Myographiae comparatae specimen, or, A comparative description of all the muscles in a man, and in a quadrupede : shewing their discoverer, origin, progress, insertion, use and difference ; to which is added an account of the muscles peculiar to a woman ... / by James Douglas.


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MYOGRAPHIÆ COMPARATÆ

SPECIMEN:

OR, A

COMPARATIVE DESCRIPTION

Of all the

MUSCLES

IN A

MAN, and in a QUADRUPEDE:

SHEWING

Their DISCOVERER, ORIGIN, PROGRESS, INSERTION, USE and DIFFERENCE.

To which is added

An ACCOUNT of the MUSCLES peculiar to a Woman.

With an ETYMOLOGICAL TABLE, and ſeveral uſeful INDEXES.

By JAMES DOUGLAS, M. D.

EDINBURGH:

Printed by DAVID GRAY, for A. KINCAID and J. BELL; G. CRAWFURD, and A. DONALDSON. M.DCC.LX.

[Price Three Shillings and Sixpence.]

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LONDON:

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THE PREFACE.

THO' Myography *has been often cultivated by industrious and good Hands, yet it still affords a fertile Field of Reformation and Improvement: Of this it is presumed, this small Treatise will be sufficient Evidence. Not that I lay Claim to the vain Presumption of having corrected all the Mistakes, and supplied all the Defects of those who have wrote upon this Subject: That I leave to finishing Hands.*

I question not but that I may be liable to Correction in many Things; or, at least, that a better and more dextrous Hand may rectify some of my Descriptions.

The Encouragement I had to publish these Descriptions was, that I took them all from the Life, I mean, from ocular Inspection in Dissection, without taking any of them upon the Credit of another. For, before I was determined as to the Origin, Progress and Insertion of the Muscles, I raised them on both Sides of above twelve Subjects, both

Fœtuses

Fœtuſes *and* Adults, *ſtill committing to Paper what I obſerved. I read often, and carefully peruſed all the Authors that have wrote upon the Muſcles, from the immortal* Galen *down to this Time; and, after comparing all the Deſcriptions, one with another, I ſingled out ſuch as I found conformable to the Life, that being the Standard I always go by; and, according as that directed me, I have here rectified what I humbly conceived to be their Miſtakes, (but without mentioning them as theirs) and ſupplied their Defects as far as my Obſervation went.*

If any one has a-mind to cenſure theſe Deſcriptions as falſe, I only beg leave to acquaint him before-hand, that I will always appeal to the ocular Inſpection of Subjects, and, if that gives it againſt me, I ſhall willingly retract, and acknowledge my Error. Whatever is offered againſt them, that is not accompanied with that, I ſhall pay but little Regard to it. And to juſtify, in ſome Meaſure, the Conformity of theſe Deſcriptions to exact Obſervation and Matter of Fact, I ſtill keep by me the Half of one of my Subjects, artfully prepared, which will afford me Means of Demonſtration when a freſh Subject is not at hand.

And here I cannot but take Notice, that, in the many Bodies I have viewed, I have not

met

met with that Frequency of Lusus naturæ *that is so commonly talked of, especially by those who are loth to take the Pains to make a strict and narrow Inquiry in the Dissection of these useful Machines of Motion. It is true, indeed, that Nature does sometimes sport and vary in the Composition of a Muscle. Thus I have observed two* Palmarises *in one Hand; I have found three Heads to the* Biceps cubiti, *the uncommon Head arising from the Middle of the* Os humeri; *I have seen one of the* Interossei *come from the upper Part of the* Carpus *externally*, &c. *The other Instances I could adduce I refer to another Occasion.*

As for the Comparative *Part of this Treatise, or the Interlacing the Descriptions of the* human *Muscles with those of the* canine, *that, I presume, needs no Apology. The many useful Discoveries drawn from the Dissection of* Quadrupedes, *the Knowledge of the true Structure of divers Parts of the Body, of the Course of the Blood and Chyle, and of the Use and proper Action of the Parts, that are chiefly owing to this Sort of Dissection; these, I say, give a very warrantable Plea for insisting upon it, tho' it may be censured by the Vulgar.*

As for what relates particularly to the Muscles of a Dog, *or that* Quadrupede

which

which I have chose for my Subject, I was induced to make the Parallel between those of a Man, and those of that Animal, by two Reasons.

1. *One is, the Opportunity of shewing the Contrivance and Use of the Muscles subservient to the peculiar motions of a Dog, and such as its different Way of living did necessarily require: For, where nature has acted uniformly, I am silent; and that indeed is frequently met with, there being an exact Similitude between the Make and Structure of many of the Muscles of a Man, and that of the corresponding Muscles in a Dog: But, where any Difference appears, in respect of Origin or Insertion, it is there (and there only) that my comparative Remarks take Place.*

2. *The other Reason is taken from the Benefit and Conveniency of the young Students of* Anatomy, *who may readily procure so common a Subject; and, if they once acquire a Dexterity of raising the Muscles in it, may promise themselves an equal Ability in raising those of the human Body, after the Dissection of one, or two at most.*

Galen, *the great Head of the* Anatomical School, *both practised himself, and recommended to his Scholars the frequent Dissection of Monkeys and Apes, as highly conducive*

ducive to a more perfect Knowledge of the admirable Structure of the Organs of the human Body. I do not affirm, as some would have it, that he never dissected any Thing else; for, not to mention the many other Reasons that might be offered to the contrary, the very Descriptions he gives of several Muscles suit only to the human *Body, and differ from all the* Quadrupedes; *but, because that ever renowned Author has left us on Record an Account of the Muscles in a Ape, as well as in a Man, I desire the Reader to remark, That the Descriptions of the Muscles, in his* Administrationes anatomicæ, *and in his Book* De dissectione musculorum, *are chiefly taken from Apes: But the Account we have of them in his admirable Book,* De usu partium, *are all taken from Men. It is pity the great* Vesalius *did not consider this.*

The Method I have here observed is the same with that made Use of at Surgeons-Hall *in this City, the most noted and most illustrious School of* Anatomy *now in* Europe. *As so weighty an Authority was more than sufficient to determine my Choice, so I cannot but say that it seems to be the best accommodated to the Capacity of young Students, and to be concerted in the most easy and distinct Way.*

I have

I have purposely omitted the anatomical Administration, or the Manner of raising the Muscles, upon the Consideration that it would have enlarged the Bulk of this Treatise, which is designed for a Manual, *fit to be carried about to publick Dissections, and would have increased its Price, without doing the young Student any additional Service, it being impossible to make any an Operator in this Way by oral Precepts; manual Operation, and the seeing one dissect, are the only effectual Means for the compassing that End.*

This comparative Survey I design to continue through all the six Parts into which the human Body is anatomically divided, the Specimen *now offered upon the Muscles being what I had first drawn up, and withal a not improper Forerunner to the remaining Parts.*

It remains now to acquaint the Reader, that all the Muscles discovered or described by the immortal Galen *stand here without any Name or Mark affixed; those discovered since have the Names of their respective Discoverers joined to them; and those which I humbly conceive to have lien hitherto undiscovered, and have been brought to Light by my assiduous Application to this Part of Anatomy, without any Assistance from other Men or Books, have three Stars set after their Names. Tho' I have joined the Dis-*

coverer's

coverer's Name to the Title or Denomination of the Muſcle, yet I take the Liberty to give my own Deſcriptions, without mentioning in what particular Point it is that I depart from them. Indeed, where I find the Deſcriptions agreeable to the Life, or to what Obſervation I have been able to make, I have kept to them, and particularly in a great many given by the juſtly celebrated Mr. Cowper, *whoſe very Words I have often uſed, it being impoſſible to find others with more Juſtice to the Subject; and to the ſame moſt accurate and indefatigable Improver of Anatomy am I obliged for the Uſes of moſt of the Muſcles both human and canine. From the Labour and Induſtry of this worthy Perſon, who is equally famous for his wonderful Dexterity in diſſecting, and great Skill in deſigning, we are now daily expecting a complete Account and Hiſtory of the human Muſcles, enriched with Abundance of Improvements and new Diſcoveries, and illuſtrated with original Figures, being all done after the Life by his own Hand.*

I have ſubjoined to this Treatiſe an Etymological Table *of the* Muſcles, *the frequent Reading and attentive Conſideration of which will render eaſy and familiar the harſh and not eaſily remembred Names of many of thoſe Inſtruments of Motion.*

I have industriously avoided the common Fault of multiplying Muscles without Necessity: For Example, I have described the Extensors *of the* Cubit *as one Muscle; the* Gastrocnemius *and* Solæus *I make but one Muscle, arising by four Heads; the* oblique *and* transverse *Muscles of the* Abdomen, *in my Opinion, make only three Muscles, and not so many Pairs. Indeed I make four Muscles of the* Triceps femoris, *because it has so many distinct Beginnings and Endings, as may be seen in the History of the Muscles itself, to which I hasten.*

The

The Introduction.

BEfore I deſcend to the Deſcription of each Muſcle in particular, I think it requiſite, for the Benefit of young Beginners, to give a ſhort Account of their Structure and Compoſition in general; and, by Way of Introduction to that, to premiſe what is meant by a *Fibre* and a *Membrane*; the whole being only an Abridgment of what is found in Authors who treat of that Subject at large.

A *Fibre* is called in *Greek* ἴς, in *Latin fibra*, which properly ſignifies thoſe *Villi* or Strings that hang about the Roots of Plants; but in an atanomical Senſe, it may be deſcribed, *A Subſtance, in Figure like a fine Thread, of a tenſile and irritable Nature, by the various Texture and Combination of which all the ſolid Parts of the human Body are framed.*

Of theſe Fibres there are divers Kinds; for ſome are membraneous, ſome carnous, ſome cartilaginous, ſome oſſeous, and ſome nervous; but theſe three laſt mentioned

tioned belong to another Place, whither I refer them. The carnous Fibres are vaſcular and hollow, being full of little Cells; they are called *Fibræ motrices*, in as much as they are the chief Organs of muſcular Motion. But of theſe, and the other membranous and tendinous Fibres, more hereafter.

The Difference of theſe Fibres may be likeways taken from their Situation or Courſe, with Reference to which they are called *ſtraight*, as running lengthways, or in right Lines; *circular*, as running round ſome Part, thoſe, for Inſtance, of the *Sphincter* Muſcles; *tranſverſe*, which interſect the ſtraight Ones at different Angles; or *oblique*, which cut both the ſtraight and tranſverſe at unequal Angles.

A Membrane *is a broad, thin, white, dilateable Subſtance, interwoven with ſeveral Sorts of Fibres, like a Web.*

It is called in *Greek* ὑμὴν, χιτὼν, and μήνιγξ; all which Appellations, in the Works of *Hippocrates* and *Galen*, denote one and the ſame Thing, being by them indifferently uſed: But later Writers have appropriated them to particular Membranes. Thus *Hymen* is only given to that circular Fold of the inner Coat of the *Vagina uteri*, placed near its outer Orifice;

rifice; *Meninx* is only attributed to the Membranes that involve the Brain; χιτὼν ſtill denotes a Membrane or Coat. Now, in *Engliſh*, a Membrane, taken in a large Senſe, comprehends all the *Tegumenta* or Coverings that inveſt the ſolid, or contain the fluid Parts; and theſe too have their particular Names, according to the different Parts they envelope. Thus the Membrane that covers the *Cranium*, or Skull, is called *Pericranium*; that which lines the Inſide of the *Thorax*, *Pleura*; that which inveſts the *Abdomen*, *Peritonæum*; the Membrane which firmly adheres to the Surface of all the Bones, *Perioſteum*. Beſides that the Membranes of ſome particular Parts have alſo particular Names, as we may ſee in their Hiſtory. The Membranes which form the Coat of membranous Bodies, ſuch as the Stomach, Guts, *&c.* or the Membranes of the Veſſels containing the Humours, are properly ſtiled *Coats* and *Veſſels*.

All the membranous Fibres have a Sort of Elaſticity or Spring, whereby, upon Occaſion, they can very eaſily extend and contract themſelves again, as may be obſerved in the *Peritonæum*, *Stomach* and *Uterus*. The nervous Filaments interlaced between them, and pouring in the animal

mal Spirits, make them extremely ſenſible, whence the Ancients were led into a Miſtake, in affirming that the Membranes were the true Organs of Feeling.

Every Membrane, tho' it appears never ſo thin, yet it is manifeſtly double, and between the Duplicature the Veſſels run. And in the Tiſſure of their inner Membrane there are placed Abundance of ſmall Glands, which ſeparate an Humour for moiſtening them, and thereby hinder preternatural Adheſion to the Parts they touch, which always happens to any of the *Viſcera* affected with a *Schirrhus* or hard Tumor, which, in ſuch a Caſe, adheres firmly to all the neighbouring Parts.

The Uſe of the Membrane is to wrap up and cover the Parts, to ſtrengthen them, to defend ſeveral of them from being hurt by the ſubjacent Bones, to ſuſtain the Veſſels that are ramified upon them, to keep the Parts united; and it is worthy our Obſervation, that the admirable Sympathy, or Conſent of the Parts one with another, depends, in a great Meaſure, upon their fibrous Connexions.

All that ſoft Part of the Body, the Vulgar calls *Fleſh*, is, by Anatomiſts, diſtinguiſhed into various Parts or Parcels, which they name ſo many Muſcles.

A Muſcle is nothing but a Faſciculus, *or Bundle of fleſhy and tendinous Fibres, incloſed in a proper Membrane, by Means of which all the Motions in an animal Body are performed.*

It is called μῦς by the *Greeks*, (which Word properly ſignifies *Mus*, a *Mouſe*) and that, perhaps, from the Likeneſs ſome of them have to that Animal when ſtript of its Skin; but others, with more Reaſon, do derive it from μυεῖν, *contrahere*, which is the proper Action of a Muſcle.

The whole Body of the Muſcle is commonly diſtinguiſhed into three Parts, *viz.* The Head or Beginning, the Body or Belly, and the Tail or Ending; or, into the Middle, and the two Extremities.

The Head is that Part of the Muſcle which ariſes from the moſt ſtable Part unto which the Contraction is made; for it is a conſtant Rule, that every Muſcle is moved towards its Beginning, which thence may be called the Center of its Motion.

The Origin of a Muſcle is, for the moſt Part, tendineo-carnous; ſometimes it is intirely tendinous, and ſometimes it is obſerved to be only fleſhy.

The Tail, or End of a Muſcle, is that Part of it which is implanted or inſerted

into

into the Member which is to be moved. This Extremity is commonly called its Tendon, or *Tendo* in *Latin;* yet *Fallopius* gives it often the Name of *Chorda*, the *Greeks* call it ἀπονεύρωσις; but at preſent, by this Word is only meant a thin tendinous Expanſion, or Membrane-like Dilatation, ſent off from the Tendon of a Muſcle, as that of the *Biceps cubiti*, *Semitendinoſus tibiæ*, &c.

The Subſtance of a Tendon is the very ſame with that of the reſt of the Muſcle; only its Fibres being cloſely compacted together, for the Conveniency perhaps of having a greater Number of them inſerted into a narrow Place, they feel harder, and appear of a whiter Colour; ſo that the fleſhy Fibres of a Muſcle are only its Tendon divided and looſe; and the Tendon is nothing but thoſe very Fibres cloſely united, as *Spigelius* has moſt elegantly expreſſed it.

It is very probable that every ſingle Muſcle either begins or ends tendinous, (with this Difference, that ſome few of them end in the *Perioſteum*, tho' the greateſt Part do penetrate that Membrane, and are immediately inſerted into the Bone) the ſtronger and more conſpicuous being extended beyond the fleſhy Part; the ſlender,

der, and not ſo diſcernible, ly either hid under the Fleſh, or they are interlaced between its Fibres.

It is neceſſary to know that the Head and Tail of a Muſcle are Terms convertible; for, according to the different Situation of the Body, thoſe Extremities do ſo alter, that the Part which was before immoveable and fixed, becomes moveable.

The Belly of a Muſcle is the middle Part of it, which conſiſts of fleſhy Fibres, red, lax, and ſpongeous, as may be diſtinctly obſerved in a Piece of parboiled Fleſh. Now, each Fibre is made up of a vaſt Number of little *Fibrillæ*, which are ſo many very ſlender hollow Pipes, bound about by ſmall tranſverſe parallel Threads, which divide theſe hollow *Fibrils* into a great many *Veſiculæ* or Cells, that have no Communication one with another, but only afford a Place of Entertainment for the Blood and Spirits in the Action of the Muſcle. This red Colour of the fleſhy Fibres is only owing to the Blood they receive; for, upon injecting warm Water plentifully into the Arteries, the Redneſs abates, and the Fibres put on the ſame Colour with theſe diſtractile Tubes.

The proper conſtituent Parts of a Muſcle are thoſe already deſcribed.

The common are Arteries, Veins, Nerves, Lymphæducts, and Fat. The Arteries import the Blood, and the Veins convey it back again to the Heart; the Nerves bring animal Spirits upon any Impreſſion communicated to them from the Mind; the Lymphæducts, perhaps, carry back the Remains of the nouriſhing Juice to be refunded into the venal Maſs; the Fat, that is lodged upon and between the Fibres, ſerves to lubricate and render them more fit for Action.

A Muſcle is either ſingle or compound. In the firſt all the fleſhy Fibres run parallel to one another, or in the ſame direction; in the latter they run in ſeveral Planes croſſing one another, or in different Courſes.

All Muſcles, which ſerve for the ſame Motion, are called *Congeneres*, becauſe they aſſiſt one another in their Action; and thoſe which are the Inſtruments of oppoſite Motions, are named *Antagoniſtæ*. As for Example: Every *Flexor*, or bending Muſcle, has a *Tenſor*, or extending Muſcle; and it is a conſtant Obſervation, that when one of the Muſcles is ſhortned, the other is extended; for the ſhortning of the Muſcle which acts, muſt needs pro-

duce

duce an Extenſion of its Antagoniſt, or of that which acteth not.

The Uſe or Action of the Muſcles is to perform all the different Motions of the Parts, and that is done by contracting themſelves; for, when the *Fibrillæ motrices* are ſhortned, the moveable Part muſt of Neceſſity be drawn towards the fixed; or the Part from which the Muſcle does ſpring, and that into which it is inſerted, muſt needs be brought nearer each other: But after what particular Manner this is tranſacted I ſhall not at preſent inquire, but refer my inquiſitive Reader, who delights in ſuch Speculations, to the Authors who handle that Subject, where their various Conjectures may be ſeen at large, which, in Truth, I am little fond of tranſcribing. The Account of muſcular Motion, given by the great *Bernouillius* late Phyſician at *Baſil*, ſeems no be the moſt natural, and the moſt agreeable to the Rules of *Mechaniſm*, of any that has been hitherto advanced; and, to repair the Loſs that we ly under, of not meeting readily with that incomparable Treatiſe, the World will ſpeedily ſee a correct Edition of it, with large Improvements, from Dr. *Mead*, whoſe diſtinguiſhing Capacity in the Way of Phyſick and Learning is

accom-

accompanied with a Candor and Goodneſs that affects all who knew him.

The Differences of the Muſcles being moſtly taken from the very ſame Things whence their Names are derived, to avoid all needleſs Repetitions, I ſhall refer to the *Etymological Table*, and proceed.

THE

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Chap.

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N. B. Muſculi pollicis, indicis, & minimi digiti, *vid.* ord. alphabet.

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Cephalo-pharyngæus. Chondro-pharyngæus. Crico-pharyngæus. Gloſſo-pharyngæus. Hyo-pharyngæus. Mylo-pharyngæus. Pterigo-pharyngæus. Salpingo-pharyngæus. Stylo-pharyngæus. Syndeſmo-pharyngæus. Thyreo-pharyngæus.

Muſculi pollicis manus IX.

Abductor. Adductor ad indicem. Adductor ad minimum digitum. Extenſor primi internodii. Extenſor ſecundi. Extenſor tertii. Flexor primi internodii. Flexor ſecundi. Flexor tertii.

Muſculi pollicis pedis VI.

Abductor. Adductor. Extenſor brevis. Extenſor longus. Flexor brevis. Flexor longus.

Muſculi radii IV.

Pronator quadratus. Pronator teres. Supinator brevis. Supinator longus.

Muſculus ſtapedis. *Vid. Muſc. aur. intern.*

Muſculi ſcapulæ III.

Levator ſcapulæ. Rhomboides. Trapezius.

Muſculi tarſi VI.

Extenſor tarſi ſuralis, vulgo *Gaſtrocnemius & Solæus. Extenſor tarſi minor*, vulgo *Plantaris.*

Peronæus

Peronaeus primus. Peronaeus ſecundus. Tibialis anticus. Tibialis poſticus.

Muſculi teſtium II. *Cremaſter. Dartos.*

Muſculi thoracis XIII.

Cervicalis aſcendens. Coſtarum depreſſores. Coſtarum levatores. Diaphragma. Intercoſtales. Sacro-lumbalis. Scalenus. Serratus inferior poſticus. Serratus major anticus. Serratus minor anticus. Serratus ſuperior poſticus. Subclavius. Triangularis.

Muſculi tibiæ XI.

Biceps. Cruræus. Gracilis. Membranoſus. Poplitæus. Rectus. Sartorius. Semimembranoſus. Seminervoſus. Vaſtus externus. Vaſtus internus.

Muſculus tubæ Euſtachianæ.

Muſculus tubæ novus, vel *Palato-ſalpingæus.*

Muſculi veſicæ II.

Detruſor urinæ. Sphincter veſicæ.

Muſculi uvulæ IV.

Gloſſo-ſtaphylinus. Palato-ſtaphylinus. Salpingo-ſtaphylinus. Thyreo-ſtaphylinus.

AN EXPLICATION OF THE

Abbreviated Names *of the* Authors *quoted in this Treatiſe, with the* Title *of their* Works *to which theſe Quotations refer, and the* Names *of the* Muſcles *each of them have diſcovered.*

AQuapendent. *Hieronimus Fabritius ab Aquapendente,* in his Treatiſe *De auditu,* Patavii 1600. deſcribes the *Muſculus externus auris.*

Coiter. *Volcherus Coiter,* in his *Externarum & internarum principalium humani corporis partium, tabulæ atque anatomicæ exercitationes obſervationeſque variæ,* Norimbergæ 1573. deſcribes the *Corrugator.*

Cowperi, *William Cowper,* in his *Myotomia reformata,* or, *A new Adminiſtration of all the Muſcles of human Bodies,* London 1694. deſcribes the *Elevator labii inferioris proprius. Depreſſor labii ſuperioris proprius. Pterigo-pharyngæus. Rectus internus minor. Interſpinales. Spinalis lumborum. Extenſor pollicis pedis brevis. Flexor primi internodii minimi digiti.* His Diſcovery

of

of the *Coſtarum depreſſores* he was ſo kind as to communicate unto me.

