Physico-Medical Society of New-York. Price 75 cents.

THE AMERICAN NEW DISPENSATORY, containing the principles of Pharmaceutic Chemistry; Pharmaceutic Operations; Materia Medica; Preparations and Compositions—with an Appendix, containing Medical Prescriptions, &c. &c. and several useful Tables; the whole compiled from the most approved authors, both European and American, by James Thatcher, Fellow of the American Academy of Arts and Sciences, &c. Price $ 4, bound.

THE MEDICAL COMPANION, treating, according to the most successful practice, 1st. The Diseases common to warm climates and on ship board. 2d. Common cases in Surgery, as fractures, dislocations, &c. 3d. The complaints peculiar to women and children. With a Dispensatory and Glossary. To which are added, A brief Anatomy of the human body; An essay on Hygieine, or the art of preserving health and prolonging life; An American Materia Medica, instructing country gentlemen in the very important knowledge of the virtues and doses of our Medicinal plants; also, A concise and impartial history of the capture Washington, and the diseases which sprung from that most deplorable disaster. The third edition—greatly improved. By James Ewell, Physician in Washington. Price $ 5.

LETTERS TO LADIES, detailing important information concerning themselves and infants. By James Ewell, M. D. of Virginia; with 9 engravings. Price $ 2 25.

EXAMINATIONS IN ANATOMY, PHYSIOLOGY, Practice of Physic, Surgery, Materia Medica, Chemistry, and Pharmacy, for the use of Students, who are about to pass the College of Surgeons, or the Medical or the Transport Board. By Robert Hooper, M. D. Lecturer on Medicine, &c. in London. Price $ 62½.