Diemerbr. *Isbrandus de Diemerbroek*, in his *Anatom. corporis humani*, Ultrajecti 1672. deſcribes the *Cervicalis deſcendens*.

Duvern. *Joſephus Du Verney*, in his *Tractatus de organo auditus, continens ſtructuram, uſum, & morbos omniun auris partium*, Norimbergæ 1684. deſcribes the *Muſculus auris externus. Muſculus ſtapedis*.

Euſtach. *Bartholomæus Euſtachius*, in his Treatiſe *De auditus organis*, printed with his *Opuſcula anatomica*, Venetiis 1563. deſcribes the *Muſculus auris internus*.

Fallop. *Gabriel Fallopius*, in his *Obſervationes anatomicæ*, Venetiis 1562. deſcribes the *Pyramidalis abdominis. Aperiens palpebrarum rectus. Mylo-hyoidæus. Rectus lateralis. Pterigoidæus externus. Capitis par tertium. Erector clitoridis*.

Galen. *Claudius Galenus* deſcribes all the Muſcles mentioned in this *Specimen*, that have neither a Name nor a Mark affixed to them, in his incomparable Treatiſes, *De diſſectione muſculorum ad tyrones, De anatomicis adminiſtrationibus, De uſu partium corporis humani*.

Ja. Silv. *Jacobus Sylvius*, in his *Opera medica*, Coloniæ Allobrogum 1630. deſcribes the *Maſſa carnea*, ſeu *Muſculoſæ carnis portio*.

Jo. Bapt. Canan. *Joannes Baptiſta Cananus*, in his Muſ-

Musculorum humani corporis picturata dissectio, Ferrariæ 1572. describes the *Palmaris brevis*.

Jul. Cass. Plac. *Julius Casserius Placentinus*, in his *De vocis auditusque organis historia anatomica*, Ferrariæ 1600. describes the *Externus auris*. And in his *Tabulæ anatomicæ*, published by *Daniel Bucretius*, he describes the *Transversalis pedis*.

Riol. *Johannes Riolanus*, in his *Anthropographia*, Parisiis 1649. describes the *Levator ani externus*. *Psoas parvus*. *Anconæus*. *Hypothenar*. *Thenar*.

Spig. *Adrianus Spigelius*, in his *Fabrica corporis humani ex recensione Joh. Anton. Vander Linden*, Amstelodami 1645. describes the *Lingualis*.

Sten. *Nicolaus Steno*, in his *De musculis & glandulis observationum specimen*, Hafniæ 1667. describes the *Costarum levatores*. *Musculi ad sacro-lumbum accessorii*.

Valsalv. *Antonius Maria Valsalva*, in his Treatise *De aure humana*, Bononiæ 1704. describes the *Crico-pharyngæus*. *Glosso-pharyngæus*. *Hyo-pharyngæus*. *Thyreo-pharyngæus*. *Glosso-staphylinus*. *Salpingo-staphylinus*. *Musculus tubæ novus*.

Vesal. *Andreas Vesalius*, in his *Humani corporis fabrica*, Basiliæ 1543. describes the *Par nonum pedis*.

The following Muscles, which have this Mark *** affixed to their Names, were discovered by

by the Author in his late Application to *Myotomy*.

Musculus meatus auditorii. Stylo-chondro-hyoidæus. Chondro-pharyngæus. Mylo-pharyngæus. Salpingo-pharyngæus. Syndesmo-pharyngæus. Palato-staphylinus. Thyreo-staphylinus. Intertransversales colli. Intervertebrales colli. Intertransversales lumborum. Coccygæus. Duo musculi vaginæ uteri.

Myographia:

Myographia:

OR, A

DESCRIPTION

OF THE

MUSCLES.

CHAP. I.

Of the Muſcles of the ABDOMEN.

OBLIQUUS DESCENDENS

ARISES by ſeveral ſmall Tendons from the lower Edge of the fifth, ſixth, ſeventh, and eighth Ribs, and tendinous and fleſhy from all the other inferior Ribs. *Origin.*

Is inſerted fleſhy into the outer Lip of more than one Half of the *Os ilium*, tendinous into the *Peritonæum*, and by two *Inſertion.*

A Ten-

Tendons into the *Os pubis*; and, beſides, into all the *Linea alba*, and lower Part of the *Os pectoris*, by a broad membranous Tendon.

Uſe. Its Uſe is to compreſs all the *Viſcera* contained in the *Abdomen*, to pull the Ribs down in Expiration, and to turn the Trunk of the Body to one Side.

In a Dog it ariſes from the ten inferior Ribs, and membranous from the Top of the Spines of the four upper Vertebræ *of the Loins.*

OBLIQUUS ASCENDENS

Origin. Ariſes tendinous from the poſterior Part of the Spine of the *Os ilium*, fleſhy from the reſt of the circular Edge of that Bone, tendinous again from the *Peritonæum*, and from the Middle and fore Part of the *Os pubis*.

Inſertion. Is inſerted fleſhy into the lower Edge of the laſt Rib, and Extremities of the two next above it, and tendinous into the Cartilages of all the reſt below the *Sternum*, and into the whole Length of the *Linea alba*.

Uſe. Its Uſe is much the ſame with the former, the Action of both being much ſtrengthened by the Decuſſation and different Courſe of their carnous Fibres.

In

In a Dog it ariſes alſo from the ſpinal Proceſſes of the Loins, by a thin tendinous Membrane like the former.

PYRAMIDALIS *Fallop*

Ariſes fleſhy from the Middle of the fore Part of the *Os Pubis*. *Origin.*

Is inſerted by a long Tendon at the Union of the *Muſculi tranſverſales*, between the *Recti*, a little below the Navel. *Inſertion.*

Its Uſe is to promote the Diſcharge of Urine, by pulling the lower Belly downwards, and compreſſing the Bladder, according to its firſt Diſcoverer. *Uſe.*

In a Dog it is wanting.

RECTUS

Ariſes from the upper and anterior Part of the *Os pubis* by a thick and ſhort Tendon, and from the ſame Bone, near the Origin of the *Corpus penis cavernoſum*, by a long and ſmall one. It ſoon becomes fleſhy. *Origin.*

Is inſerted *tendineo-carnous* into the cartilaginous Extremities of the ſeventh, ſixth and fifth Ribs, near the *Os pectoris*. *Inſertion.*

Its Uſe is to compreſs the fore Part of the lower Belly, and, according to the different Poſitions of the Body, to bring the Breaſt nearer the *Pubis*, and ſo bend *Uſe.*

the

the Trunk forwards, or, *e contra*, as in raiſing our Bodies from a decumbent Poſture.

In a Dog it is inſerted fleſhy into the lower Part of the Sternum, *and tendinous into all the reſt of that Bone.*

TRANSVERSALIS

Origin. Ariſes by a broad and thin Tendon from the tranſverſe Proceſſes of the *Vertebræ lumborum*, fleſhy from the inner Edge of the Spine of the *Ilium*, and from the cartilaginous Endings of all the Ribs below the *Sternum*.

Inſertion. Is inſerted tendinous and fleſhy into the *Cartilago enſiformis*, tendinous into all the *Linea alba* and *Peritonæum*, being firmly annexed to a little *Protuberance* in the *Os pubis*, on the Outſide of the *Muſculus abdominis rectus*.

Uſe. Its Uſe is to compreſs the Sides of the *Abdomen*, and to aſſiſt in Expiration.

N. B. 1. By the *Peritonæum*, in my Deſcription of the *Abdominal Muſcles*, I underſtand what Authors call *Ligamentum pubis*; it being nothing but the firm Union of the Tendons of the oblique and tranſverſe *Muſcles* with the *Peritonæum*, between the anterior Part of the Spine of the *Ilium* and the *Os pubis*, whereby a

Pro-

Protruſion, or Falling down of the Inteſtines, *&c.* in that Place, which has nothing elſe to ſecure it, is effectually prevented.

2. Theſe three laſt named Muſcles ought not to be reckoned as ſo many Pairs, but only as ſo many ſingle digaſtrick Muſcles, with a broad middle Tendon, and two fleſhy Bellies.

3. The *Linea alba* is nothing but Part of the Tendons of theſe oblique and tranſverſe Muſcles appearing in the Interſtice of the *Recti*, between the *Cartilago ziphoides* and the *Os pubis*, and adhering firmly to one another in this Place; which ſtrict Union occaſions the Whiteneſs to be more conſpicuous here than in any other Part. So that it was only in Compliance with Cuſtom, that I ſaid their Tendons were inſerted into this white Line.

4. They are all three perforated a little above the *Os pectinis* to one Side, the two oblique in their tendinous, and the tranſverſe in its fleſhy Part, for the Paſſage of the *Proceſſus peritonæi*, receiving the *Vas deferens* and the ſpermatick Vein and Artery, incloſed in a large Membrane diſtinct from the Elongation of the *Peritonæum*. But, beſides theſe, I always obſerve a Nerve and an Artery paſs that Way from the

the *Abdomen* to the *Scrotum*, *Inguen*, and upper Part of the *Femur*, from whence ſome venal Twigs are remitted thro' the ſame Holes into that Cavity. The *Cremaſter* Muſcle does only pierce the two oblique Muſcles. The ſurpriſing and moſt uſeful Contrivance of the Perforations or *Rings* of theſe Muſcles ſhall be inquired into on another Occaſion.

CHAP. II.

Of the Muſcles of the TESTES.

EACH *Teſticle* has one proper Muſcle, and one common to both, called

DARTOS,

Which is a thin muſcular Membrane including both the *Teſtes*.

Its Uſe is to contract and wrinkle the *Scrotum* by the Action of its fleſhy Fibres.

The Muſcle proper to each is the

CREMASTER,

Origin. Which ariſes from the loweſt and fore Part of the Spine of the *Ilium*, and from the Conjunction of the *Os pubis* with

with this Bone, by two diſtinct Beginnings.

Is inſerted into the *Tunica vaginalis*, upon which it is ſpread in ſeveral diſtinct Portions. *Inſertion.*

Its Uſe is to draw up and ſuſpend the *Teſtes*. *Uſe.*

CHAP. III.

Of the Muſcles of the PENIS.

THE *Penis* has two Pair of Muſcles; the firſt is very diſtinct, the laſt is inſeparably united in its Origin and Progreſs. The *Tranſverſalis penis*, mentioned by *Aquapendens*, is only Part of the *Muſculus accelerator urinæ*, ariſing from the Knob of the *Iſchium*, for it is not inſerted into the *Cavum ovale*, or Bulb of the *Urethra*, but joins in with this Muſcle, of which it makes a ſecond Beginning.

ERECTOR PENIS

Ariſes tendinous and fleſhy from between the *Tubercle* of the *Iſchium*, and the Beginning of the *Corpus cavernoſum*, and, embracing the whole *Crus*, *Origin.*

Is

Inſertion. Is inſerted into the external thick Membrane of the two cavernous Bodies of the *Penis*, near their Union.

Uſe. Its Uſe is to pull the *Penis* towards the *Os pubis*, whereby its great Vein is compreſſed, and the refluent Blood denied its Paſſage under thoſe Bones, by which Means that Member is erected. *Vid.* the Appendix to Mr. *Cowper*'s excellent Treatiſe of *Myotom. reformat.*

ACCELERATOR URINÆ

Origin. Ariſes fleſhy from the *Sphincter ani*, and ſuperior Part of the *Urethra*, and tendinous from the *Iſchium*.

Inſertion. Is inſerted into the *Corpus cavernoſum*, from near their Beginning to a little below their Union.

Uſe. Its Uſe is to compreſs moſt adequately the bulbous or largeſt Part of the *Urethra*, and drive the Blood towards the *Glans* for its Diſtention.

A Dog has yet another Muſcle, beſides theſe two, which may be called Tranſverſalis; *it is a true digaſtrick Muſcle, having two fleſhy Bellies ariſing from a little round Protuberance in the inferior Part of the* Os pubis, *on each Side, uniting in a middle Tendon between the* Os pubis *and the* Penis. *From the particular Structure of this Muſcle, with*

with a cartilaginous Body placed transversely under the Ossa pubis, *and the great Vein of the* Penis *running between the Muscle and it, I could easily account for the* Erectio penis *in this Animal, who copulates backwards: But, that being foreign to the Subject in Hand, I will reserve it for a fitter Occasion.*

CHAP. IV.

Of the Muscles of the Skin of the OS OCCIPITIS *and* OS FRONTIS.

THE Skin of the Head is moved by one Pair of Muscles, and one single digastrick Muscle.

MUSCULUS FRONTALIS VERUS, *seu* CORRUGATOR *Coiteri*,

Arises fleshy from the Process of the *Os frontis*, next the inner or great Angle of the *Orbit*, above the Joining of the *Os nasi*, and superior Process of the *Os maxillare*, with this Bone, from thence it turns obliquely outwards and upwards, and *Origin.*

Is inserted into the fleshy Part of the subsequent Muscle, some of its *Fibrillæ* passing through into the Skin a little *Insertion.*

higher than the middle Region of the Eye-Brows.

Uſe. Its Uſe is to ſmooth the Skin of the Forehead, by pulling it down after the Action of the *Occipito-frontalis*; and, when it acts more forcibly, it ſerves to wrinkle the Skin of the Front, between the *Supercilia*, as it happens when we frown or knit the Brows.

This is wanting in a Dog.

OCCIPITO-FRONTALIS

Origin. Ariſes fleſhy from the traverſe Line of the *Occiput*, oppoſite to Part of the ſuperior Termination of the *Maſtoidæus*, and Part of the Beginning of the *Trepezius* next it, and then tendinous from the reſt of that Line backwards, ariſing after the ſame Manner on the other Side, from thence it goes ſtraight up, and, ſoon becoming all tendinous, it covers the two parietal Bones, and the *Oſſa ſquamoſa*, above the temporal Muſcles, its outer Edge being faſtned to the *Os jugale* on each Side. This broad Tendon near the *coronal Suture*, grows fleſhy, and deſcends with ſtraight Fibres as low as the *Muſculi orbicularis*.

Inſertion. Is inſerted into the Skin at the Eye-Brows, having ſent down between them a narrow

a narrow fleshy Slip or Elongation, which is continued over the *Ossa nasi* as far as its cartilaginous Part, where its Fibres run off on each Side, and terminate in the Skin above the *Musculus nasi proprius*.

When this digastrick Muscle, which covers all the upper Part of the Skull like a Cap, acts, it pulls the Skin of the Head backwards, and at the same Time it draws up and wrinkles that of the Forehead, being antagonized by the *Corrugator*. *Use.*

This Muscle in a Dog is only Part of the Membrana carnosa, *that covers all the Skull between the Skin and Muscles.*

CHAP. V.

Of the Muscles of the Eye-Lids.

THE *Palpebræ* have two Pair of Muscles; one is proper to the upper Lid, the other is common to both.

Aperiens Palpebrarum rectus, *Fallop.*

Arises from the upper Part of the Hole of the *sphenoidal Bone*, through which the *optick Nerve* passes, between the *Attollens* and the *Obliquus major*. *Origin.*

Is

Inſertion. Is inſerted by a broad Tendon into the cartilaginous Border of the upper Eye-Lid.

Uſe. Its Uſe is to open the Eye, by drawing the Eye-Lid up.

ORBICULARIS PALPEBRARUM

Origin. Ariſes tendinous and fleſhy from the Edge of the *Os maxillare*, that makes the lower Part of the *Orbit*, at the inner Angle of the Eye. Its Fibres are ſpread upon the under Lid, and a great Part of the *Os mali*, and, ſurrounding the outer and little *Canthus*, they are continued over the upper Lid, and upper Part of the *Orbit*, at the great Angle, firmly adhering to Part of the *Os frontis*, and ſuperior Proceſs of the *Os maxillare*.

Uſe. Its Uſe is to ſhut the Eye, by bringing down the upper Lid, and pulling up the lower.

N. B. The *Ciliaris Riolani* is only Part of this Muſcle next the *Cilia* or *Tarſi*.

In a Dog it ariſes tendinous from the upper Part of the Os jugale ; *at the external* Canthus *of the Eye it divides and ſurrounds each Eye-Lid with its fleſhy* Fibrillæ, *which acting muſt neceſſarily pull up both Eye-Lids, bring them nearer one another, and ſhut them.*

CHAP.

CHAP. VI.

Of the Muſcles of the EYES.

EACH Eye has ſix Muſcles.

OBLIQUUS SUPERIOR

Ariſes from the Edge of the Hole that tranſmits the optick Nerve tendinous, between the *Elevator* and *Abductor*, from thence it runs ſtraight along the *Os planum* to the upper Part of the *Orbit*, at the great *Canthus*, where the *Trochlea* is affixed to the *Os frontis*, through which it paſſes; and turning backwards *Origin.*

Is inſerted tendinous into the *Tunica ſclerotis* behind the Inſertion of the *Attollens*. *Inſertion.*

Its Uſe is to draw the Globe of the Eye forwards, and to turn its Pupil downwards. *Uſe.*

OBLIQUUS INFERIOR

Ariſes tendinous from the *Os maxillare*, where it makes the Edge of the *Orbit* near its Juncture with the *Os mali*, and, running obliquely outwards, *Origin.*

Is

Inſertion. Is inſerted into the *Sclerotis*, between the Inſertion of the *Abductor* and the *optick Nerve*.

Uſe. Its Uſe is to draw the Bulb of the Eye forwards, and turn its Pupil upwards. The Uſes I have aſſigned to theſe two Muſcles were firſt advanced by the ingenious and moſt accurate Anatomiſt, Mr. *Cowper*.

ELEVATOR

Origin. Ariſes tendinous and fleſhy from the Edge of the *Foramen lacerum* near the *Abductor*.

Inſertion. Is inſerted into the ſuperior and fore Part of the *Tunica ſclerotis* by a thin Tendon.

Uſe. Its Uſe is to lift up the Globe of the Eye.

DEPRESSOR

Origin. Ariſes tendinous and fleſhy from the lower Edge of the Hole that gives Paſſage to the *optick Nerve*.

Inſertion. Is inſerted by a thin Tendon into the *Sclerotis* oppoſite to the Inſertion of the former.

Uſe. Its Uſe is to pull the Globe of the Eye down.

ADDUC-

ADDUCTOR

Ariſes tendinous and fleſhy from the Edge of the Hole in the *ſphœnoidal Bone*, that tranſmits the *optick Nerve*, between the *Obliquus major* and the *Humilis*. *Origin.*

Is inſerted by a thin Tendon into the *Tunica ſclerotica* where it reſpects the great *Canthus*. *Inſertion.*

Its Uſe is to bring the Eye toward the Noſe. *Uſe.*

ABDUCTOR

Ariſes tendinous and fleſhy from the *Foramen lacerum*, without the *Orbit*. *Origin.*

Is inſerted by a thin Tendon into the *Sclerotis*, where it reſpects the little *Canthus*. *Inſertion.*

Its Uſe is to move the Eye outwards, from the great to the little Angle. *Uſe.*

Beſides theſe ſix, a Dog has two more, of which one belongs to the Globe itſelf, the other to the Trochlea *of the Eye; the firſt is called* Muſculus ſeptimus oculi ſuſpenſorius; *it ariſes from the Margin of the Hole through which the optick Nerve paſſeth into the Eye, and is inſerted, being divided into four or five fleſhy Portions, into the lower Part of the* Sclerotica, *below the Termination of the other Muſcles. Its Uſe*

is

is to sustain and keep up the Bulb of the Eye, that it may not fall too low, and thereby put a Stress on the Nerve, in this and other Animals that go much with their Heads down, or feed upon the Ground.

The other I call Musculus trochleæ proprius, *which is a very small Muscle, arising fleshy near the Origin of the* Obliquus major, *and, soon turning into a slender Tendon, is inserted into the* Trochlea, *to whose Motions it is subservient. A Description of this cartilaginous Ring will be given at the End of my* Comparative Osteology.

CHAP. VII.

Of the Muscles of the NOSE.

THE cartilaginous Part of the Nose has one Pair of proper Muscles, and three Pair common to it with other Parts.

RINÆUS, *vel* NASALIS

Origin. Arises fleshy from the Extremity of the *Os nasi*, and adjacent Part of the *Os maxillare*.

Is

Is inſerted into all the Cartilages of the *Ala*. *Inſertion.*

Its Uſe is to open and dilate the Noſtril, by pulling that Part outwards. *Uſe.*

The firſt of the common is an Elongation of the *Occipito-frontalis* already deſcribed, and ſerves to draw the Skin of the Noſe upwards and backwards.

The ſecond is Part of the *Elevator labii ſuperioris proprius*, ariſing from the upper Part of the *Os maxillare*, where it joins the *Os frontis* at the inner *Canthus*.

The third is common to it with the upper Lip, being Part of the *Depreſſor labii ſuperioris proprius*.

For the Motion of a Dog's flat Noſe, which is continued to the very Extremity of the Maxilla ſuperior, *there are no proper Muſcles.*

CHAP. VIII.

Of the Muſcles of the LIPS.

THE Muſcles of the Lips are either common or proper. The common are inſerted into the Angles of the Mouth, where the two Lips join, being equally

uſeful to both; they are three Pair in Number, and one odd one.

ZYGOMATICUS

Origin. Ariſes fleſhy from the *Os mali*, near its Conjunction with the long Proceſs of the *Os ſquamoſum*.

Inſertion. Is inſerted near the Angle of the Lips.

Uſe. Its Uſe is with its Partner to draw both Lips upwards.

ELEVATOR LABIORUM COMMUNIS

Origin. Ariſes thin and fleſhy from the Hollow of the *Os maxillare*, under the Hole called *Orbiter externus*.

Inſertion. Is inſerted into the Angle of the Mouth and under Lip.

Uſe. Its Uſe is to bring the two Lips upwards.

DEPRESSOR LABIORUM COMMUNIS

Origin. Ariſes broad and fleſhy from the lower Edge of the *Maxilla inferior*, between the *Latiſſimus colli* and the *Maſſeter*.

Inſertion. Is inſerted into the Angle of the Lips.

Uſe. Its Uſe is to pull down the Corners of the Mouth.

SPHINCTER

SPHINCTER LABIORUM.

The fleſhy Fibres of this Muſcle ſur- *Origin.*
round the Lips like a Ring,

Its Uſe being to conſtringe and draw *Uſe.*
both Lips together.

The *proper* belong either to the upper or lower Lip, and are four Pair in Number, two Muſcles on each Side to each Lip.

ELEVATOR LABII INFERIORIS PROPRIUS, *Cowperi*,

Ariſes from the lower Jaw, near the *Origin.*
Gums of the *Dentes inciſivi*.

Is inſerted into the Skin of the Chin, *Inſertion.*
which it draws upwards, together with *Uſe.*
the lower Lip.

ELEVATOR LABII SUPERIORIS PROPRIUS

Ariſes broad and fleſhy from all that *Origin.*
Portion of the *Os maxillare* that makes the lower Part of the Orbit, immediately above the Hole that tranſmits the Nerves and Arteries to the Cheeks, and admits their returning Veins, being joined on each Side by a narrow fleſhy Slip, the ſhorteſt coming from the *Os mali*, near the Origin of the *Zygomaticus;* the longeſt proceeding from all the upper Proceſs of the firſt named

named Bone, where it joins the *Os frontis* at the great *Canthus* of the Eye, and deſcends by the Edge of the *Ductus lachrymalis*.

Inſertion. Is inſerted into the upper Lip, ſending ſome *Fibrillæ* to be ſpread on the *Ala narium*.

Uſe. Its Uſe is to draw that Lip outwards, and, when both act in Concert, to pull it upwards.

DEPRESSOR LABII INFERIORIS PROPRIUS

Origin. Ariſes fleſhy from the inferior and anterior Part of the lower Jaw, called the *Chin*.

Inſertion. Is inſerted into the under Lip near its *Sphincter*.

Uſe. Its Uſe is to pull the lower Lip down, and a little outwards.

DEPRESSOR LABII SUPERIORIS PROPRIUS, *Cowperi*,

Origin. Ariſes thin and fleſhy from the *Os maxillare*, immediately above the Gums of the *Dentes inciſivi*.

Inſertion. Is inſerted into the ſuperior Part of the upper Lip and Root of the *Ala naſi*.

Uſe. Its Uſe is to draw downwards the Parts in which it terminates.

The

The Lips of a Dog are moved by five Pair of Muſcles, and a Sphincter.

The Zygomaticus *has a great many of its Fibres ſpread upon the* Buccinator, *whereby it is able to draw the Lips more forcibly upwards and ſideways.*

Elevator labii ſuperioris *ariſes fleſhy from the lower or little Angle of the Orbit, growing broader as it deſcends to its large Inſertion into the upper Lip, which it pulls upwards when this Animal ſnarls,* &c.

Depreſſor labii inferioris *comes from about the Middle of the* Roſtrum *or lower Jaw.*

If you cut the Gums above the Dentes inciſivi *of both Lips, you will have a fair Proſpect of the* Elevator labii inferioris, *and the* Depreſſor labii ſuperioris, *running as in Man.*

CHAP. IX.

Of the Muſcles of the CHEEKS.

THE Cheek, called *Gena* and *Bucca*, has no proper Muſcles of its own, being provided with two common to it and ſome other Parts; the firſt is common

to

to it with the Lips; the ſecond is common to it, the lower Jaw, the Lips, and moſt Part of the Skin of the Face.

BUCCINATOR

Origin. Ariſes by two diſtinct Beginnings on each Side, one tendinous and fleſhy from the lower Jaw, between its laſt *Dens molaris* and the Root of the fore Part of its *Proceſſus coronæ*; the other is fleſhy from the upper Jaw, between its laſt *Dens molaris* and the *Proceſſus pterigoides*, from whoſe Extremity alſo it ariſes tendinous, being continued between theſe two Originations to the *Pterigo-pharyngæus*; from thence proceeding with ſtraight Fibres, and adhering to the Membrane that covers the Inſide of the Mouth, but without touching the Gums of either Jaw.

Inſertion. Is inſerted into the Angle of the Lips.

Uſe. Its Uſe is not only to move the Cheeks with the Lips, but alſo to contract the Cavity of the Mouth, by bringing them inwards, and ſo thruſt the Meat between the Teeth for its better Comminution.

QUADRATUS GENÆ, *vel* LATISSIMUS COLLI,

Origin. Ariſes broad, thin, and membranous, interlaced with Abundance of carnous Fibres,

bres, which in their Aſcent do all unite, and make one continued fleſhy Subſtance from the *Sternum*, between the firſt and ſecond Rib from the *Acromion*, and between theſe two from the proper or inveſting Membranes of the *pectoral* and *deltoidal* Muſcles.

Is inſerted into that Space of the external *Labrum*, or Lip of the lower Jaw, that is between its Commiſſure and the backmoſt Origin of the *Depreſſor labiorum communis*, into the *Buccinator* near the Angle of the Mouth, and membranous into the Skin of the Face. As theſe two Muſcles approach the Chin, they are obſerved to decuſſate one another; that is, Part of the Muſcle on the Right-Side runs over the other, and is fixed to the lower Jaw on the Left-Side, and Part of the Muſcle on the Left-Side runs under the other, and is inſerted into the lower Jaw on the Right-Side. *Inſertion.*

Its Uſe is to draw the Cheeks and Skin of the Face downwards, and to aſſiſt the *Digaſtrick* in opening the Mouth. *Uſe.*

In a Dog it is only Part of the Membrana carnoſa, *expanded over the Neck and the* Muſculus buccinator.

CHAP.

CHAP. X.

Of the Muſcles of the EXTERNAL EAR.

THE Muſcles of the Auricle are common or proper; the common proceed either from the middle Tendon of the *Occipito-frontalis*, or from the *Quadratus genæ*, and move this Part according to their reſpective Inſertions, whence they are divided into ſo many Muſcles, and named by Authors from their Uſe, as *Attollens*, ſeu, *Muſculus auriculæ anterior*, *deprimens*, &c.

The proper Muſcles of the Auricle, or outer Part of the Ear, are ſuch as ariſe from the *Os petroſum* and *parietale*, and are inſerted into the *Concha* under the common. Their Number is uncertain.

The Muſcles ſubſervient to the Motion of a Dog's external Ear are ſo very numerous, as well as ſmall, that I think it needleſs to inſiſt on a particular Account of each of them, a Deſcription of two of the moſt remarkable being ſufficient.

Retrahens ad collum *ariſes from the Union of the* Muſculi cucullares, *above the ſecond or third ſpinal Proceſs of the Neck, and*

and ends in the lateral and upper Part of the Concha.

Erigens *ariſes from the bony Ridge of the* Os occipitis, *and terminates by three fleſhy Portions into the outward Ear; its Uſe being to erect or prick the Ears.*

CHAP. XI.

Of the Muſcles of the INTERNAL EAR *and* AUDITORY PASSAGE.

THE Parts of the internal Ear provided with Muſcles are the two little Bones called *Malleus* and *Stapes*; the Hammer has three, and the Stirrop one.

EXTERNUS AURIS *Aquapendent.* vel *Jul. Caſſer. Placent.*

Ariſes fleſhy from a Roughneſs in the upper Side of the *Meatus auditorius* about its Middle. *Origin.*

Is inſerted by a long and ſlender Tendon into the upper Proceſs of the *Malleus*, that adheres to the *Membrana tympani*. *Inſertion.*

Its Uſe is to draw the Hammer with the *Membrana tympani* outwards. *Uſe.*

In a Dog it comes from the Os petroſum, *oppoſite to the long Proceſs of the* Malleus.

INTERNUS AURIS *Euſtach.*

Origin. Ariſes tendinous and fleſhy from the Beginning of the cartilaginous and Extremity of the bony Part of the *Tuba Euſtachiana*, and, running in a long Channel excavated in the *Proceſſus petroſus*, it grows tendinous as it enters the Cavity of the Barrel, and paſſing over a little Riſing made by the Extremity of this Pipe, near the *Feneſtra ovalis*,

Inſertion. Is inſerted into the poſterior Part of the Handle of the *Malleus*, a little from its Head.

Uſe. Its Uſe is to pull the Hammer inwards nearer the *Os petroſum*,

N. B. The Bone, that ſome obſerve to be in the Tendon of this Muſcle, is nothing elſe, in my Opinion, but the Extremity of the long Channel, in which it runs, broke off from the *Os petroſum*, and left adhering to the Tendon.

OBLIQUUS AURIS, *vel* EXTERNUS, *Duvern.*

Origin. Ariſes fleſhy as the former, whence marching backwards through a channel in the upper and external Part of the *Tuba Euſtachii*, without entring the Cavity of the Barrel,

Is

Is inſerted into the ſlender Proceſs of the *Malleus*, that lies upon the Edge of that oblique Sinuoſity, that is moſt remarkable in the bony Circle of a *Fœtus*. *Inſertion.*

Its Uſe is to draw the Hammer forewards, nearer that Part of the Temple-Bone from which in Part it takes its Origin. Of this Proceſs *Cæcilius Folius* has given the beſt Deſcription; in Length it exceeds that of the *Manubrium malleoli*, and in ſhape it very much reſembles a ſmall Fiſh-bone. *Uſe.*

In a Dog it may be called Muſculus glandiformis, *or* ovalis, *becauſe it appears like a glandulous Lump, of an oval or roundiſh Figure, which lies in a particular Cavity dug for it in the* Os petroſum, *near the* Foramen ovale, *from the Bottom of which it ſprings, and is inſerted by a very ſlender Tendon.*

STAPIDÆUS, *vel* MUSCULUS STAPEDIS, *Duvern.*

Ariſes fleſhy from the Bottom of a Channel excavated in the *Os petroſum*, about the Middle of the true *Fallopian Aqueduct* laterally. *Origin.*

Is inſerted tendinous into the Side of the Head of the *Stapes*. *Inſertion.*

Its Uſe is to draw the *Stapes* upwards. *Uſe.*

MUS-

MUSCULUS MEATUS AUDITORII. ***

Origin. Ariſes from one of the diſcontinued Cartilages of this Paſſage, and

Inſertion. Is inſerted into another, which it ſerves *Uſe.* to approximate and draw nearer one another. It is only obſervable in a large and fleſhy Subject.

In a Dog there are ſeveral little Muſcles which come from one of the protuberating Cartilages of the Concha, *and end in another of them, which, by pulling them nearer, or drawing them farther from one another, may dilate or ſtreighten the* Porus acouſticus, *or auditory Tube, for the fitter Reception of Sounds, as Occaſion may require.*

CHAP. XII.

Of the Muſcles of the OS HYOIDES.

THE Bone of the Tongue, called *Os hyois*, has five Pair of Muſcles, and one odd one, which are all common to it with the Tongue and the *Larynx*.

MYLO-HYOIDÆUS *Fallop.*

Origin. Ariſes fleſhy and a little tendinous from all

all the Inſide of the lower Jaw, between the backmoſt *Dens molaris* and the Commiſſure of the two Bones.

Is inſerted into the lower Edge of the Baſis of the *Os hyoides*. *Inſertion.*

Its Uſe is to pull this Bone upwards, forwards, and to either Side, according as its Fibres run. *Uſe.*

Genio-hyoidæus

Ariſes tendinous from a rough Protuberance at the Inſide of the Chin, or from the fore Part of the lower Jaw, internally. *Origin.*

Is inſerted into both the Edges of the Baſis of the *Os hyoides*, remitting a fleſhy Slip to the Beginning of each of its Proceſſes. *Inſertion.*

Its Uſe is to draw this Bone upwards and forewards. *Uſe.*

Stylo-hyoidæus

Ariſes by a round Tendon from near the Middle of the *Proceſſus ſtyliformis*. *Origin.*

Is inſerted tendinous into the Baſis of the *Os hyois* near its *Cornu*, to which alſo it often adheres fleſhy. *Inſertion.*

N. B. The carnous Belly of this Muſcle is ſometimes divided on both Sides for the Paſſage of the middle Tendon of the

Diga-

Digaſtrick, ſometimes but on one Side only, and ſometimes it is unperforated on both Sides.

Uſe. Its Uſe is to pull the Bone of the Tongue to one Side, and a little upwards when both act in Concert.

STYLO-CHONDRO-HYOIDÆUS ***, *vel* STYLO-HYOIDÆUS ALTER,

Origin. Ariſes fleſhy and tendinous from the *ſtyloide Proceſs*, near the Origin of the *Stylopharyngæus*, and, running under the *Ceratogloſſus*,

Inſertion. Is inſerted into the cartilaginous Appendix of the *Os hyoides*.

Uſe. Its Uſe is to aſſiſt the former in pulling this Bone upwards and laterally.

CORACO-HYOIDÆUS

Origin. Ariſes broad, thin and fleſhy from the ſuperior *Coſta ſcapulæ*, near its *Sinus* or *Cavitas ſemilunaris*, as alſo from ſome Part of the Ligament that runs from the Edge of this Cavity to the Root of the *Proceſſus coracoides*, thence aſcending obliquely, it becomes tendinous between the *Maſtoidæus* and *Vena jugularis interna*, but, ſoon growing fleſhy again,

Inſertion. Is inſerted by a thin Tendon into the Baſis

Baſis of the *Os hyois*, between the Termination of the *Sterno-hyoides* and its *Cornu*.

Its Uſe is to pull this Bone obliquely downwards. *Uſe.*

STERNO-HYOIDÆUS

Ariſes fleſhy and thin from the cartilaginous Part of the firſt Rib, the upper and inner Part of the *Os pectoris*, and from the adjoining inferior Part of the *Clavicula*. *Origin.*

Is inſerted between the Middle of the Baſis of the *Os hyoides* and the *Coraco-hyoides*. *Inſertion.*

Its Uſe is to pull that Bone directly downwards. *Uſe.*

A Dog has neither the Stylo-chondro, *nor the* Coraco-hyoidæus, *but inſtead of theſe it has two more, which are not to be found in the human Body*, viz.

Chondro-cerato-hyoidæus, *which is a ſmall fleſhy Muſcle that comes from all the cartilaginous Appendix of the Bone* Hyois, *and ends into all the ſhorteſt Proceſs, or* Cornu, *that joins the* Cartilago thyreoidæa *of the* Larynx; *its Uſe being to draw them nearer one another. And,*

Inio-cerato-hyoidæus. *This is a very ſhort fleſhy Muſcle, which ariſes from the fore Part of that Proceſs of the* Occiput

which

which gives Origin to the Digaſtrick of the lower Jaw, and is inſerted near the Extremity of the longeſt Proceſs of the Os hyoides, *which it pulls backwards.*

The Stylo-hyoidæus *ariſes from the Horn of the* Os hyoides, *near its Adheſion to the* Occiput, *and, running acroſs the digaſtrick Muſcle, is inſerted into the Baſis of that Bone. It is a long and ſlender fleſhy Muſcle.*

The Sterno-hyoidæus *ariſes fleſhy in common with the* Sterno-thyreoidæus, *from the Inſide of the cartilaginous Part of the firſt Rib next the* Sternum; *it parts from the aforeſaid Muſcle about two Inches, or more, above their united Origin.*

CHAP. XIII.

Of the Muſcles of the TONGUE.

THE Tongue has four Pair of Muſcles, which may be called *proper*, becauſe they are all inſerted into its own Subſtance.

GENIO-GLOSSUS

Origin. Ariſes tendinous from a rough Protuberance in the Inſide of the fore Part of the lower Jaw, about the Middle of the Chin.

Inſertion. Its Fibres run in three different Directions; the

the middlemoſt terminates about the Middle of the Tongue, the anterior is carried forwards towards its Tip, and the poſterior, or laſt Order, runs obliquely backwards towards the Root of the Tongue, and by a narrow Slip aſcends on each Side to the Horns of the *Os hyoides*.

Its Uſe is to move the Tongue according to the different Direction of its Fibres, *i. e.* to pull it forwards and thruſt it out of the Mouth, to draw it into the Mouth, or to bring the Tip of the Tongue downwards and backwards. *Uſe.*

CERATO-GLOSSUS

Ariſes fleſhy from three different Places. *Origin.* Its firſt Origin is broad and carnous from the *Cornu* of the Bone *Hyois*; this is properly the *Cerato-gloſſus*: Its ſecond Head comes from Part of the Baſis of this Bone, and is named *Baſio-gloſſus*: The third Beginning is derived from the cartilaginous Appendage of the *Hyoides*, which ſome call *Chondro-gloſſus*: Theſe three unite, and their Fibres, running in the ſame Direction,

Are inſerted broad and thin near the *Inſertion.* Root of the Tongue laterally.

Its Uſe is to draw the Tongue obliquely to one Side; but, if both act at once, *Uſe.*

the Tongue is pulled directly backwards into the Mouth.

STYLO-GLOSSUS

Origin. Ariſes tendinous and fleſhy from the *Proceſſus ſtyliformis* of the Temple-Bone, and often alſo from a fleſhy Ligament that is extended from that Proceſs to the Angle of the lower Jaw.

Inſertion. Is inſerted into the Side of the Tongue from its Root to near its Middle.

Uſe. Its Uſe is to draw the Tongue laterally, but when both act, to pull it upwards and inwards.

In a Dog it ariſes from the Extremity of the long Proceſs of the Os hyoides.

LINGUALIS

Origin. Ariſes pretty large and fleſhy from the Baſis of the Tongue laterally, and runs ſtraight forwards between the *Cerato* and *Genio-gloſſus* to its Tip, where it is hard *Inſertion.* to determine whether it ends there, or if it runs circularly, after the ſame Manner, on the other Side, to the Root of the Tongue again.

Uſe. Its Uſe is to contract or narrow the Subſtance of the Tongue, and, at the ſame Time, to bring it backwards and downwards.

CHAP.

CHAP. XIV.

Of the Muſcles of the LARYNX.

THE upper Part or Head of the *Aſpera arteria*, called *Larynx*, is made up of five Cartilages, three of which are provided with Muſcles.

The *Cartilago thyreoidæa*, or *Scutiformis*, has three Muſcles on each Side.

HYO-THYREOIDÆUS

Ariſes fleſhy from Part of the Baſis, and almoſt all the *Cornu* of the *Os hyoides*. *Origin.*

Is inſerted into the Outſide of a rough Line that runs between the Angles of the *Cartilago ſcutiformis*. *Inſertion.*

Its Uſe is to pull the *Larynx* upwards. *Uſe.*

STERNO-THYREOIDÆUS

Ariſes fleſhy from all the Edge of the firſt Bone of the *Sternum* internally between the Cartilages of the firſt and ſecond Rib, from both which it receives two ſmall Beginnings. *Origin.*

Is inſerted tendinous and fleſhy into the Surface of the above mentioned rough Line of the Buckler-like Cartilage. *Inſertion.*

It

It very often remits a Slip to the *Cornu* or *Proceſs* of the *Os hyois*.

Uſe. Its Uſe is to draw the *Larynx* downwards.

In a Dog the Beginning of this Muſcle is confounded with that of the Sterno-hyoïdæus.

CRICO-THYREOIDÆUS

Origin. Ariſes fleſhy from the fore Part of the *Cartilago cricoides*.

Inſertion. Is inſerted into the lunated and lower Part of the *Thyreoides*.

Uſe. Its Uſe is to dilate the Cavity of the *Larynx*, by drawing the *Scutiformis* outwards, and to one Side.

Each of the *arytænoidal* Cartilages has three proper Muſcles, and two common to them both: The common are the two following:

ARYTÆNOIDÆUS MAJOR

Origin. Ariſes fleſhy from one of theſe Cartilages near its Juncture or Articulation with the *Cricoides*, and running tranverſly, of an equal Breadth, with ſtraight Fibres,

Inſertion. Is inſerted into all the ſame Side of the other Cartilages.

Its

Its Uſe is to ſhut the *Rimula*, or the Chink called *Glottis*, by bringing theſe two Cartilages nearer one another. *Uſe.*

ARYTÆNOIDÆUS MINOR ***

Is a very ſmall Muſcle which runs upon the Surface of the former, ariſing from that Part of one of the *Cartilagines arytænoidææ* next the *Cricoides* on one Side, and terminating into that Part of the other *arytænoidal* Cartilage that is fartheſt from the *Cricoides* on the other Side. *Origin.* *Inſertion.*

Its Uſe is to aſſiſt the former in its Action, which is much ſtrengthned by this manifeſt Decuſſation of Fibres. *Uſe.*

CRICO-ARYTÆNOIDÆUS POSTICUS

Ariſes fleſhy from the back Part of the Ring-like Cartilge, and *Origin.*

Is inſerted into the *Guttalis* near the following. *Inſertion.*

Its Uſe is to open the *Rimula*. *Uſe.*

CRICO-ARYTÆNOIDÆUS LATERALIS

Ariſes fleſhy from the *Cartilago cricoides* laterally. *Origin.*

Is inſerted into the *Arytænoides* or *Guttalis*, under the Implantation of the ſuperior *Inſertion.*

rior Order of Fibres bolonging to the following Muſcle.

Uſe. Its Uſe is to open the *Glotis*.

THYREO-ARYTÆNOIDÆUS

Origin. Ariſes from the whole Length of the internal Concave, and middle Part of the *Cartilago ſcutiformis*, from whence its Fibres proceed in three different Orders; *Inſertion.* the uppermoſt terminates into the *Guttalis*, near the Inſertion of the *Crico-arytænoides lateralis*; the middlemoſt, which may be called *Thyreoglottis*, runs up under this, and is ſpread upon the Membrane that comes between the *Glottis* and *arytænoidal* Cartilage; the lowermoſt is inſerted into the anterior Angle of this Cartilage.

Uſe. The ſuperior and inferior Order of Fibres do draw the Cartilage, to which they are fixed, nearer the *Scutiformis*, and thereby do muſt adequately ſhut the *Rimula* or *Glottis*; the middlemoſt Direction of Fibres may help to pull the *Epiglottis* down when both act, or laterally when one only is contracted.

The fifth Cartilage of the Larynx, *called* Epiglottis, *is furniſhed with a Pair of Muſcles in a Dog, which I call* Hyoglottis; *it ariſes fleſhy from the cartilaginous Appendix of the* Os hyoides *internally, and partly alſo*

alſo from its Baſis hard by the Origin of the Baſio-gloſſus; *from thence each marches obliquely nearer one another to their united tendinous Inſertion in the Middle of the upper Part of the* Epiglottis, *not far from its Tip, which it ſerves to raiſe and lift up again after it has been depreſſed in ſwallowing.*

CHAP. XV.

Of the Muſcles of the PHARYNX.

THO' I take the upper Part of the *Oeſophagus*, or *Pharynx*, to be only made up of a Pair of Muſcles, one on each Side, which I call *Pharyngæus*, whoſe fleſhy Fibres, running in different Directions from diſtinct and various Originals, do meet and unite upon the Back of the glandulous Membrane of the *Fauces*; yet, in Imitation of the accurate *Valſalva*, I ſhall deſcribe each different Order by itſelf, and name it from the Place whence it ariſes.

1. CEPHALO-HARYNGÆUS. This Order of Fibres ariſes from a little Riſing, or *Tubercle*, in that Proceſs of the *Os occipitis*

tis that joins the *ſphenoidal* Bone, not far from its great Hole.

2. CHONDRO-PHARYNGÆUS. *** This Order ariſes from the cartilaginous Appendix of the *Os hyoides*.

3. CRICO-PHARYNGÆUS, *Valſal.* Ariſes from the *Cartilago cricoides*, or *annularis*.

4. GLOSSO-PHARYNGÆUS, *Valſal.* Ariſes from the Root or upper Part of the Tongue laterally.

5. HYO-PHARYNGÆUS, *Valſal.* Ariſes from the *Cornu* or Proceſs of the *Os hyoides*, wherefore I name it *Hyo-cerato-pharyngæus*.

6. MYLO-PHARYNGÆUS *** Ariſes from the lower Jaw, near the laſt *Dens molaris*.

7. PTERIGO-PHARYNGÆUS, *Cowperi*, Ariſes tendinous and fleſhy from the *pterigoidal* Proceſs of the *Os ſphenoidale*.

8. SALPINGO-PHARYNGÆUS * * * Ariſes from the Extremity of the bony Part of the *Tuba Euſtachii*, commonly called the *Aqueduct*.

9. SYNDESMO-PHARYNGÆUS * * * Ariſes from the Ligament that ties the *Cornu* of the *Os hyoides* to the Proceſs of the *Cartilago ſcutiformis*.

10. STYLO-PHARYNGÆUS ariſes fleſhy from near the Root of the *Proceſſus ſtyliformis*. 11.

II. THYREO-PHARYNGÆUS *Valſal.*

The laſt Order of Fibres ariſes from that rough Line that is extended between the two Angles of the *thyreoidal* Cartilage, as alſo from ſome of its upper Side.

Now, from theſe various Beginnings does this Muſcle of the *Pharynx* ariſe, and is inſerted into the Membrane of the *Fauces*, where it meets with its Fellow of the other Side. As for its Uſe, the Fibres that ſpring from the *Larynx*, *Os hyoides*, and *Tongue*, ſerve to contract the Cavity of the Gullet, and forward the Aliment, *&c.* into the Stomach. Thoſe which ariſe from the other Parts, above deſcribed, do all ſerve to enlarge and dilate the Cavity of the Gullet, in as much as they pull it out on all Sides for the Reception of the Food, *&c.*

Origin.

Inſertion.

Uſe.

In a Dog the Stylo-pharyngæus *ariſes from near the Extremity of the long* Cornu *of the* Os hyoides ; *and the* Salpingo-pharyngæus *runs for ſome Space at a Diſtance from the* Membrana faucium, *different from what it does in Man.*

CHAP. XVI.

Of the Muſcles of the UVULA.

THE *Gargareon*, or *Uvula*, has four Pair of Muſcles.

GLOSSO-STAPHILINUS *Valſal.*

Origin. Ariſes fleſhy from the Side of the Tongue.

Inſertion. Is inſerted near the Middle of the *Uvula* laterally.

Uſe. Its Uſe is to pull it to one Side, and when both act to bring it nearer the Tongue.

PALATO-STAPHILINUS * * *

Origin. Ariſes fleſhy from the Middle of the *Os palati*, near its Juncture with its Fellow of the other Side, and, running ſtraight forward,

Inſertion. Is inſerted near the Extremity of this duplicated glandulous Membrane, called the *Gargareon*.

Uſe. Its Uſe is to pull it forwards and downwards, which Office was always ſaid to be performed by the *Pterigo-ſtaphilinus internus*, till *Valſalva* appeared, who corrected that Miſtake, and aſcribed the Muſcle,

Muſcle, ſo called, to the Tube of the Ear, as ſhall be ſhewn hereafter.

SALPINGO-STAPHILINUS *Valſal.* PTERIGO-STAPHILINUS EXTERNUS, vulgo,

Ariſes fleſhy from the bony Part of the Tube of the Ear, and *Origin.*

Is inſerted into the Baſis of the *Uvula*, where it joins Fibres with its Partner Muſcle on the other Side. *Inſertion.*

Its Uſe is to draw the *Uvula* upwards and backwards. *Uſe.*

THYREO-STAPHILINUS * * *

Ariſes fleſhy from the Edge of the upper Part of the *Cartilago thyreoides*, between the *Thyreo-pharyngæus* and the *Membrana faucium*; from thence it aſcends ſtraight upwards, being much dilated as it approaches the *Uvula*, upon the upper Side of which it is ſpread very broad. And here it is not eaſy to determine, even when the Membrane that covers it is removed, whether it unites with its Partner, or if its Fibres ſurround the *Gargareon*, and then deſcend to the upper Part of the *Cartilago ſcutiformis*, on the other Side. *Origin.* *Inſertion.*

In Deglutition, when this Pair of Muſcles act, the *Foramina narium* are, in *Uſe.*

a great

a great Meaſure, ſhut, to hinder the paſſing of any Thing through the Noſe that is taken in at the Mouth.

In a Dog, between the Tonſils *are placed two ſpongy Bodies, like Teats, at a little Diſtance from one another, formed of a Production or Folding of the glandulous Membrane that lines the Mouth, and in all Reſpects ſeem analagous to that Part in Man; each of them is provided with two Muſcles, one to pull them down, which ariſes and is inſerted like the* Gloſſo-ſtaphilinus, *in Man; the other draws them upwards from the Paſſage into the Noſe. It ariſes, proceeds, and is inſerted like my* Palato-ſtaphilinus, *being a very long and ſlender Muſcle.*

CHAP. XVII.

Of the Muſcles of the TUBA EUSTACHIANA.

THE Canal of Communication between the Mouth and Barrel of the Ear, *Aquæductus Fallopii, vulgo*, is, by that accurate Anatomiſt *Antonius Valſalva*, called *Tuba*, from its Figure, and *Euſtachiana*, from its firſt Diſcoverer, *Bartholomæus Euſtachius;* for to dilate and keep it open he deſcribes a new Muſcle; for he

firſt

firſt found out that the Muſcle called *Pterigo-ſtaphilinus internus*, and *Spheno-pterigo-palatinus*, does not belong to the *Uvula*, but unto this Paſſage.

MUSCULUS TUBÆ NOVUS *Valſal.* vel PALATO-SALPINGÆUS ***

In my late Inquiries into the muſcular Structure of the *Fauces*, I have always obſerved that this Muſcle

Ariſes broad and tendinous from the Edge of all the lunated Part of the *Os palati*, ſeveral of its Fibres being ſpread upon the Membrane that covers the *Foramen narium;* then, growing into a ſmall thin Tendon, it is reflected about the Hook-like Proceſs of the inner *Ala* of the *Proceſſus pterigoides;* but, ſoon turning into a narrow and thin fleſhy Belly, it runs cloſe along the Inſide of the *Muſculus pterigoidæus internus*, and *Origin.*

Is inſerted carnous into all the membranous, fleſhy and cartilaginous Part of the Tube. *Inſertion.*

Its Uſe is to dilate and keep open this Channel, as *Valſalva* firſt moſt ingeniouſly took Notice. *Uſe.*

Long before the excellent Treatiſe of this Author fell into my Hands, I demonſtrated a Muſcle ſomething analogous to this in a Dog,

Dog, which I name, with reſpect to its Origin, Progreſs and Termination,

TYMPANO-PETROSO-SALPINGO-PTERIGO-PALATINUS,

Ariſes from the Os petroſum *within the Cavity of the* Tympanum, *or Barrel, oppoſite to the* Muſculus ovalis, *and, going out by the Side of the* Ductus a palato ad aurem, *to the membranous and fleſhy Part of which it firmly adheres, becomes carnous, and continues ſo till it arrives at the ſharp Wing-like Proceſs of the* Os ſphenoidale, *where it grows tendinous; and, being reflected over the ſame, its Fibres are again dilated and expanded over the Membrane that covers the Slits or* Foramina narium, *where it ſeems to join with its Fellow on the other Side.*

The Uſe of this Muſcle is to compreſs the palatine Glands that ly above it in great Cluſters and Heaps, by pulling up the Membrane; which is a very uſeful Contrivance to forward the Secretion of their ſalival Juices, that are of ſo great Uſe in Time of Maſtication, for ſoftening the hard Bones, and ſuch like Subſtances as this Animal uſually feeds upon, and farther, for promoting their Diſſolution in the Stomach; beſides, it may alſo be ſubſervient to the Dilatation of the Euſtachian Tube.

CHAP.

CHAP. XVIII.

Of the Muſcles of the HEAD, *appearing or ſituate in the fore and lateral Parts of the Neck.*

THE Head has twelve Muſcles on each Side; five offer themſelves to be deſcribed in this Poſition of the Body, the reſt appearing when the Subject lies prone.

MASTOIDÆUS

Ariſes tendinous, and ſometimes a little fleſhy, from the upper Part of the *Os pectoris*, and carnous from near one Half of the *Clavicula* next it. *Origin.*

Is inſerted, by a thick and ſtrong Tendon, into the Point or fore Part of the *Proceſſus Maſtoidæus*, and by a broad and thin tendinous Expanſion, running obliquely upwards and backwards into the reſt of that Proceſs, and the adjacent Part of the *Os petroſum* externally, hard by the *lambdoidal Suture*. When this acts, the Head is turned to the oppoſite Side, and, when both act together, they bend the Head forwards. *Inſertion.* *Uſe.*

In a Dog it ariſes by an acute tendineo-car-

carnous Beginning from the upper Part of the Os pectoris, *and, growing into a thick and fleſhy Belly, continues united with its Fellow half Way up the* Trachea ; *then receding from one another, each marches obliquely to its double Termination, one by a round Tendon into the Edge of a Cavity made behind the bony Part of the* Meatus auditorius, *the other by a broad, thin and membranous Tendon, into the lateral Part of the* Os occipitis.

RECTUS INTERNUS MAJOR

Origin. Ariſes from the anterior points of the tranſverſe Proceſſes of the third, fourth, fifth and ſixth *Vertebræ* of the Neck, by ſo many double Tendons, which ſoon become fleſhy.

Inſertion. Is inſerted into the anterior Proceſs of the *Os occipitis*, near its conjunction with the *Os ſphenoides*.

Uſe. Its Uſe is to bend the Head forwards.

In a Dog it ariſes tendineo-carnous from the fore and internal Part of all the tranſverſe Proceſſes of the Neck, except that of the firſt, on the Inſide of which it is reflected in its Aſcent to the Head, where it terminates in a little dimple made in the occipital Bone.

RECTUS

RECTUS INTERNUS MINOR *Cowperi*,

Ariſes fleſhy from the fore Part of the Body of the firſt *Vertebra colli*. *Origin.*

Is inſerted near the Root of the *Chondyloide* Proceſs of the *Occiput* under the former. *Inſertion.*

Its Uſe is to nod the Head forwards. *Uſe.*

RECTUS LATERALIS *Fallop.*

Ariſes fleſhy from the tranſverſe Proceſs of the firſt *Vertebra colli*. *Origin.*

Is inſerted partly into the *Os occipitis*, and partly into the *Os temporis*, near the *Proceſſus mammillaris*. *Inſertion.*

Its Uſe is to nod or bend the Head a little to one Side. *Uſe.*

MUSCULUS CAPUT CONCUTIENS

Ariſes fleſhy from the oblique Proceſs of the ſecond and third *Vertebræ colli*, and, aſcending obliquely backwards, *Origin.*

Is inſerted near the Root of the tranſverſe Proceſs of the firſt *Vertebra*. *Inſertion.*

Its Uſe is to ſhake the Head; for, the firſt *Vertebra* being thereby pulled to one Side, the Head muſt of Neceſſity obey that Motion, by virtue of its Articulation with the ſame. *Uſe.*

In a Dog it is yet much more conſpicuous, ariſing by two fleſhy Heads from the fore Part of the obliquie Proceſs of the ſecond Vertebra colli, *and by one from the third, which uniting aſcend obliquely, and terminate into the tranſverſe Proceſſes of the firſt, between the* Levator ſcapulæ major, *and the* Obliquus inferior.

CHAP. XIX.

Of the Muſcles of the NECK *that lie on its fore Part.*

THE Neck, or *Collum*, has ſix Muſcles on each Side, which I diſtinguiſh into *common* and *proper*. The *proper* are ſuch whoſe Uſe is confined to the *Vertebræ* of the Neck only, as the *Interſpinales*, the *Intertranſverſales*, and the *Intervertebrales*; the *common* are equally ſubſervient to the Motions of the Neck and Head. Of all theſe there is only one Pair that appears in this Poſture of the Body.

LONGUS

Origin. Ariſes tendineo-carnous from the Bodies of the four or five ſuperior *Vertebræ* of the *Thorax* laterally.

Is

Is inſerted into the fore Part of the four lowermoſt *Vertebræ* of the Neck, by ſo many ſmall Tendons covered over with Fleſh; into the third *Vertebra* by a ſmall Tendon; into the ſecond by a very long and broad one; and into the firſt by one that is rounder, but not ſo large, being fleſhy on both Sides: It is alſo faſtened to ſome of the tranſverſe Proceſſes of the Neck, near their Roots, by ſmall Tendons. *Inſertion.*

Its Uſe is to bend the Neck to one Side, but, if both act, to bring it directly forwards. *Uſe.*

In a Dog it appears as it were divided into as many diſtinct Muſcles, by tendinous Lines, as there are Vertebræ *in the Neck.*

N. B. The *Scaleni* belong to the *Thorax.*

CHAP. XX.

Of the Muſcles of the LOWER JAW.

THE *Maxilla inferior* has five Pair of proper Muſcles, and one Pair common to it with the Cheeks, *&c. viz.* The *Quadratus genæ*, called, by *Galen*, *Platuſma myoides*, already deſcribed.

TEM-

TEMPORALIS

Origin. Ariſes fleſhy from the anterior and lower Part of the parietal Bone laterally, from all the *Pars ſquamoſa* of the Temple-Bone, from a little Riſing in the lateral Part of the *Os frontis*, and from the external Part of its Proceſs, from Part of the *Os mali* internally adjoining to it, and from the upper Part of the lateral Proceſs of the *ſphenoidal* Bone: From theſe diſtant Origins its fleſhy Fibres tend towards the *Os jugale*, under which they paſs.

Inſertion. Is inſerted tendinous into the upper Part of the *Proceſſus coronæ*, in the Duplicature of which Tendon this *Proceſſus* is incloſed as in a Sheath, being continued down all its fore Part to near the laſt *Dens molaris*, and tendinous and fleſhy into the poſterior Part of this Proceſs, as far back as its Neck.

Uſe. Its Uſe is to pull the lower Jaw upwards.

In a Dog it is a very thick and ſtrong Muſcle, to the Bulk of which the Bigneſs of its Head is much owing. It ariſes fleſhy from the Knob of the Occiput, *the Ridge or Eminence between the two parietal Bones, and ſome Part of the* Os frontis *adhering to the cartilaginous Ligament that fences the upper*

upper Part of the Orbit, the Bone being here diſcontinued.

N. B. I have ſeveral Obſervations relating to the Structure of the temporal or crotaphite Muſcles, which I deſign to communicate, with many more, on a proper Occaſion.

MASSETER

Ariſes by three tendinous and fleſhy Heads, which run in different Directions. The firſt comes from the *Os maxillare*, where it joins the *Os mali*, and from all the Edge of the laſt named Bone, which makes the Ball of the Cheek. The ſecond *Origin.*

Springs from the Proceſs of that Bone, and the anterior Part of the *Apophyſis* of the *Os ſquamoſum;* the Fibres of theſe two Beginnings interſect one another. The third Head

Deſcends from the remaining Part of that Proceſs of the Temple-Bone. The firſt two Heads are

Inſerted into the inferior and external Part of the lower Jaw, from the Angle to near its Middle. The laſt Head runs down ſtraight, and terminates Midway between the Angle and Roots of the two Proceſſes of the lower Jaw externally. *Inſertion.*

Its

Uſe. Its Uſe is to pull the Jaw upwards, and, by reaſon of the above mentioned Decuſſation, to move it backwards and forwards, for the better chewing and grinding of the Meat.

In a Dog it ariſes from moſt Part of the Os jugale, *and by a ſtrong Tendon from a Protuberance in the* Maxilla ſuperior, *a little above the laſt* Dens molaris *ſave one. Is inſerted into a ſharp Proceſs on the Angle of the lower Jaw below the Condyle.*

DIGASTRICUS

Origin. Ariſes tendineo-carnous from the Sides of a conſiderable *Sulcus* excavated near the Root of the *Maſtoidal* Proceſs internally; its middle Tendon ſometimes paſſes through the *Stylo-hyoidæus*, but always through a Ligament that comes from the *Os hyoides*, to which Bone it is alſo faſtened by tendinous Fibres.

Inſertion. Is inſerted tendinous and fleſhy into the Edge of the lower Jaw, near its *Commiſſure*, above the *Mylo-hyoidæus*.

Uſe. Its Uſe is to pull the lower Jaw downwards, being aſſiſted by the *Latiſſimus colli* when both act; but when one is only contracted, the *Maxilla* is moved outwardly to one Side.

In

In a Dog it has but one Belly, which is very thick and large, ariſing fleſhy, interſperſed with tendinous Fibres from an acute bony Proceſs between the Proceſſus mammillaris *and the Condyle of the* Occiput, *and terminates about the Middle of the* Maxilla *by a large Inſertion.*

PTERIGOIDÆUS INTERNUS

Ariſes by tendinous and fleſhy Fibres from the inner and upper Part of the largeſt Wing of the *pterigoidal* Proceſs, poſſeſſing all that Space or Cavity between the two Wings; beſides, it has a ſecond Origin from that Part of the *Os palati* that is engaged between theſe two *Alæ*. *Origin.*

Is inſerted into the inferior Part of the lower Jaw, near its Angle, internally. *Inſertion.*

Its Uſe is to draw the Jaw to one Side, but if both act in Concert, they muſt aſſiſt the temporal Muſcle in drawing it up. *Uſe.*

PTERIGOIDÆUS EXTERNUS *Fallop.*

Ariſes by two diſtinct Beginnings, one tendineo-carnous, from the Edge of the external or broadeſt Wing of the *Proceſſus pterigoides*, and from Part of the *Os maxillare* adjoining to it. The other is fleſhy, from two or three Aſperities in the lateral Proceſs of the *Os ſphenoidale*, near *Origin.*

the

the Slit that tranſmits the Blood-Veſſels, *&c.* to the Eye; as alſo from Part of the *Os ſquamoſum* near the Cavity that receives the Condyle of the Jaw.

Inſertion. Is inſerted into a Cavity in the Neck of the *Proceſſus condyloides* internally, ſome of its Fibres running up upon the Membrane that faſtens the moving Cartilage to the ſaid Bone.

Uſe. Its Uſe is to pull the lower Jaw forwards, and thruſt the Teeth out beyond thoſe of the upper Jaw.

Becauſe in a Dog theſe two pterigoidal *Muſcles do both ariſe from the ſame Side of the* Proceſſus aliformis, *I chuſe to call the firſt* major, *and the ſecond or laſt deſcribed* minor, *with reſpect to their different Bigneſs.*

CHAP. XXI.

Of the Muſcles of the THORAX *that appear on its fore Part, the Body lying ſupine.*

RESpiration conſiſts in the alternate Dilatation and Contraction in the Cavity of the *Thorax*, or Cheſt; which two neceſſary Motions are chiefly performed by

by thirteen Pair of Muſcles; of which ſome dilate and widen the *Thorax*, by pulling the Ribs upwards and outwards in Inſpiration, for the Reception of the Air into the Lungs; others contract and narrow its Capacity by pulling them downwards, for the Expulſion of the Air from the Lungs; and again, ſome aſſiſt in both theſe Actions, as the *Diaphragm* does.

SCALENUS.

This may be divided into four diſtinct Muſcles. The firſt, or that next the Gullet, ariſes tendinous from the fourth, fifth and ſixth tranſverſe Proceſſes of the Neck, and *Origin.*

Is inſerted tendineo-carnous into the upper-ſide of the firſt Rib, near its Cartilage. *Inſertion.*

The ſecond ariſes from the ſecond, third, fourth, fifth and ſixth tranſverſe Proceſſes of the Neck, by ſo many Tendons, and *Origin.*

Terminates into the firſt Rib, ſome Part of it being expanded over the fourth *Scalenus*. *Inſertion.*

The third ariſes from the fifth and ſixth tranſverſe Proceſſes of the Neck, and *Origin.*

Inſertion. Is inſerted into the upper Edge of the ſecond Rib.

Origin. The fourth comes from the ſixth and ſeventh tranſverſe Proceſſes of the Neck, and

Inſertion. Is inſerted into the firſt Rib, near its Articulation with the *Vertebra*.

Uſe. They all aſſiſt in the Elevation of the Ribs, and widening of the Cheſt.

Theſe Muſcles in a Dog differ from the human in their Number and Inſertions; for there is but three of them, and the Inſertion of the firſt or innermoſt is into the firſt Rib; that of the ſecond or middlemoſt, which is broad, fleſhy and thin, is into the fifth or ſixth Rib, counting from above downwards.

N. B. What *Galen*, *Veſalius*, and others, reckoned as the upper Part or Inſertion of the *Rectus abdominis* in Apes, Monkeys, Dogs, *&c.* I have diſcovered to be a very diſtinct Muſcle, which ariſes fleſhy from the firſt Rib, and, turning tendinous is inſerted into the *Os pectoris*, under the Tendon of the *Rectus*, the Fibres of which are obſerved to interſect one another. I call it, *Muſculus in ſummo thorace ſitus.*

SUBCLAVIUS

Origin. Ariſes tendinous from the *Clavicula*, juſt by its Connexion with the upper Part of the

the *Proceſſus coracoides ſcapulæ*, between two Ligaments extended from that Proceſs to the Clavicle; it ſoon becomes fleſhy, and adheres to all the inferior Part of that Bone, near the Extremity of which it runs off obliquely, and, growing tendinous,

Is inſerted into the ſuperior Part of the firſt Rib, near the Ligament that connects the Clavicle to the ſame. *Inſertion.*

Its Uſe is to pull the firſt Rib upwards. *Uſe.*

This is wanting in a Dog.

INTERCOSTALES

Ariſe from the lower Edge of each ſuperior Rib, and *Origin.*

Terminate in the upper Edge of each inferior Rib; that is, the *Externi* run obliquely from the back Part forwards, and the *Interni* from the fore Part backwards, their Fibres interſecting one another, not unlike the two Strokes of the Letter X. *Inſertion.*

They both ſerve to dilate the Capacity of the *Thorax*. *Uſe.*

TRIANGULARIS

Ariſes fleſhy and a little tendinous from all the Lengh of the *Cartilago enſiformis* laterally, and from the Edge of the lower Part of the *Os pectoris*, from whence its *Origin.*

Fibres

Fibres aſcend obliquely upwards and outwards.

Inſertion. Is inſerted into the cartilaginous Endings of the fifth, fourth and third true Ribs, near their Conjunction with the Bones.

Uſe. Its Uſe is to contract the Cavity of the *Thorax*, by depreſſing the cartilaginous Part of theſe Ribs.

In a Dog this Pair of Muſcles is much larger than in Man; and it is not improbable, that in this Animal the Diſcharge of Part of the ſuperfluous Serum of the Blood (carried off in Man by the excretory Ducts of the miliary cutaneous Glands, which a Dog is deſtitute of) by Halitus, *or by a more plentiful Secretion in their ſalival Glands, may be much promoted by the joint Action of theſe Muſcles; for we may obſerve, after a great Fatigue, or any accelerated Motion of the Blood, while this Creature lies or runs with its Tongue lolling out, and breathes prodigious faſt, there is a great deal of Saliva ſeparated.*

DIAPHRAGMA

Is made up of two Muſcles. The ſuperior

Origin. Ariſes by two fleſhy Beginnings from the Extremity of the *Cartilago enſiformis* laterally, from Part of the Cartilages of the

the ſeventh Rib, and from the lower Edge of the cartilaginous Endings of all the inferior Ribs, and the bony Part of the laſt. The inferior Muſcle

Ariſes by two long Tendons from the Middle of the fore Part of the third *Vertebra lumborum*, as alſo fleſhy from the Body of the firſt *Vertebra* laterally, and from the tranſverſe Proceſs of the ſame; both theſe join in a middle Tendon. The *Midriff* is perforated in its tendinous Part by the aſcending *Vena cava*, and in the fleſhy Part of the ſuperior Muſcle by the deſcending *Gula* and *Par vagum*. Between its two tendinous Productions, as they call them, the great Artery deſcends, and the *Ductus thoracicus* aſcends from the *Receptaculum chyli*. Between theſe Tendons on each Side, and the Body of the firſt *Vertebra lumborum* laterally, there is a Fiſſure through which the *intercoſtal Nerves* deſcend, and the *Vena azygos*, proceeding from the *Cava* below the *Emulgent*, aſcends on the right Side. Between its Adheſion to the Side of this *Vertebra* and its tranſverſe Proceſs, it makes as it were an Arch with a tendinous Border, under which the upper Part of the *Pſoas* comes from the laſt *Vertebra dorſi*, and the Tendon of the *Origin.*

Qua-

Quadratus lumborum paſſes that Way to its Termination there.

Uſe. In Inſpiration its ſuperior Surface is relaxed, and becomes more plain, whereby the Cavity of the *Thorax* is enlarged to give more Liberty to the Lungs to receive the Air, and the *Viſcera* of the *Abdomen* are compreſſed for the Diſtribution of the *Chyle*, &c. In Expiration its Surface is convex towards the *Thorax*, whereby its Cavity is leſſened, and the Air expelled out of the Lungs.

In a Dog the inferior Muſcle of the Diaphragm *ariſes by four Tendons, two ſhort and two long.*

COSTARUM DEPRESSORES PROPRII, *Cowperi*,

Origin. Ariſe tendinous from the upper Part of the Rib, near its Juncture with the tranſverſe Proceſs of the *Vertebra*; but, ſoon ſpreading into a broad and thin fleſhy Belly, they march obliquely upwards under the *Pleura* over one Rib, and terminate into that next above it; in Number they are ten, being expanded all over the Inſide of the Ribs, from the Back to near their Middle.

Uſe. Their Uſe is to depreſs the Ribs. Mr. *Cowper* diſcovered theſe Muſcles ſome time ago,

ago, and having favoured me with his Obſervation, I have named, them as above, from their Uſe.

CHAP. XII.

Of the Muſcles of the BLADDER OF URINE.

THE *Veſica urinaria* has two Muſcles.

SPHINCTER

Is only a few ſmall orbicular fleſhy Fibres, placed under the external Coat of the Bladder, round its Neck.

DETRUSOR URINÆ.

This Muſcle is only the ſecond Coat of the Bladder, compoſed of muſcular Fibres, which run in different Directions, upon the Contraction of which the Neck of the Bladder opens, and the Urine is forcibly ſqueezed out.

CHAP.

Prelectio quarta.

CHAP. XXIII.

Of the Muſcles of the ANUS.

THE Extremity of the *Inteſtinum rectum*, called *Anus* and *Podex*, is provided with five Muſcles, two Pair called *Levatores*, and a ſingle one, which is its *Sphincter*.

LEVATOR MAGNUS, *ſeu* INTERNUS,

Origin. Ariſes fleſhy from the *Os pubis* near the lower Part of its Commiſſure internally; from thence it aſcends obliquely to the *Os ilium*, from which its Origination is continued as far back as the *Os ſacrum*, and tendinous and fleſhy from the ſharp Proceſs of the *Iſchium*. From this large Beginning its Fibres contract as it deſcends over the *Marſupialis*; having its Surface, which reſpects the Cavity of the *Abdomen*, all covered with a tendinous Membrane; and, uniting with its Fellow on the Back of the *Inteſtinum rectum*, which they cover on all Sides, except where the *Proſtates* and Bulb of the *Urethra* adhere to it,

Inſertion. Is inſerted into the *Sphincter*, its upper Part being firmly annexed to the *Os coccygis*.

Its

Its Uſe is to draw the *Anus* upwards after the Evacuation of the Excrements, and in ſome Meaſure to ſhut it alſo; at other Times it keeps this Gut from falling too low, which always happens in a Relaxation of its Fibres in a Palſy. *Uſe.*

In a Dog, before it terminates, it appears divided into three or four Portions, one of which on one Side leaves the Rectum, *and is inſerted into the* Cauda, *which it depreſſes after the Animal has thruſt out its Excrements.*

LEVATOR PARVUS, *ſeu* EXTERNUS, *Riol.*

Ariſes tendinous and fleſhy from the Protuberance or Knob of the *Iſchium*, from whence it runs tranſverſely to its Termination into the *Sphincter Ani*, near the Bulb of the *Urethra*. *Origin.* *Inſertion.*

Its Uſe is to aſſiſt the former. *Uſe.*

This is wanting in a Dog.

SPHINCTER.

The fleſhy Fibres of this Muſcle encompaſs the lower End of the *Inteſtinum rectum*, to the Breadth of about an Inch, being forwards connected to the *Accelerator urinæ*, and backwards to the *Levator major*. *Inſertion.*

Uſe. Its Uſe is to hinder the involuntary Excretion of the *Fæces*, by ſhutting up or cloſing the Paſſage of the *Rectum*.

In a Dog its circular Fibres do not embrace the Extremity of the Rectum *ſo high as in Man; and the Reaſon of it is plain, becauſe the Preſſure and Weight of the* Fæces alvinæ *is not ſo great on this Part in a Dog, the Poſition of its Body being prone, or* horizontal, *as it muſt be in Man, whoſe Poſture is erect.*

CHAP. XXIV.

Of the Muſcles of the SCAPULA.

THE Shoulder-Blade is moved by three Pair of proper Muſcles, and two Pair common to it with the *Thorax*, viz. the *Serratus major anticus*, and *Serratus minor anticus*.

TRAPEZIUS, *ſeu* CUCULLARIS,

Origin. Ariſes by a thick and ſhort Tendon from the lower Part of a Protuberance in the *occipital* Bone backwards, and from the rough Line that is extended from thence towards the *Proceſſus mammillaris*, by a thin membranous Tendon which covers

covers ſome Part of the *Complexus* and *Splenius*; beſides, it ariſes tendinous from the *Spine* of the laſt *Vertebra* of the Neck, and from all the *Spines* of the Back, except the two lowermoſt.

Is inſerted fleſhy into the broad and poſterior Part of the *Clavicula*, *tendineo-carnous* into one Half of the *Acromion*, and into almoſt all the *Spine* of the *Scapula*. *Inſertion.*

According to the three Directions of its Fibres it moves the *Scapula* variouſly; for its ſtraight Ones draw it directly backwards, its obliquely deſcending pull obliquely upwards, and its obliquely aſcending bring it obliquely downwards and backwards. *Uſe.*

In a Dog its ſuperior Origin comes from all the Ligamentum colli *that is below the Riſe of the* Levator humeri proprius; *that Part of it which reſembles the* Cuculla *ſprings from about the Middle of the* Vertebræ *of the Back; that Series of Fibres which pulls the* Scapula *directly backwards, unites with the upper triangular Part of the Muſcle by a thin Tendon.*

The Clavicle *being wanting in a Dog, it has no Inſertion there.*

ELEVATOR, *ſeu* MUSCULUS PATIENTIÆ,

Ariſes fleſhy from the firſt, ſecond, third, and *Origin.*

and ſometimes fourth tranſverſe Proceſſes of the *Vertebræ colli*, by ſo many diſtinct Slips, which ſoon afterwards do all unite.

Inſertion. Is inſerted fleſhy into that Part of the *Baſis ſcapulæ* that is between its Spine and ſuperior Angle.

Uſe. Its Uſe is to pull the *Scapula* upwards and a little forwards.

The Elevation of this Part in a Dog is performed by two Muſcles, viz.

Levator major, *vel* anterior, *ariſes fleſhy from the broad tranſverſe Proceſs of the firſt* Vertebra colli. *Is inſerted in the upper Part of the* Spina ſcapulæ, *near its Extremity which makes the* Acromion *in Man.*

Levator ſcapulæ minor, *vel* poſterior, *ariſes tendinous from the* Occiput, *near its Ridge, and, deſcending cloſe by the long Portion of the* Rhomboides, *is inſerted by a ſmall Tendon into the Baſis of that Bone, near its upper Angle.*

RHOMBOIDES.

This Muſcle I find always divided into two diſtinct fleſhy Portions, joined by an interveening Membrane. The uppermoſt,

Origin. which is the leaſt, ariſes tendinous from the laſt ſpinal Proceſs of the Neck, and ſome Part of the *Ligamentum colli* next above it; the inferior Part of this Muſcle

ariſes

ariſes tendinous from the *Spines* of the four or five ſuperior *Vertebræ dorſi*. The upper Part terminates into the Baſis of the *Scapula*, partly above, but chiefly below its *Spine*; and the inferior Part is inſerted into almoſt all the remaining Part of the Baſis.

Its Uſe is to draw the *Scapula* obliquely upwards, and directly backwards. *Uſe.*

In a Dog it ariſes fleſhy from all the Ligamentum colli, *which, growing broader as it deſcends, unites with that Portion coming from the* Spines *of the Back, near the upper Angle of the* Scapula.

CHAP XXV.

Of the Muſcles of the THORAX, *that appear in Diſſection, the Body lying prone.*

IN the Deſcription of the *Muſculi thoracis*, which appear on its fore Part, I forgot to premiſe their Diviſion into proper and common. The Uſe of the firſt is confined only to the Cheſt, but the latter are ſubſervient to other Parts, as well as it. Thus the *Serrati antici* contribute to the Motions of the *Scapulæ*, the *Sacro-lumbi* to the Extenſion of the Back, and the

Scaleni

Scaleni move the Neck towards the Shoulder, or firſt Rib.

SERRATUS MAJOR ANTICUS

Origin. Ariſes fleſhy from the whole Baſis of the *Scapula* internally, between the Inſertion of the *Rhomboides*, and the Origin of the *Subſcapularis*, being folded as it were about the two Angles of the *Scapula*.

Inſertion. Is inſerted into the eight ſuperior Ribs by an equal Number of fleſhy *Digituli*.

Uſe. Its Uſe is to dilate the *Thorax*, by pulling up the Ribs, and, according to ſome, to move the *Scapula*, into which (they alledge) it is inſerted, forwards and downwards.

In a Dog it ariſes fleſhy from the five inferior tranſverſe Proceſſes of the Vertebræ colli *by ſo many different Heads, and tendineo-carnous from the ſeven ſuperior Ribs. The firſt, or uppermoſt Order of its Fibres, run obliquely downwards to their Inſertion into Part of the* Baſis ſcapulæ *internally. The ſecond Order that comes from the Ribs aſcend obliquely, and are implanted, not only into the* Baſis ſcapulæ, *but alſo broad and fleſhy into Part of its* concave *Side. Its Uſe in this Animal is peculiar to the* Scapula, *which it moves according to the various Direction of its Fibres; and, beſides, it keeps the*

the Shoulder-blade from ſtarting out, or riſing up too high, when this Animal ſtands or runs.

SERRATUS MINOR ANTICUS

Ariſes tendinous from the *Proceſſus coracoides ſcapulæ*, but ſoon grows fleſhy and broad. *Origin.*

Is inſerted tendineo-carnous into the lower Edge of the bony Part of the third, fourth and fifth Ribs. *Inſertion.*

Its Uſe is either to aſſiſt the former, or to draw the *Scapula* forwards. *Uſe.*

This is wanting in a Dog.

SERRATUS SUPERIOR POSTICUS

Ariſes by a broad and thin Tendon, from the lower Part of the *Ligamentum colli*, or rather from the tendinous Union of the *Splenii*, from the acute Proceſs of the *Vertebra* of the Neck, and from two or three of the uppermoſt of the Back. *Origin.*

Is inſerted into the ſecond, third and fourth Ribs by as many particular fleſhy Slips. *Inſertion.*

Its Uſe is to expand the *Thorax* in the Elevation of the Ribs. *Uſe.*

SER-

SERRATUS INFERIOR POSTICUS

Origin. Ariſes by a broad thin Tendon from the ſpinal Proceſſes of the two inferior *Vertebræ* of the Back, and from as many, or more, of the ſuperior of the Loins.

Inſertion. Is inſerted fleſhy into the lower Edge of the three or four inferior Ribs, tho' ſeldom into the laſt, but at a greater Diſtance from the *Obliquus abdominis externus*, than will admit of any Indentation between thoſe two Muſcles.

Uſe. Its Uſe is to depreſs ſo many of the Ribs, or at leaſt to accelerate their Motion downwards.

In a Dog the Serratus ſuperior poſticus *ariſes by a thin Tendon from the lower Part of the* Ligamentum colli, *its laſt acute Proceſs, and from the eight ſuperior Proceſſes of the Back. Its Inſertion is into the nine uppermoſt Ribs, excepting the firſt, by ſo many diſtinct fleſhy* Digituli. *Its Tendon joins in with that of the* Serratus inferior poſticus, *and ſo makes as it were a ſtrong tendinous Bandage, which, keeping the ſubjacent Muſcles very cloſe together, does vaſtly ſtrengthen them in their Actions.*

SCARO-

SACRO-LUMBALIS

Ariſes outwardly tendinous, and inwardly fleſhy, in common with the *Longiſſimus dorſi*, from the ſingle uppermoſt *Spines* of the *Os ſacrum*, from the poſterior Part of the *Spine* of the *Ilium*, from the inferior *Spines* of the *Vertebræ lumborum*, and by ſmall Tendons from near the Roots of their tranſverſe Proceſſes. *Origin.*

Is inſerted by as many long and thin Tendons as there are Ribs, each of which terminates into the third Rib, where it begins to be curved, above its parting from the Body of the Muſcle, only its uppermoſt and laſt Tendon ends in the tranſverſe Proceſs of the ſeventh *Vertebra colli*. *Inſertion.*

Its Uſe is to pull the Ribs down. *Uſe.*

N. B. From the upper Part of the ſix or ſeven lower Ribs ariſe ſo many ſmall Bundles of thin tendinous and fleſhy Fibres, which, after a very ſhort Progreſs, terminate in the inner Side of this Muſcle. *Steno* calls them *Muſculi ad ſacro-lumbum acceſſorii.*

CERVICALIS DESCENDENS *Diemerbr.*

Ariſes fleſhy from the third, fourth, fifth and ſixth tranſverſe Proceſſes of the *Vertebræ colli*, and *Origin.*

Inſertion. Is inſerted into the third, fourth, fifth, ſixth and ſeventh Ribs, between the *Sacro-lumbalis* and *Longiſſimus dorſi*.

Uſe. Its Uſe is to draw the Ribs upwards in the Act of Inſpiration.

COSTARUM LEVATORES *Sten.*

Which I name *Levatores proprii*, to diſtinguiſh them from the other Muſcles that perform the ſame Office, They

Origin. Ariſe tendinous and fleſhy from the tranſverſe Proceſſes of the *Vertebræ* of the Back, whence, being carried obliquely

Inſertion. forwards, they ſoon terminate in the upper Side of all the Ribs except the firſt.

Uſe. Their Uſe is to lift up the Ribs, and dilate the Cheſt, which they do moſt effectually, becauſe the Proceſſes of the *Vertebræ* ſerve as a *Fulcimen* to their Motion.

CHAP. XXVI.

Of the Muſcles of the HEAD, *that appear in the prone Poſition of the Body.*

SPLENIUS

Origin. ARiſes by a great many long and thin Tendons from the five ſuperior ſpi-

nal

nal Proceſſes of the *Vertebræ* of the Back, tendinous and fleſhy from the laſt of the Neck, and entirely tendinous from the *Ligamentum colli*; or rather the Tendons of the two *Splenii* unite here inſeparably, only about the ſecond *Vertebra* of the Neck they recede from one another, ſo that Part of the ſubjacent Muſcle may be ſeen.

Is inſerted by one Tendon into the tranſverſe Proceſs of the ſecond *Vertebra colli*, and by two, for the moſt Part, into that of the firſt, and tendineo-carnous into the under and fore Part of the *Proceſſus mammillaris*, from whence it is carried backwards on the *Occiput*. *Inſertion.*

Its Uſe is to bring the Head backwards laterally; but when both act, to pull the Head directly backwards. *Uſe.*

In a Dog it terminates in the tranſverſe Proceſs of the firſt Vertebra colli, *and into the poſterior and lateral Part of the* occipital Bone. *Backwards it is intimately conjoined with its Fellow of the other Side, from the ſharp Proceſs of the laſt* Vertebra colli *to the* Occiput, *from which Commiſſure or Joining there runs down a thin tranſparent Membrane to all the* Ligamentum colli.

TRACHLEO-

TRACHLEO-MASTOIDÆUS, *ſeu* CAPITIS PAR TERTIUM, *Fallop.*

Origin. Ariſes from the tranſverſe Proceſs of the firſt and ſecond *Vertebræ dorſi*, and from the three or four lowermoſt of the Neck, by ſo many thin Tendons, which uniting form a pretty thick fleſhy Belly, that runs up under the *Splenius*, and

Inſertion. Is inſerted into the Middle of the back Side of the *Proceſſus maſtoidæus* by a thin Tendon.

Uſe. Its Uſe is to aſſiſt the *Complexus*.

N. B. This Muſcle often receives a roundiſh fleſhy Slip from the *Longiſſimus dorſi*.

In a Dog it is inſeparably united with the Tendon of the Splenius, *at its Termination in the* Occiput.

COMPLEXUS

Origin. Ariſes tendinous and fleſhy from the ſix or ſeven ſuperior tranſverſe Proceſſes of the *Vertebræ* of the Back, and from all thoſe of the Neck, except that of the firſt, by ſo many diſtinct Beginnings; in its Aſcent it adheres to the ſpinal Proceſs of the laſt *Vertebra colli*, and to the Ligament that runs from thence to the ſecond *Vertebra*, where it leaves its Fellow of the other

ther Side, and runs off obliquely forwards to its Termination.

Is inſerted fleſhy into the *Os occipitis*, between the upper Part of the *Obliquus ſuperior*, and the Edge of the Protuberance obſervable in the Middle of that Bone. *Inſertion.*

If one Muſcle acts, the Head is thereby pulled a little to one Side; but if both act in Concert, the Head is extended, or drawn directly backwards. *Uſe.*

In a Dog it ariſes from the four ſuperior tranſverſe Proceſſes of the Back by ſo many thin and ſmall Tendons, as alſo from the five lower Ones of the Neck by ſo many different Heads, not unlike the Digituli *of the great ſerrated Muſcle, which uniting form a large fleſhy Belly, that terminates tendinous in the lateral Part of the* Occiput, *near its Ridge.*

RECTUS MAJOR

Ariſes fleſhy from one of the double *Spines* of the ſecond *Vertebra* of the Neck, and grows broader in its Aſcent, which is not ſtraight, but obliquely outwards, being as it were divided into two thin Portions, the innermoſt of which *Origin.*

Is inſerted into the *Occiput*, near the *Rectus lateralis*; the other, which is the broadeſt, ends in the ſame Bone, under *Inſertion.*

Part

Part of the *Obliquus major*, tendinous and fleſhy.

Uſe. Its Uſe is to extend or pull the Head backwards.

This in a Dog is double; the firſt, or Rectus major, *comes from the lower Part of the ſpinal Proceſs; the ſecond, which I call* Rectus medius, *proceeds from the upper Part of the ſame Spine.*

RECTUS MINOR

Origin. Ariſes narrow from a little Protuberance in the Middle of the back Part of the firſt *Vertebra colli*, cloſe by its Fellow, and

Inſertion. Is inſerted pretty broad (its inner Edge being only covered by the *Rectus major*) into the Sides of a Dimple in the *Os occipitis*, near its great *Foramen*.

Uſe. Its Uſe is to aſſiſt the *Rectus major* in nodding or bowing the Head a little backwards.

OBLIQUUS SUPERIOR

Origin. Ariſes from the tranſverſe Proceſs of the firſt *Vertebra* of the Neck.

Inſertion. Is inſerted tendinous and fleſhy into the *Os petroſum* and *occipitale*, between the back Part of the *Proceſſus mammillaris* and the *Muſculus complexus*.

Uſe. It ſerves for the oblique or ſemicircular Motion of the Head.

This

This in a Dog is alſo double; one Muſcle ariſes fleſhy from the Extremity of the tranſverſe Proceſs of the firſt Vertebra colli, *the other ſprings from all the upper Edge of the ſame Proceſs, and both ſeem to unite about their Inſertion into the* Occiput.

OBLIQUUS INFERIOR

Ariſes fleſhy from the ſpinal Proceſs of the ſecond *Vertebra colli*, and from ſome Part of the Body of the ſame next the Spine. *Origin.*

Is inſerted into the tranſverſe Proceſs of the firſt. *Inſertion.*

Its Uſe is to aſſiſt the former. *Uſe.*

In a Dog it ariſes from the Edge of the long Spine of the ſecond Vertebra colli.

CHAP. XXVII.

Of the Muſcles of the NECK *that lie on it's back Part.*

SPINALIS

ARiſes by a great many tendinous and fleſhy Fibres from the five ſuperior tranſverſe Proceſſes of the *Vertebræ* of the Back, aſcending obliquely under the *Complexus*. *Origin.*

Is

Inſertion. Is inſerted into the fifth, fourth, third, and ſecond ſpinal Proceſſes of the Neck.

Uſe. Its Uſe is to extend the Neck, by drawing it directly backwards.

In a Dog it much better deſerves this Name, becauſe it accompanies all the Spines of the Neck, ariſing from the Top of the firſt ſpinal Proceſs of the Back, and running ſtraight to that of the ſecond Spondyle *of the Neck, being firmly faſtened to the Sides of all the interveening acute Proceſſes.*

TRANSVERSALIS

Origin. Ariſes tendinous and fleſhy, partly from the oblique Proceſſes of the four inferior *Vertebræ* of the Neck, and partly from the Space between them and the tranſverſe Ones, being only a Continuation of the ſame Series of muſcular Fibres that compoſe the Muſcles of the Back, of the ſame Name.

Inſertion. Is inſerted near the Root of the ſuperior *Spines* of the Neck; yet the uppermoſt Termination is not only into the *Spine* of the ſecond *Vertebra*, but alſo into the Body of the ſame *Spondyle* laterally.

Uſe. Its Uſe is to move the Neck directly backwards if both act, and obliquely backwards if one only acts.

In

In a Dog the Inſertion of this Muſcle is into the Bodies of the Vertebræ *of the Neck.*

INTERSPINALES *Cowperi*

Ariſe fleſhy from the ſuperior Part of each double ſpinal Proceſs of the Neck, except the uppermoſt, which comes from the Body of the firſt *Vertebra*, and are *Origin.*

Inſerted into the inferior Part of all the ſaid *Spines*. *Inſertion.*

Their Uſe is to bring theſe acute Proceſſes near each other. *Uſe.*

INTERTRANSVERSALES * * *.

The Diſtance between the tranſverſe Proceſſes of the *Vertebræ* of the Neck, moſt of which are bifid or forked, is filled up with a fleſhy Subſtance, ariſing from the inferior, and aſcending to its Inſertion at the ſuperior Proceſs. *Origin.* *Inſertion.*

Their Uſe is to approximate theſe tranſverſe *Apophyſes*. *Uſe.*

INTERVERTEBRALES.

They ariſe from the Body of one *Vertebra* laterally, and are *Origin.*

Inſerted, after an oblique Progreſs, into the back Part of the other *Vertebra* immediately above it. *Inſertion.*

Their Uſe is to draw the Bodies of the *Uſe.*

Vertebræ nearer one another, and a little to one Side.

N. B. The Number of theſe little ſmall Muſcles is very uncertain, becauſe they vary in moſt Subjects; the laſt Pair, being the ſlendereſt of all, are chiefly conſpicuous upon the back Part of the firſt and ſecond, and ſecond and third *Vertebræ*.

In a Dog they are all larger than in Man.

CHAP. XXVIII.

Of the Muſcles of the BACK.

THO' the Muſcles that ly upon the *Vertebræ* of the Back and Loins do appear, even in the Opinion of the great *Fallopius*, to be only a confuſed Maſs, or indigeſted Heap of tendinous and fleſhy Fibres, extremely intricate, and ſo variouſly interwoven one with another, that it ſeems very difficult, if poſſible, to ſeparate them; yet in my anatomical Exerciſes, I always demonſtrate them, having in all Subjects found them regular and uniform, fairly and diſtinctly divided into eighteen Muſcles, nine on each Side; one of which belongs to the *Thorax, viz.* the *Sacro-lumbalis* already deſcribed, three to the

the Back, and five to the Loins. *Galen* and Mr. *Duverney* think it indifferent, either to reckon theſe Muſcles, which they call *Spinales* and *Vertebrales*, as one Pair only, or to multiply their Number according to that of the *Vertebræ*; but in my Judgment the laſt would breed a great deal of Confuſion, and the firſt ſhews but little of an Artiſt.

LONGISSIMUS.

The Origin of this Muſcle is in common with that of the *Sacro-lumbalis*. *Origin.*

Is inſerted into all the tranſverſe Proceſſes of the Back by a double Tendon into each; from its Outſide there go off ſeveral *Faſciculi* of fleſhy Fibres, interſperſed with a few tendinous *Filaments*, which are ſoon inſerted into the lower Edge of moſt of the Ribs, not far from their *Tubercle*. *Inſertion.*

Its Uſe is to extend the *Vertebræ* of the Back, and ſo keep the Trunk of the Body erect. *Uſe.*

N. B. From the ſuperior Part of this Muſcle there runs up a round fleſhy Portion, which, becoming tendinous, unites with a carnous Part of the *Par tertium Fallopii*, which I have called *Trachelo-maſtoidæus*.

SEMI-

SEMISPINALIS

Origin. Ariſes from the tranſverſe Proceſſes of the ſix or ſeven lowermoſt *Vertebræ* of the Back by ſo many diſtinct Tendons, which ſoon grow fleſhy, and then, becoming tendinous again, are

Inſertion. Inſerted tendinous into all the ſuperior ſpinal Proceſſes of the Back, and into the lowermoſt Spine of the Neck.

Uſe. Its Uſe is to aſſiſt the following:

TRANSVERSALES DORSI INTERIORIS

Origin. Ariſe tendinous and fleſhy from the upper Part of the tranſverſe Proceſſes of the Back; then, growing all fleſhy, they run over the next *Vertebra*, and are

Inſertion. Inſerted near the Root of all its ſpinal *Apophyſes*.

Uſe. If they all act on one Side, they extend the Back obliquely, or move it laterally; but, if they work together, they extend the *Vertebræ dorſales* by pulling them backwards.

CHAP.

CHAP XXIX.

Of the Muſcles of the LOINS.

THE *Vertebræ* of the Loins are moved by five Pair of Muſcles.

SPINALIS *Cowperi*

Ariſes tendinous and fleſhy from the ſuperior ſingle *Spines* of the *Os ſacrum*, in common with the *Sacro-lumbalis* and *Longiſſimus dorſi*, and — *Origin.*

Is inſerted tendinous into all the ſpinal Proceſſes of the *Vertebræ lumborum*. — *Inſertion.*

Its Uſe is to extend the foreſaid *Vertebræ*. — *Uſe.*

TRANSVERSALIS LUMBORUM, *vulgo* SACER,

Ariſes fleſhy from the oblique Proceſſes of the *Vertebræ* of the Loins, and — *Origin.*

Is inſerted near the Root of their ſpinal Ones. — *Inſertion.*

Its Uſe is to move the *Vertebræ lumborum*, after the ſame Manner that the *Tranſverſales* do thoſe of the Back. — *Uſe.*

QUADRATUS

Ariſes broad and tendineo-carnous from the poſterior Part of the *Spine* of the *Ilium*. — *Origin.*

Is

Inſertion. Is inſerted into the tranſverſe Proceſſes of all the *Vertebræ lumborum*, except the laſt, into the firſt Rib, and by a ſmall Tendon, that creeps up under the *Diaphragm*, into the laſt *Vertebræ* of the Back laterally.

N. B. From the fourth, third, and ſometimes the ſecond tranſverſe Proceſs, there ariſes ſo many ſmall Muſcles, which unite with this *Quadratus* on its Inſide that reſpects the Cavity of the *Abdomen*.

Uſe. Its Uſe is to move the Loins to one Side, and when both act together to bend the *Vertebræ* ſtraight forwards.

In a Dog it ariſes from the Spine *of the* Ilium *internally, and, aſcending, adheres to all the tranſverſe Proceſſes of the Loins; then, entring the Cavity of the* Thorax, *it ends tendinous and fleſhy in its tenth or ninth* Vertebra, *counting from above downwards.*

PSOAS PARVUS *Riol.*

Origin. Ariſes fleſhy from the upper *Vertebræ* of the Loins laterally.

Inſertion. Is inſerted by a long flat thin Tendon into that Part of the *Os pubis* where it joins the *Ilium*.

Uſe. Its Uſe is to aſſiſt the *Rectus abdominis* in drawing the *Os pubis* upwards, as in raiſ-

ing

ing ourſelves from a decumbent Poſture, as Mr. *Cowper* writes. It may alſo ſerve to bend the Loins forwards; but then its Beginning muſt be drawn from the *Oſſa pubis*, and its Termination be fixed in their *Vertebræ*.

This in a human Body is often miſſed, but never in a Dog, ariſing from the Bodies of the four lowermoſt Vertebræ dorſi, *and as many of the upper* Spondyles *of the Loins, by ſo many ſmall Tendons laterally, and fleſhy from the Middle of all the ſame* Vertebræ *laterally. It ſoon turns into a broad and thin Tendon expanded over the great* Pſoas.

INTERTRANSVERSALES * * *.

Theſe ly between the tranſverſe Proceſſes of the Loins, ariſing from all the Edge of one, and terminating into that of the other. *Origin.* *Inſertion.*

Their Uſe is to bring the *Apophyſes* nearer each other. *Uſe.*

It was in a Dog that I firſt diſcovered theſe ſmall Muſcles, and I have never ſince miſſed them in the human Body.

CHAP.

CHAP. XXX.

Of the Muſcles of the HUMERUS *or* ARM.

THE *Os humeri*, or Shoulder-Bone, is moved by nine Muſcles.

PECTORALIS

Origin. Ariſes fleſhy from near Half the anterior Part of the *Clavicula*, and from the cartilaginous Endings of the fifth and ſixth Ribs, where it always detaches a *Faſciculus* or two of fleſhy Fibres, which run down upon the Membrane that covers the *Muſculus abdominis externus*; beſides, it derives another Origin from almoſt all the Length of the *Sternum* by a great many ſhort and ſmall Tendons, which plainly decuſſate thoſe on the other Side.

Inſertion. Is inſerted by two ſtrong and broad Tendons, which croſs one another at the upper and inner Part of the *Os humeri*, between the *Deltoides* and *Biceps*.

Uſe. Its Uſe is to move the Arm upwards.

N. B. Its ſuperior Tendon gives Riſe to the *Involucrum*, or tendinous Ligament that binds in one of the Heads of the *Biceps*.

In

In a Dog the Fibres of this Muſcle run in three different Directions, and may be eaſily divided into three Muſcles. The largeſt ariſes by an acute fleſhy Beginning from the Cartilago enſiformis, *and from almoſt all the* Sternum, *and is inſerted by a ſhort and ſtrong Tendon into a Protuberance into the Head of the* Os humeri, *and by a membranous Tendon into the ſame Bone lower down.*

The ſecond Muſcle lies on the Outſide of this, ariſing from near the Extremity of the Cartilago enſiformis, *and, aſcending, is partly inſerted with the former, and partly runs down upon the Muſcles lying on the Inſide of the* Humerus.

The third, which from its Poſition deſerves the Name of Tranſverſalis, *ariſes from the upper Part of the Breaſt, and, croſſing over the firſt, terminates below it, by a ſtrong and broad Tendon, all along the fore Part of the* Os humeri *externally.*

DELTOIDES

Ariſes fleſhy from all the poſterior and external Parts of the *Clavicle* that the *Pectoralis* does not poſſeſs, tendinous and fleſhy from the lower Margin of the fore Part of the *Spina ſcapulæ*, and entirely tendinous from the poſterior Part of the ſame. *Origin.*

Inſertion. Is inſerted tendinous and fleſhy at a rough Protuberance in the fore Part of the Arm about its Middle, the Fibres of its *Apex* or Point being intermixed with ſome Part of the *Brachiæus internus.*

Uſe. Its Uſe is to pull the Arm directly upwards, and that either ſomewhat forwards or backwards, according to the different Direction of its Fibres.

In a Dog it ariſes tendineo-membranous from almoſt all the Spine *of the* Scapula; *that Part of it which ſprings from the* Acromion *ſeems to be diſtinct from its other Origin, but yet cannot be divided without Violence; its Action is all upwards and outwards, becauſe it has no Beginning from the* Clavicle, *which is wanting, to direct it inwards.*

SUPRASPINATUS

Origin. Ariſes fleſhy from all the *Baſis ſcapulæ* that is above its *Spine*, as alſo from its *Spine* and upper *Coſta.*

Inſertion. Is inſerted tendinous into that Part of the Protuberance on the Head of the *Os humeri* that is next the Canal of the *Biceps.*

Uſe. Its Uſe is to lift or move the Arm upwards.

INFRASPINATUS

Origin. Ariſes fleſhy from all that Part of the *Baſis ſcapulæ* that is between its Spine and its

its lower Angle, from the Spine as far as its *Cervix*, and from the Edge of all that *Foſſa* that runs above its inferior *Coſta*.

Is inſerted by a thick and ſhort Tendon into the upper Part of a rough and flattiſh Protuberance on the Head of the *Os humeri*. *Inſertion.*

Its Uſe is to pull the Arm directly backwards. *Uſe.*

N. B. 1. On the Inſide of this Muſcle one may obſerve two or three large Tendons run along its fleſhy Subſtance.

2. This and the former are both covered with a tendinous Membrane, which not only ſtrengthens their Actions, but alſo keeps them from ſwelling too much outwardly in acting.

In a Dog, through its Middle, lengthways, there runs a Tendon from which the fleſhy Fibrillæ *run off on each Side like the* Stamina *of a Feather.*

TERES MINOR

Ariſes fleſhy from all the round Edge of the inferior *Coſta ſcapulæ*, being in all Subjects, that ever I diſſected, diſtinguiſhed from the *Infraſpinatus* by a very conſiderable Membrane. *Origin.*

Is inſerted tendinous a little below the Termination of the laſt named Muſcle, and *Inſertion.*

and fleſhy a little lower upon the Neck of the *Os humeri*.

Uſe. Its Uſe is to aſſiſt the bigger round Muſcle in bringing the Arm backwards.

In a Dog it ariſes by a thin Tendon which cloſely adheres to the Infraſpinatus *from the Middle of the lower Edge of the* Scapula, *and, turning into a round fleſhy Belly, it paſſes obliquely over the Head of the* Longus *to its tendinous Inſertion.*

TERES MAJOR

Origin. Ariſes fleſhy from the inferior Angle of the *Scapula*, and from all that Portion of its lower Rib, or *Coſta*, that is rough and thicker than the reſt, its fleſhy Fibres being continued over Part of the *Infraſpinatus*, to which they firmly adhere.

Inſertion. Is inſerted by a ſhort, broad and thin Tendon, at a Roughneſs a little below the Head of the *Os humeri* internally; and, tho' it is very cloſely joined to the Tendon of the *Latiſſimus dorſi*, yet they part before their Inſertions into that Bone.

Uſe. Its Uſe is to move the Arm backwards and downwards.

LATISSIMUS DORSI

Origin. Ariſes by a thin Tendon from the poſterior Part of the Spine of the *Ilium*, from the

the ſuperior Spines of the *Os ſacrum*, from all thoſe of the *Vertebræ lumborum*, and from ſeven or eight of the lowermoſt Ones of the Back, below the *Rhomboides;* beſides, it has another Origin from the bony Part of the eleventh, tenth, and ninth Ribs, near their *Curvature*, by ſo many diſtinct fleſhy Slips. I never found it adhere to the inferior Angle of the *Scapula* by any carnous Fibres, it being only connected by Membranes to the *Teres major* and *Rhomboides*.

Is inſerted by a ſtrong and thin Tendon upon the Edge of the Channel of the *Biceps*, near the Termination of the pectoral Muſcle. *Inſertion.*

Its Uſe is to pull the Arm backwards and downwards. *Uſe.*

In a Dog, when this Muſcle arrives at the Teres major, *it parts with a thin fleſhy Production, which, running down upon the* Longus cubiti, *terminates tendinous into the* Ancon. *A little before its Inſertion it receives the* Membrana carnoſa, *which fleſhy Panicle or Membrane is a thin carnous Expanſion which covers the Muſcles that ly on the upper Part of the* Os femoris, *the* Ilium *and* Sacrum, *the* Abdomen, Dorſum, *and moſt Part of the* Thorax; *as it comes near*

near the Axilla *it narrows and grows thicker, and then joins in with this Muſcle, where it terminates. By the Contraction of its Fibres the Skin is wrinkled, and the Hairs on the Back made to ſtand erect when this Animal is angry or afraid.*

CORACO-BRACHIALIS

Origin. Ariſes partly tendinous and partly fleſhy from the under Side of the *Proceſſus coracoides ſcapulæ* near its Tip, adhering, in its Deſcent, to one of the Heads of the *Biceps*.

Inſertion. Is inſerted tendineo-carnous about the Middle of the internal Part of the *Os humeri*, ſending down a thin tendinous Expanſion to the inner *Condyle* of that Bone.

Uſe. Its Uſe is to lift or move the Arm upwards. Through this Muſcle paſſeth a large Branch from the fourth Pair of Nerves of the Neck, which conſtitutes the firſt brachial Pair.

In a Dog it is a ſmall thin Muſcle, ariſing from a Protuberance in the upper Part of the ſuperior Coſta ſcapulæ *by a very ſlender Tendon, which, paſſing over the Head of the* Humerus, *grows fleſhy, and is ſo inſerted into the Inſide of that Bone, about an Inch or more below its Neck.*

SUB-

SUBSCAPULARIS

Ariſes fleſhy from all the Baſis of the *Scapula*, from all its ſuperior *Coſta*, and about one Half of its inferior; beſides, it has two tendinous Beginnings ariſing from two little Protuberances ſeated in the hollow Part of this Bone near its Baſis, at two or three Inches Diſtance from one another, which Tendons are continued thro' the fleſhy Part of the Muſcle to its Ending, being ſubdivided into many more as it paſſes over the Juncture. *Origin.*

Is inſerted tendinous into the upper Edge of the Protuberance on the Head of the *Os humeri* laterally. *Inſertion.*

Its Uſe is to bring the Arm cloſe to the Ribs. *Uſe.*

The Tendon of this, with that of the *Infra* and *Supraſpinatus*, adheres firmly to the Membrane that involves the Articulation of the *Humerus* with the *Scapula*; but they may be all eaſily divided one from another, without cutting their tendinous Fibres.

In a Dog it only fills up three Parts of the Concave *or hollow Part of the* Scapula, *the* Serratus anticus major *poſſeſſing the reſt.*

Be-

Beſides the nine Pair of Muſcles above deſcribed, a Dog has two more. The firſt I name

Levator humeri proprius. *It ariſes membranous and fleſhy from all the Space between the tendinous Ending of the* Maſtoidæus *and the Ridge of the* Occiput, *and from the upper Part of the* Ligamentum colli; *this large Beginning contracts and grows narrower as it runs obliquely down the Neck, cloſely adhering to ſome Part of the* Levator ſcapulæ major, *and, paſſing over the Articulation of the* Humerus, *goes ſtraight down to its Inſertion in the fore Part of the ſame Bone, near the* Flexure *of the* Cubit, *between the* Biceps *and* Brachiæus internus. *The ſecond I call*

Muſculus ad levatorem acceſſorius. *It ariſes from the* Os occipitis, *near the Inſertion of the thick Tendon of the* Maſtoidæus, *and, becoming a thick fleſhy Muſcle, runs down to its Inſertion into the* Levator proprius, *being there of an equal Breadth with it. Juſt above the Head of the* Os humeri, *near the Termination of this Muſcle, there is placed a ſmall falcated cartilaginous Bone, tied to the* Scapula *and Top of the* Sternum *by two ſmall Ligaments, which ſeems to be an imperfect Clavicle.*

In

In Cats this Muſcle is inſerted into the whole Length of their Clavicula, *which it ſerves to lift up. But in this Animal the Uſe of this acceſſory Muſcle ſeems calculated for the Aſſiſtance of the* Levator, *which ſerves to raiſe the* Os humeri *upwards, and at the ſame Time to turn it a little outwards, whereby the fore Feet are kept from interfering or cutting one another in running or leaping.*

CHAP. XXXI.

Of the Muſcles of the CUBIT.

THE *Cubit*, or fore Arm, reaching from the Extremity of the *Os humeri* to the Wriſt, and compoſed of two Bones, *viz.* the *Ulna* and *Radius*, has five Muſcles.

BICEPS INTERNUS

Its firſt and outermoſt Head ariſes tendinous from the *Cervix ſcapulæ*, near the upper and narrow Edge of its Cavity, called *Acetabulum*, which in its Deſcent is incloſed in a Channel in the Head of the *Os humeri*, by a membranous Ligament that proceeds from the *pectoral* Muſcle. *Origin.*

The ſecond or innermoſt ariſes tendinous and fleſhy from the *Proceſſus coracoides ſcapulæ*. A little below the Middle of the fore Part of the Arm theſe Heads unite.

Inſertion. Is inſerted by a ſtrong and thick Tendon into all the *Tubercle* on the upper End of the *Radius* internally.

Uſe. Its Uſe is to bend the *Cubit*.

N. B. About the *Flexure* of the *Cubit*, or Bending of the Elbow, where it begins to grow tendinous, it ſends off an *Aponeuroſis*, firſt taken Notice of by that celebrated Anatomiſt Mr. *Cowper*, vid *Myotom. reformat.* Page 147. which covers all the Muſcles on the Inſide of the *Cubit*. Its Fibres decuſſate thoſe of another tendinous Membrane that lyes under it.

In a Dog it conſiſts but of one Head ariſing from the Cervix ſcapulæ, *and on that Account I call it* Flectens cubitum anterior, *becauſe it lyes above the following Muſcle.*

BRACHIALIS INTERNUS

Origin. Ariſes fleſhy from the Middle of the *Os humeri* at each Side of the Termination of the *Deltoides* Muſcle, filling up all the Space between the two Edges of this Bone.

Inſertion. Is inſerted by a very ſtrong Tendon into the upper and fore Part of the *Ulna*.

Its

Its Uſe is to aſſiſt the former. *Uſe.*

In a Dog it ariſes broad and fleſhy from the back Part of the Humerus, *juſt under its Neck; from thence it runs obliquely to the fore Part of that Bone, and then proceeds as in Man.*

BICEPS EXTERNUS.

The firſt Head, called *Longus*, ariſes broad and tendinous from the *Coſta ſcapulæ inferior*, and a little fleſhy from its Neck. The ſecond Head, called *Brevis*, ariſes by an acute tendinous and fleſhy Beginning from the *Os humeri*, about an Inch below its Head. Upon the back Side of the *Humerus*, theſe two, with the following Muſcle, join their Fibres, and are *Origin.*

Inſerted into the upper and external Proceſs of the *Ulna*, called *Ancon*. *Inſertion.*

Its Uſe is to extend the *Cubit*. *Uſe.*

BRACHIALIS EXTERNUS

Ariſes by an acute fleſhy Beginning from the *Os humeri*, a little higher than the Inſertion of the *Teres major*. About the Middle of the Arm it paſſes under the *Longus*, with which it mixes Fibres to the external Ridge of that Bone, being continued down the ſame to the *Condyle* of *Origin.*

that

that Side, where ſome of its Fibres join inſeparably with the *Anconæus*; the reſt ending in the *Ancon*, with thoſe of the *Longus* and *Brevis*.

N. B. The *Brachiæus externus*, and the *Biceps externus*, or *Gemellus*, make but one ſingle Muſcle with three Heads, to which I give the Name of *Triceps cubiti*, or *Extenſor cubiti magnus triplici principio natus*.

ANCONÆUS, *vel* CUBITALIS, *Riol.*

Origin. Ariſes by a round and ſhort Tendon from the back Part of the external *Condyle* of the *Os humeri*; this ſoon grows fleſhy, and is ſo intangled with Part of the *Brachiæus externus*, that there can be no ſeparating them without Violence.

Inſertion. Is inſerted fleſhy and thin into the lateral Part of the *Ulna*, a few Inches below the *Olecranon*.

Uſe. Its Uſe is to aſſiſt in extending the *Cubitus*.

In a Dog the Extenſion of the Cubit, *or* Ulna, *is performed by the joint Action of five very diſtinct Muſcles.*

Extenſor primus, *or* longus, *ariſes as in Man, and becomes a very thick and fleſhy Belly, but, gradually contracting, grows tendinous, and is ſo inſerted into the upper and*

ex-

external Part of that Proceſs of the Ulna, *called* Ancon *in human Bodies.*

Extenſor ſecundus, *or* brevis, *ariſes from the ſuperior and back Part of the* Humerus, *juſt under its ſmooth Head, and, deſcending under the* Longus, *turns into a ſmall Tendon, which, paſſing through a* Sulcus *in the Extremity in the* Ulna, *ends a little below the* Longus.

Extenſor tertius, *which is ſomething analogous to that Head of the* Triceps cubiti *called* Brachiæus externus, *is a pretty thick fleſhy Muſcle, ariſing from the upper and poſterior Part of the* Humerus, *at a Protuberance near the Ending of the* Teres minor; *it ends in the Outſide of the* Ancon.

Extenſor quartus, *vel* Anconæus, *fills up a Cavity or Hollow between the Heads of the* Ulna *and* Radius, *ariſing and terminating as in Man.*

Extenſor quintus *ariſes by a thin Tendon from the Inſide of that Protuberance into which the* Supraſpinatus *of the* Scapula *is inſerted, and, paſſing under the Tendon of the* Teres major, *becomes fleſhy, and ends tendinous on the Inſide of the* Ancon.

CHAP.

CHAP. XXXII.

Of the Muſcles of the PALM *of the* HAND.

THE Muſcles of the *Palma*, or *Vola manus*, are two.

PALMARIS LONGUS

Origin. Ariſes tendinous from the internal Protuberance of the *Os humeri*; it ſoon becomes fleſhy, and within a few Inches becomes tendinous again. About the *Ligamentum carpi annulare* it expands itſelf into a broad diſgregated Tendon (giving ſome *Filaments* to the *Adductor pollicis*) between which and the Skin there lyes a great deal of Fat. Near the lower End of the *metacarpal* Bones it is decuſſated by a great many tendinous ſtraight Fibres, which run upon it from one Side to the other.

Inſertion. Its inſertion is, by two ſmall Tendons, into the Sides of the Cartilage that lyes upon the Articulation of each Finger with the *Oſſa metacarpi*.

Uſe. Its Uſe is to contract the Palm of the Hand, and ſo aſſiſt it to graſp any Thing cloſely.

N. B. This Muſcle does ſometimes ſpring from the *Ligamentum annulare*.

It is wanting in a Dog.

PAL-

PALMARIS BREVIS *Joan. Bapt. Canan.*
vel CARO QUADRATA,

Ariſes, by a Membrane-like Tendon, from the ſuperior and external Part of the *Os metacarpi minimi digiti;* whence aſcending obliquely, and adhering to the fourth Bone of the *Carpus* that lyes upon the third, it grows fleſhy in two or three Places, being ſeparated by interveening Membranes; and, paſſing under the *Palmaris longus.* *Origin.*

Is inſerted tendinous into the *Ligamentum annulare,* and into that Bone of the *Carpus* that articulates with the Thumb. The upper Part of this Tendon adheres to the *Abductor pollicis,* and its lower Part to the *Flexor ſecundi internodii ejuſdem.* *Inſertion.*

Its Uſe is to make the Palm of the Hand hollow, by drawing the Ball of the Thumb towards the *Os metacarpi* that ſuſtains the little Finger, and ſo forms what they call *Diogenes*'s Cup. *Uſe.*

This is wanting in a Dog.

CHAP.

CHAP. XXXIII.

Of the Muſcles of the WRIST.

THE *Carpus*, or Wriſt, compoſed of eight ſmall Bones, ſituated between the Extremities of the *Ulna* and *Radius*, and the upper Part of the *metacarpal* Bones, is furniſhed with four Muſcles; and yet all of them, as *Veſlingius* remarks, terminate in the Bones of the *Metacarpus*.

FLEXOR CARPI RADIALIS

Origin. Ariſes tendinous and fleſhy from the internal Protuberance of the *Os humeri*, and from the rough Edge of all the anterior Proceſs of the *Ulna*, where it firmly adheres to the *Pronator radii teres*.

Inſertion. Is inſerted by a flat Tendon into the fore and upper Part of the *Os metacarpi* that joins with the fore Finger, having run through a *Sinus* or Cavity of the Bone of the Wriſt that articulates with the Thumb, being there bound in by a Membrane which parts it from the Tendons of the other Muſcles, which with it paſs under the *Ligamentum annulare*.

Uſe. Its Uſe is to bend the Wriſt, together with the Hand; and, when its acts in Con-

Conjunction with the *Radialis extenſor*, the Wriſt is moved laterally towards the *Radius*.

FLEXOR CARPI ULNARIS

Ariſes tendinous from the ſame Tubercle of the Shoulder-Bone. In its Deſcent, according to the Length of the *Ulna*, it is covered by a tendinous Expanſion in common with the other Muſcles that ly on the Outſide of the *Cubit*, and by this only it ſeems to adhere to the external Edge of that Bone. *Origin.*

Is inſerted by a ſhort and ſtrong Tendon into the fourth Bone of the firſt Rank of the *Carpus*, placed upon the third; at ſome Diſtance from its Termination there goes a Ligament from this little Bone to the *Os metacarpi minimi digiti*, which ſome reckon to be a Continuation only of the Tendon of this Muſcle. *Inſertion.*

Its Uſe is to aſſiſt the former in bending the *Carpus*. *Uſe.*

In a Dog it makes two diſtinct Muſcles; the largeſt ariſes tendinous from the inner Tubercle of the Humerus, *near the Edge of the* Sinus *that receives the* Ulna; *is inſerted into the Bone of the* Carpus *that ſtands out of Rank. The leſſer has a thin fleſhy Origin continued from the* Ancon *about*

an Inch down the Inside of the Ulna, *and terminates into the same Bone with the bigger, at some Distance from it.*

EXTENSOR CARPI RADIALIS.

Makes two very distinct Muscles; the first, which I call *Longus*, or *Superior*, a-
Origin. rises broad, thin, and fleshy, from the lower Part of the external Ridge of the *Os humeri*, between the *Supinator radii longus* and the *Condyle*. The other, which I name *Brevis*, or *Inferior*, springs tendineo-carnous from the same Protuberance of the *Os humeri*. They both ly on the Outside of the *Radius*, the last continuing fleshy lower down than the first: The *Longus*

Insertion. Is inserted into the upper Part of the Bone of the *Metacarpus* that sustains the fore Finger; the *Brevis* into that which stays the middle Finger, both being tendinous.

Use. Its Use is to extend the Wrist and bring the Hand backwards.

In a Dog it may properly enough be called Bicornis, *because it cannot, without great Violence, be parted at its Origin.*

Ex-

EXTENSOR CARPI ULNARIS

Ariſes tendinous from the external Pro- *Origin.*
tuberance of the *Os humeri*, between the *Anconæus* and *Extenſor digitorum communis*, and fleſhy from the upper Part of the *Cubit* laterally, deſcending according to the Length of this Bone, its round Tendon being incloſed in a Channel dug in its Extremity, from which, to its Termination, it paſſes through a Ligament like a Sheath.

Is inſerted tendinous into the ſuperior *Inſertion.*
Part of the *metacarpal* Bone that ſupports the little Finger.

Its Uſe is to aſſiſt the Muſcle laſt de- *Uſe.*
ſcribed.

N. B. It is covered with a tendinous Expanſion, continued down from ſome of the Tendons of the *Extenſors* of the *Cubit*, which *Aponeuroſis* is finely expanded over all the Muſcles that ly on the Outſide of the fore Arm, as that of the *Biceps* is on thoſe of its Inſide.

When this and the *Flexor ulnaris* act at once, the Wriſt, with the Hand, is moved ſideways towards the *Ulna*.

In a Dog it beſtows a Tendon on the Bone of the Carpus *that ſtands upon another, on which Account this pulls the* Carpus *a little out-*

outwards in Extenſion, which is of very great Advantage to this Animal in running.

CHAP. XXXIV.

Of the Muſcles of the FOUR FINGERS.

THE Muſcles of the Four Fingers I divide into common and proper. The *common* are ſuch as belong to all the Four Fingers, being thirteen in Number, *viz.* one *Extenſor*, two *Flexors*, four *Lumbricales*, and ſix *Interoſſei*.

PERFORATUS

Origin. Ariſes tendineo-carnous from the inner Protuberance of the *Os humeri*, *tendinous* from the *anterior* Proceſs of the *Ulna*, near the Edge of its lunated Cavity, and tendineo-membranous from about the Middle of the fore Part of the *Radius*; being ſo continued from near the Beginning of the *Flexor pollicis magnus*, three or four Inches down that Bone, its fleſhy Belly divides into four Tendons before it paſſes under the Ligament of the Wriſt, and theſe are

Inſertion. Inſerted into the ſuperior Part of the ſecond Bone of each Finger, that which goes to the little one being by far the ſmalleſt.

In

In the Palm of the Hand they are united to one another, and to thoſe of the Muſcle next in order, by ſoft ſlimy Membranes; about the Middle of the firſt Joint they are divided for the free Paſſage of the Tendons of the *Perforans*, and, where they unite again, one may obſerve a very fair Decuſſation of ſome of the tendinous Filaments of one Side running acroſs to the other; then ſubdividing, as Mr. *Cowper* has well remarked, they march for ſome Space upon the Edges of the Bones before they are loſt upon their upper Part, as I have in all Subjects obſerved.

Its Uſe is to bend the ſecond Joint of the Fingers. *Uſe.*

In a Dog the Tendons of this Muſcle are not ſlit for the paſſing of thoſe of the Perforans, *but they form a round Caſe as long as the firſt Joint, which covers thoſe on all Sides in their Paſſage, having only a little Hole of an oval Figure on its Outſide. They end without any Subdiviſion.*

PERFORANS

Ariſes fleſhy from all the upper Part of the *Ulna* laterally, being continued down its external Ridge or *Spine* to its Middle, from the inner Edge and fore Part of that Bone, and from one Half of the *Ligament* *Origin.*

that

that joins it to the *Radius*; the thick, superior, fleshy Part of this Muscle is firmly kept in by the *Fascia tendinosa* that covers the Muscles lying on the Outside of the fore Arm, as has been already remarked: Splitting into four Tendons, a little before it passes the transverse Ligament of the *Carpus*, they run through the Fissures or Slits made in the former Tendons, being continued farther on to their Insertion into the third Bone of all the four Fingers.

Use. Its Use is to bend the last Joint of the Fingers.

In a Dog it arises by three distinct fleshy Originations; the outermost proceeds from the upper and middle Part of the Radius, *the innermost arises from the upper Part of the* Ulna, *being farther continued down most of its Edge: Both these Heads are very small; but the middlemost makes a very large big-bellied Muscle, seemingly divided into two or three, which springs from the internal Protuberance of the* Os humeri. *These three unite and form a thick and broad Tendon, which soon splits into five small Ones; four terminating as in Man, and the fifth ending in the Thumb.*

LUM-

LUMBRICALES.

Theſe four Muſcles ariſe thin and fleſhy from the Outſide of the Tendons of the *Flexor profundus*, a little below the *Ligamentum tranſverſale*, to which, in their Deſcent, they adhere for ſome Space, but parting from thence they grow round and pretty large. They terminate by long and ſlender Tendons, which run over the tranſverſe cartilaginous Ligament placed upon the Articulation of the firſt Bone of the Fingers, with thoſe of the *Metacarpus*, into the broad Tendons of the *Interoſſei*, about the Middle of the firſt *Internode* next the Thumb laterally. *Origin.* *Inſertion.*

They are ſaid to aſſiſt in bending the firſt Joint of the Fingers. *Uſe.*

EXTENSOR DIGITORUM COMMUNIS

Ariſes by an acute Tendon from the outward Extuberance of the *Os humeri*, between the *Extenſors* of the *Carpus*, cloſely adhering to the *Supinator radii brevis*. Before it paſſes under the *Ligamentum carpi*, it ſplits into four flat Tendons, each of which may be divided into a great many ſmaller. It is chiefly about the Extremity of the *metacarpal* Bones that they remit *Origin.*

ten-

tendinous Filaments to each other. Theſe Tendons are

Inſertion. Inſerted into the uppermoſt Part of the ſecond Bone of each of the four Fingers, being tacked to the firſt Joint in their Way thither.

Uſe. Its Uſe is to extend the firſt and ſecond Joints of the Fingers.

In a Dog it runs to the laſt Bone of each Toe, between the two Ligaments that go from the ſecond Internode *to the third. The Uſe of theſe Ligaments is to draw the laſt Joint backwards and upwards, and keep it ſuſpended, that the extending Tendon may not always be upon the ſtretch, as ſhall be more fully explained in another Place.*

INTEROSSEI

Are well divided into *external* and *internal*. The *external* fill up all the Space that the Bones of the *Metacarpus* leave towards the Back of the Hand. The *internal*, which, properly ſpeaking, deſerve not the Appellation of *Interoſſei*, ariſe from the fore Part of the *metacarpal* Bones that reſpect the Palm of the Hand, being only conſpicuous in the *Vola*, and not in the *Dorſum manus*, whereas the *external* are apparent in both.

The

The firſt *interoſſeous* Muſcle ariſes tendinous and fleſhy from all the fore Part of the *Os metacarpi indicis*, between its Head and *Condyle*; as alſo from the upper Part of the *Os metacarpi medii digiti*. This, which is the firſt of the *internal*, belongs to the Side of the fore Finger, next the middle one. Origin.

The ſecond, which is the firſt of the *external*, ariſes from moſt of the Outſide of the *Os metacarpi medii digiti*, and a little tendinous from its fore Part juſt under its Head, being conſpicuous both towards the Back and Palm of the Hand. This runs along the Side of the middle Finger next the *Index*. Origin.

The third, which is the ſecond of the *external*, and runs along the other Side of the middle Finger, fills up all the Space between its *metacarpal* Bone and that which ſupports the Ring-finger, from both which it ſprings, as alſo from ſome of the fore Part of this Bone laterally, being likeways very conſpicuous in the Palm of the Hand. Origin.

The fourth, which is the ſecond of the *internal*, belongs to the Side of the Ring-Finger next the middle one, ariſing from all the fore Part of its *metacarpal* Bone below its Head. Origin.

Origin. The fifth, which is the third of the *external*, runs *along* the other Side of this Finger, and fills up all the Space between the *metacarpal* Bone of this and that of the little Finger, on the Back of the Hand, ariſing from both thoſe Bones.

Origin. The ſixth, or third of the *internal*, runs along the Side of the little Finger, next the Ring-finger, and ariſes tendinous and fleſhy from the anterior Edge of all its *metacarpal* Bone.

All theſe Muſcles of both Kinds paſs under the tranſverſe *cartilaginous Ligament* already deſcribed, and then each of their fleſhy Bellies forms two Tendons; one is ſoon

Inſertion. Inſerted into the upper Part of the firſt *Internode* laterally; the other is dilated very broad, ſo as to cover moſt of the firſt Joint adhering to the Tendon of the *Extenſor*; then, narrowing a little as it approaches the upper Part of the ſecond *Internode*, where the laſt named *Muſcle* ends, it runs obliquely along that Bone to its Termination at the ſuperior Part of the laſt Joint of the Finger, having firſt joined with its Fellow of the other Side.

Uſe. When the long Tendons act, they extend the laſt *Internode*, and ſo ſupply what was wanting in the *Extenſor magnus*; and, when

when the ſhort ones are in Action, the Fingers are moved laterally, *i. e.* they are either brought nearer, or drawn farther from the Thumb.

In a Dog, ſomething analogous to theſe, I obſerve ſix Muſcles; four of which are large, *placed not between, but in the Hollow of the* metacarpal *Bones, and run ſtraight down: The other two are very* ſmall, *and run oblique. The large ariſe tendinous and fleſhy from the ſuperior Part of the* metacarpal *Bones, adhering to the ſame in their Deſcent: At the* Os ſeſamoidæum *of the firſt Joint, each divides into two Tendons, and, running obliquely along the Sides of the Finger or Paw, they unite inſeparably with the Tendon of the* Extenſor, *near the lower Part of the firſt Bone of each fore Toe.*

The firſt of the two little *Ones belongs to the fore Toe, or* Index; *it ariſes from the upper Part of the* Os metacarpi medii digiti, *and, deſcending obliquely, grows tendinous about the firſt Joint, and terminates near the Middle of this Bone laterally internally.*

The ſecond ariſes from the Os metacarpi *of the third fore Toe or Finger, and, after an oblique Progreſs, ends in the Inſide of the firſt Bone of the little fore Toe. Their Uſe is to bring thoſe two Toes nearer the middle Ones.*

The

The *proper* Muſcles of the Fingers are ſuch as belong either to the fore or little Finger.

CHAP. XXXV.

Of the Muſcles of the FORE FINGER.

THE fore Finger, or *Index*, has three Muſcles.

EXTENSOR SECUNDI INTERNODII INDICIS PROPRIUS, *vulgo* INDICATOR,

Origin. Ariſes by an acute fleſhy Beginning from the Middle of the *Ulna*, immediately below the *Extenſores pollicis*; turning tendinous, it paſſes under the ſame *annular Ligament* with the *Extenſor communis*.

Inſertion. Is inſerted at the upper Part of the ſecond Joint, on the Inſide of the *Extenſor magnus*.

Uſe. Its Uſe is to extend the fore Finger a little obliquely.

In a Dog it is inſerted into the laſt Joint.

EXTENSOR TERTII INTERNODII INDICIS

Origin. Ariſes fleſhy from all the Outſide of the *Os metacarpi* that ſuſtains the *Index*.

Is

Is inſerted by two Tendons like the *Interoſſei*, i. e. by a ſhort one into the upper Part of its firſt Bone laterally, and by a broad and long one into the upper Part of its laſt Bone, being united with the *Muſculus interoſſeus primus*. *Inſertion.*

The ſhort Tendon draws the *Index* from the reſt, and ſo may retain the Appellation of *Abductor*; the long Tendon aſſiſts this *Interoſſeus* in extending the third or laſt Joint of the fore Finger. *Uſe.*

This Muſcle is wanting in a Dog.

ABDUCTOR

Ariſes broad and fleſhy from the ſuperior Part and Outſide of the firſt Bone of the Thumb. *Origin.*

Is inſerted by a ſhort Tendon into the upper part of the firſt Bone of the fore Finger, laterally, next the Thumb. *Inſertion.*

Its Uſe is to bring the *Index* towards the Thumb, by drawing it from the middle Finger; whence, in reſpect of *this*, it may be ſtiled *Adductor*, and, in reſpect of *that*, *Abductor*. *Uſe.*

This is wanting in a Dog.

CHAP.

CHAP. XXXVI.

Of the Muſcles of the LITTLE FINGER.

THE *Digitus auricularis* has three proper Muſcles, and one common to it with the *Extenſor communis*, reckoned by ſome a proper Muſcle, and named

EXTENSOR MINIMI DIGITI.

It is ſaid to ariſe from the external Protuberance of the *Humerus*, and from the upper Part of the *Ulna;* but, in my Opinion, it ought not to be reckoned a Muſcle diſtinct from the *Extenſor communis*, becauſe it cannot be ſeparated from it without cutting. Truth it is, it paſſes its Tendon under a *Ligamentum annulare* diſtinct from the other three Tendons, but that is far from being ſufficient to conſtitute a particular Muſcle.

All that prominent ſoft fleſhy Maſs that lyes on the *Os metacarpi minimi digiti*, in the Palm of the Hand, is called in *Greek Hypothenar*, in as much as it is placed below that Part called *Thenar*. This I find always eaſily diviſible into three Muſcles, *viz.*

EXTEN-

EXTENSOR TERTII INTERNODII MINIMI DIGITI

Ariſes fleſhy, mixed with ſome tendinous Fibres, from the Bone of the *Carpus* that ſtands upon the third of the firſt Rank, as alſo from the Ligament that tyes that Bone to the *Os metacarpi* of the little Finger. *Origin.*

Is inſerted after the Manner of the *Interoſſei*, i. e. by a ſhort Tendon into the upper Part of the firſt Bone of this Finger laterally, and by a long Tendon into the upper Part of the laſt Bone, having joined the *Interoſſeus* of the other Side. *Inſertion.*

Its Uſe is to help to extend this laſt Joint, and to draw the Finger from the reſt, when the ſhort one only acts. *Uſe.*

ABDUCTOR MINIMI DIGITI, HYPOTHENAR *Riol.*

Ariſes fleſhy from the thin protuberating Part of the eighth Bone of the Wriſt. *Origin.*

Is inſerted by a pretty long and round Tendon, on the Inſide of the ſhort Tendon of the above deſcribed Muſcle, near the upper Part of the firſt Bone of this Finger. *Inſertion.*

It

Uſe. It ſerves not only to abduce the little Finger from the reſt, but alſo to bend it a little.

FLEXOR PRIMI INTERNODII MINIMI DIGITI

Origin. Ariſes tendinous and fleſhy from the inferior Part of the thin Edge of the eighth Bone of the Wriſt, and from all the inner Side of the *Os metacarpi* that ſuſtains this Finger: At the *Condyle*, or round Part of this Bone, it divides into two Tendons, which are inſerted on each Side of the upper Part of the firſt Bone of the Finger.

Uſe. Its Uſe is to aſſiſt in bending the firſt *Internode* of the little Finger.

Theſe three are wanting in a Dog.

CHAP. XXXVII.

Of the Muſcles of the THUMB.

THE Thumb, or *Pollex manus*, which is equal in Strength to all the reſt of the Fingers, oppoſite to which it is placed like another Hand, is moved by nine Muſcles.

FLEXOR TERTII INTERNODII

Ariſes by an acute fleſhy Beginning from the upper Part of the *Radius*, a little below the Termination of the *Biceps*, which Origin is continued down for ſome Space on the fore Part of this Bone, in a double Order of ſhort fleſhy Fibres ending in the Tendon that runs in their Middle. *Origin.*

Is inſerted into the third or laſt Bone of the Thumb, having paſſed its Tendon under ſeveral annular Ligaments that come from one Side of its ſecond Bone to the other Side. *Inſertion.*

Its Uſe is to bend this laſt joint. *Uſe.*

FLEXOR SECUNDI INTERNODII.

This may be divided into two diſtinct Muſcles, between which the Tendon of the former Muſcle runs. The *outermoſt* ariſes from the Bone of the *Carpus* with which the Thumb is joined: The *innermoſt* ariſes from Part of the ſame Bone, and alſo from the upper Part of the *Os metacarpi indicis* and *Medii digiti*, in common with the *Adductor*. They are both *Origin.*

Inſerted into the two *Oſſa ſeſamoidæa* of the ſecond Joint of the Thumb. *Inſertion.*

Uſe. Their Uſe is to bend this Joint or *Internode.*

FLEXOR PRIMI INTERNODII

Origin. Ariſes fleſhy from the *Ligamentum tranſverſale*, and the Bone of the *Carpus* that articulates with the Thumb, lying under the *Abductor.*

Inſertion. Is inſerted into all the Inſide of the firſt Bone of the Thumb.

Uſe. Its Uſe is to bend this Joint.

EXTENSOR PRIMI INTERNODII

Origin. Ariſes fleſhy from the upper and external Part of the *Ulna*, immediately below the Termination of the *Anconæus*, from the back Part of the *Radius*, below its *Supinator brevis*, and from the *membranous Ligament* that tyes theſe two Bones together.

Inſertion. Is inſerted always by two, and very often by three diſtinct Tendons; the firſt is a large and round Tendon, which ſeems to be a Bundle of a great many ſmall Ones, terminating into the upper Part of the firſt Bone of the Thumb; the ſecond Tendon is loſt in the fleſhy Beginning of the *Abductor pollicis;* and the third, which in ſome Subjects is wanting, is implanted into that Bone

Bone of the *Carpus* that articulates with the Thumb.

Its Uſe is to extend the firſt Bone of the *Pollex*. *Uſe.*

EXTENSOR SECUNDI INTERNODII

Ariſes fleſhy from the back Part of the *Radius*, about the Middle of the fleſhy Belly of the former, to which, in its Deſcent, it firmly adheres; it has a ſecond Origin from ſome Part of the *membranous Ligament*. *Origin.*

Is inſerted into the upper Part of the ſecond Bone of the Thumb. *Inſertion.*

Its Uſe is to extend the ſecond *Internode*. *Uſe.*

EXTENSOR TERTII INTERNODII

Ariſes by an acute tendinous and fleſhy Beginning from the *Ulna*, a little below the Origin of the firſt *Extenſor*, as likeways from the Ligament that connects the two Bones. Its Tendon runs in a proper Channel at the Extremity of the *Radius*. *Origin.*

Is inſerted into the third and laſt Bones of the *Pollex*. *Inſertion.*

Its Uſe is to extend the laſt Joint in bringing it backwards. *Uſe.*

ABDUC-

ABDUCTOR, THENAR *Riol.*

Origin. Ariſes by a broad, tendinous and fleſhy Beginning from the *tranſverſe Ligament* of the *Carpus*, and from one of its Bones that articulates with the Thumb.

Inſertion. Is inſerted tendinous into the ſecond Joint of the *Pollex digitorum manus.*

Uſe. Its Uſe is to draw the Thumb from the Fingers.

ABDUCTOR AD INDICEM, ANTITHENAR *Riol*

Origin. Ariſes from the Outſide of the upper Part of the *Os metacarpi indicis.*

Inſertion. Is inſerted into the firſt Joint of the Thumb, ſending off a thin Tendon which runs along with the *Extenſor pollicis longus.*

Uſe. Its Uſe is to draw the Thumb nearer the fore Finger.

ADDUCTOR AD MINIMUM DIGITUM

Origin. Ariſes a little tendinous, but chiefly fleſhy, from the whole Length of the *metacarpal* Bone that ſuſtains the middle Finger, from thence its Fibres, contracting equally on both Sides, do run up to the Thumb.

Inſertion. Is inſerted into its ſecond Joint a little below one of its Seed-like Bones.

Its

Its Uſe is to bring the Thumb towards the Ring and little Fingers.

The Thumb of a Dog, or that Range of Bones ſet off at ſome Diſtance from the other Fingers or Claws, is only provided with one Extenſor *and one* Flexor.

Extenſor. *The Origin, Progreſs and Termination of this Muſcle is very little different from the* Extenſor tertii internodii pollicis *in Man, being a thin flat Muſcle, partly tendinous and partly fleſhy, which fills up the Cavity or Hollowneſs between the* Ulna *and* Radius.

Flexor *is an exceeding ſmall Muſcle, which ariſeth fleſhy from one of the Bones of the* Carpus, *and ends ſo into the ſecond* Internode *of what is analogous to a Thumb in this Animal.*

CHAP. XXXVIII.

Of the Muſcles of the RADIUS.

THE *Radius*, or ſecond Bone of the *Cubit*, is bended and extended by the Muſcles of that Part, already deſcribed, in common with the *Ulna*; but, beſides, it has four Muſcles ſubſervient to its own Motions of *Pronation* and *Supination*.

PRO-

PRONATOR TERES

Origin. Ariſes fleſhy from the *Os humeri*, a little above its internal Protuberance, tendinous and fleſhy from that Proceſs, and entirely tendinous from the anterior *Apophyſes* of the *Ulna*.

Inſertion. Is inſerted thin and tendineo-carnous into the Middle of the external Part of the *Radius*.

Uſe. Its Uſe is to turn the *Radius*, together with the *Carpus* and whole Hand, inwards, and the Palm downwards; which Motion is called *Pronation*.

PRONATOR QUADRATUS

Origin. Ariſes broad, membranous and fleſhy, from the lower and inner Part of the *Ulna*, and, paſſing tranſverſely,

Inſertion. Is inſerted, of the ſame Breadth, into the external and lower Part of the *Radius*.

Uſe. Its Uſe is to aſſiſt the former in the prone *Poſition* of the Hand.

In a Dog it lyes upon the Membrane that joins the two Bones of the Cubit *together, to both which it adheres, and near the lower End of the* Ulna *it ſends off a Tendon obliquely to the Extremity of the* Radius, *where it terminates.*

Su-

SUPINATOR LONGUS

Ariſes acute and fleſhy from the exter- *Origin.*
nal Ridge of the *Os humeri*, two or three Fingers Breadth above the Beginning of the *Bicornis*.

Is inſerted into the external and inferior *Inſertion.*
Part of the *Radius*, near the *Carpus*.

Its Uſe is to turn the *Radius*, &c. out- *Uſe.*
wards, and the Palm of the Hand upwards, which Motion is called *Supination*.

This is wanting in a Dog.

SUPINATOR BREVIS

Ariſes tendinous from the external Pro- *Origin.*
tuberance of the *Os humeri*, and tendineo-carnous from the external and upper Part of the *Ulna*, adhering ſtrictly to the Membrane that involves the Articulation of theſe two Bones.

Is inſerted into the Inſide of the *Radius*, *Inſertion.*
above, but chiefly below, the Inſertion of the *Biceps*.

Its Uſe is to aſſiſt the former in pulling *Uſe.*
the *Radius* backwards in the *ſupine Poſition* of the Hand.

CHAP.

CHAP. XXXIX.

Of the Muſcles of the THIGH.

THE *Os femoris*, or Thigh Bone, has ſixteen Muſcles.

PSOAS MAGNUS

Origin. Ariſes fleſhy from the Body of the lowermoſt *Vertebra thoracis* laterally, from the Sides of all the *Vertebræ* of the Loins by ſo many carnous diſtinct Slips, and a little tendinous from all the tranſverſe Proceſſes.

Inſertion. Is inſerted tendinous into the leſſer *Trochanter* of the *Os femoris*, and fleſhy into the Bone a little below that Proceſs.

Uſe. Its Uſe is to bend the Thigh, by bringing it forwards.

ILIACUS INTERNUS

Origin. Ariſes fleſhy from all the internal Cavity of the *Os ilium*, and the Inſide of its anterior Spine; it joins in with the former where it begins to become tendinous, in *Inſertion.* common with which it is inſerted.

Uſe. Its Uſe is to bend the Thigh, and bring it directly forwards in Progreſſion.

PECT-

PECTINALIS

Ariſes broad and fleſhy from the Spine, or ſuperior and inner Part of the *Os pubis*. *Origin.*

Is inſerted into the *Os femoris*, a little below the leſſer *Trochanter*, by a flat and ſhort Tendon. *Inſertion.*

Its Uſe is to bend the Thigh-Bone by drawing it upwards. *Uſe.*

In a Dog it ariſes by a round and fleſhy Beginning from the Os pubis, *and ſoon turns into a broad and thin Tendon, which terminates at the inner* Condyle *of the* Femur.

GLUTÆUS MAXIMUS

Ariſes fleſhy from the upper Part of the *Os coccygis*, membranous and fleſhy from all the double Spines of the *Os ſacrum* and one or two of its lowermoſt ſingle Ones, from all the external Edge of that Bone below the poſterior Spine of the *Os ilium*, from two Ligaments that run from the *Iſchion* to the *Os ſacrum*, *i. e.* one from its *ſharp Proceſs*, the other from its *Tubercle*, (over which Part of this Muſcle hangs in a large Fold) and entirely fleſhy from more than one Half of the circular Edge of the *Ilium*, from the reſt of which forwards it ſprings by a thin and broad Tendon, through which one may diſcover *Origin.*

Part of the ſubjacent Muſcle inſeparably joined to that of the *Membranoſus*.

Inſertion. Is inſerted by a large and thick Tendon into the *Femur*, at a very conſiderable Roughneſs at one Side of the upper Part of the *Linea femoris aſpera*, a little below the great *Trochanter*.

Uſe. Its Uſe is to extend the Thigh, by pulling it directly backwards.

GLUTÆUS MEDIUS

Origin. Ariſes fleſhy from all the outer Lip or Edge of the Spine of the *Ilium*, except its poſterior Part, where it ſprings from the *Coſta* of that Bone.

Inſertion. Is inſerted into the Breadth of the great *Trochanter* by a broad Tendon.

Uſe. Its Uſe is to aſſiſt the former.

GLUTÆUS MINIMUS

Origin. Ariſes fleſhy from the lower Part of the outer or back Side of the *Os ilium*, forwards from the Edge of its *anterior Spine*, and backwards from the Edge of its great *Sinus*.

Inſertion. Is inſerted by a large Tendon along the fore and upper Part of the great *Trochanter*, and by a ſmall one into the Neck of the *Os femoris*.

Its

Its Uſe is to aſſiſt the two former in extending the Thigh. *Uſe.*

In a Dog I call the firſt Glutæus externus; *it ariſes membranous from almoſt all the external Part of the Spine of the* Ilium, *which joining with another fleſhy Beginning from the* Sacrum, *and from the Ligament that is extended between that Bone and the* Iſchium, *it becomes altogether carnous about the Middle of the Muſcle that lies under it, and terminates tendinous a little below the great* Trochanter *externally.*

The ſecond, or Medius, *is by far the largeſt, and ariſes fleſhy from all the Spine of the* Ilium, *filling up the hollow Part of that Bone, being inſerted tendinous into the upper and external Part of the great* Trochanter.

The third, or internus, *ariſes fleſhy from the Middle of the* Os ilium *externally, adhering in its Deſcent to both its Sides; the ſuperior and inner Part of the great* Trochanter *being the Place of its partly tendinous and partly fleſhy Inſertion.*

PYRIFORMIS, *ſeu* ILIACUS EXTERNUS,

Ariſes thick, broad and fleſhy from the inferior Part of the *Os ſacrum* next the *Ilium*, from which Bone alſo it derives ſome Part of its Origin; growing *Origin.*

gra-

gradually narrower it becomes tendinous, and

Inſertion. Is inſerted into the upper Part of the Dent, or Cavity, at the Root of the great *Trochanter*.

Uſe. Its Uſe is to move the *Os femoris* upwards, and turn it ſomewhat outwards.

MARSUPIALIS *ſeu* OBTURATOR INTERNUS,

Origin. Ariſes fleſhy from the *Os ilium*, *Iſchium* and *Pubis*, round the internal Circumference of the great Hole common to the two laſt named Bones. Its Inſide is tendinous, being divided into ſeveral ſmall Ones, which unite before its Termination.

Inſertion. Is inſerted tendinous into the Dent, or Cavity, at the Root of the great *Trochanter*.

Uſe. Its Uſe is to aſſiſt the former in the moving the *Os femoris* obliquely and ſemicircularly outwards.

GEMINI

Origin. Are two very diſtinct Muſcles, united by a carnous Membrane both above and below, forming as it were a *Marſupium*, or Purſe, for the Reception of the Tendon of the laſt deſcribed Muſcle. The ſuperior ariſes from the acute Proceſs of the *Iſchium*, and the inferior from the outer

Part

Part of the Knob or blunt Protuberance of that Bone, as alſo from the Ligament that runs from thence to the *Os ſacrum*. They are both

Inſerted fleſhy into the Cavity of the great *Trochanter*. *Inſertion.*

Between theſe two ſmall Muſcles the Tendon of the *Marſupialis* runs to its Inſertion, and they ſerve not only to turn the *Os femoris* outwards, but to preſerve that Tendon from being hurt by the Hardneſs of the Sinuoſity of the *Iſchium* which it paſſes through, as alſo to hinder it from ſlipping out of that Cavity while the Muſcle is in Action. *Uſe.*

QUADRATUS FEMORIS

Ariſes broad, tendinous and fleſhy from the Outſide of the Protuberance of the *Os iſchium*, and, paſſing tranſverſely, *Origin.*

Is inſerted into the Outſide of the great *Trochanter*, reaching as low down as the little one. *Inſertion.*

Its Uſe is to bring the Thigh-Bone outwards. *Uſe.*

In a Dog it ariſes from the Tubercle of the Iſchium, *and fore Part of the ſame Bone near the great* Foramen.

TRICEPS.

TRICEPS.

Under this Appellation are comprehended four very distinct Muscles, which, from their Use, I name as follows.

ADDUCTOR FEMORIS PRIMUS

Origin. Arises, by a strong roundish Tendon, from the upper Part of the *Os pubis*, next the *Pectinæus*, above the *Gracilis;* which turning into a compact fleshy Belly, it begins to be

Insertion. Inserted tendinous about the Middle of the *Linea aspera*, being continued down upon the same five or six Inches, sending out a Tendon which joins in with that of the fourth Head.

ADDUCTOR FEMORIS SECUNDUS

Origin. Arises from the *Os pubis*, immediately under the *Gracilis*, by a broad tendinous, but chiefly fleshy Beginning, and

Insertion. Is inserted into the *Linea aspera*, from a little below the lesser *Trochanter*, to the first Insertion of the last described Muscle.

ADDUCTOR FEMORIS TERTIUS

Origin. Arises lower down than the former, from the outer Edge of the *Os pubis* and *Ischium*, and, running obliquely towards the *Trochanter minor*,

Is

Is inſerted near the *Glutæus maximus*. *Inſertion.*

ADDUCTOR FEMORIS QUARTUS

Ariſes from the Protuberance of the *Iſchium*, and the adjoining interior Part of that Bone, by a tendinous and fleſhy Origination. *Origin.*

Is inſerted by a round and long Tendon into the upper and rough Part of the inner and lower Appendix of the *Os femoris*, being affixed to that Bone a little above the *Condyle*, as alſo to ſome Part of the *Linea aſpera*. *Inſertion.*

The Uſe of all theſe four Muſcles is to adduce or move the Thigh-Bone inwards, according to their different Directions. *Uſe.*

OBTURATOR EXTERNUS

Ariſes fleſhy from all the lower Part of the *Os pubis* and *Iſchium*, round the outer Circumference of their great *Foramen*, adhering firmly to its Membrane. *Origin.*

Is inſerted by a ſtrong Tendon into a Cavity at the Root of the great *Trochanter*. *Inſertion.*

Its Uſe is to turn the Thigh-Bone obliquely outwards. *Uſe.*

In a Dog there is yet obſervable a ſmall fleſhy Muſcle ariſing from the Os ilium, *near the Edge of its Cavity, called* Acetabulum; *and running obliquely over the Articulation*

lation of the Femur, *is inſerted into that Bone between the* Vaſtus internus *and* Cruræus. *I name it* Muſculus parvus in articulatione femoris ſitus.

CHAP. XL.

Of the Muſcles of the Os COCCYGIS.

THE Bone joined to the Extremity of the *Os ſacrum*, called *Coccyx*, has one Muſcle on each Side, which I call

COCCYGÆUS * * *

Origin. It ariſes tendineo-carnous from the acute Proceſs of the *Os iſchium*, between the Ligament that reaches from thence to the *Os ſacrum*, and one of the Heads of the *Gemini*; from this narrow Beginning it gradually dilates itſelf into a thin fleſhy Belly, interſperſed with ſome tendinous Fibres.

Inſertion. Is inſerted into the whole Length of the *Os coccygis* laterally.

Uſe. Its Uſe is to draw that Bone inwards or forwards after the Excretion of hardned *Fæces*, *&c.*

N. B. The two Ligaments that antagonize this Pair of Muſcles ſhall be exactly

ly deſcribed in my *human* and *comparative Oſteology*, which I deſign to publiſh in a ſhort Time. In my Inquiry after a Muſcle mentioned by the famous *Riolan*, under the Name of *Levator ani quintus*, which he ſays *Coccygi & oſſis ſacri extremi affigitur*, I happily diſcovered this Muſcle.

The Tail of a Dog, which is only an Elongation of this Bone, is furniſhed with Abundance of Muſcles ſubſervient to its many Motions: But with their particular Deſcriptions I think it needleſs either to trouble myſelf or the Reader.

CHAP. XLI.

Of the Muſcles of the Leg.

THE Leg, made up of two Bones called *Tibia* and *Fibula*, has eleven Muſcles; of which thoſe that ariſe from the *Os innominatum*, and are inſerted into either of theſe two Bones, are reckoned common both to the Thigh and Leg, whereas thoſe which ſpring from the *Os femoris*, and end in the *Tibia*, are accounted proper to the Leg only.

MEMBRANOSUS

Origin. Ariſes, by a narrow, tendinous and fleſhy Beginning, from the fore Part of the *Spine* of the *Ilium* externally; a little below the great *Trochanter* its fleſhy Belly grows wholly tendinous, and covers the two *Vaſti* and *Rectus*, being firmly affixed to all the *Linea aſpera* in its Deſcent.

Inſertion. Its proper Termination is into the ſuperior Appendix of the *Tibia* laterally, between its Tubercle and the Head of the *Fibula*, ſending down an Expanſion to envelope the *Tibialis anticus*. From the Inſide of the Thigh it is continued down upon the Leg, without any remarkable Adheſion to the Head of the *Tibia* in its Way thither.

Uſe. Its Uſe is to extend the Leg, and turn it a little outwards; and, by virtue of its large *Aponeuroſis*, it mightily ſtrengthens the Action of the Muſcles over which it is ſpread, by keeping them tight in their Places, *&c.*

In a Dog it is divided into two very diſtinct Muſcles: The ſuperior ſprings from the Spine *and Half of the* Coſta *of the* Os ilium, *forming a thick fleſhy Belly as it deſcends ſtraight upon the* Rectus; *and, about three*

three or four Inches below its Origin, it dilates into a Membranous Tendon, by which it is inſerted into the Patella *and Head of the* Tibia. *Which* Faſcia *or tendinous Expanſion is extended and ſpread over that of the* Biceps, *and, together with it, covers all the Muſcles of the ſame Side down to the Foot. Now, the contrary Diſpoſition, or Decuſſation of the Fibres of theſe two* Faſciæ, *does very much ſtrengthen the Action, and augment the Force of the Muſcles that ly under them.*

The inferior ariſes from the lower Part of the ſuperior Coſta *of the* Ilium, *thin and fleſhy; a little below that it becomes membranous, and is expanded over the two* Vaſti *and* Rectus, *firmly adhering to the Inſide of the Thigh-Bone; its tendinous Expanſion joins in with that of the* Glutæus Medius *below the great* Trochanter.

SARTORIUS

Ariſes tendinous from the fore Part of *Origin.* the *Spine* of the *Os ilium* internally, but ſoon becomes fleſhy, and, deſcending, runs down for ſome Space upon the *Rectus*, and then, going obliquely inwards, it paſſes over the *Vaſtus internus*, and about the Middle of the *Os femoris* over Part of the *Triceps*, between the Tendon of which

and

and the *Muſculus gracilis* it deſcends farther.

Inſertion. Is inſerted tendinous from the fore Part of the *Vibia* internally, near its *Spine*, at a little Diſtance from the lower Part of its Appendix.

Uſe. Its Uſe is to move the Leg obliquely, or bring one Leg and Thigh croſs the other.

In a Dog it ariſes fleſhy from the Coſta *near the* Spine *internally, and ends near the upper Part of the Inſide of the Ridge that is in the Middle of the* Tibia.

RECTUS

Origin. Ariſes fleſhy from a Tubercle in the lower Part of the anterior *Spine* of the *Ilium*, and tendinous from the *Coſta ilii* a little above the *Acetabulum*.

Inſertion. Is inſerted tendinous into the upper Part of the *Os patellæ*.

Uſe. Its Uſe is to extend the Leg.

In a Dog it ariſes tendinous and fleſhy from the lower Part of the Coſta oſſis ilii, *and, forming a large round fleſhy Body, deſcends as in Man.*

VASTUS

VASTUS EXTERNUS

Ariſes broad, tendinous and fleſhy from the great *Trochanter* and upper Part of the *Linea aſpera*. *Origin.*

Is inſerted into the Head of the *Patella* laterally. *Inſertion.*

Its Uſe is to extend the Leg. *Uſe.*

VASTUS INTERNUS

Ariſes tendinous and fleſhy from the *Os femoris*, near the little *Trochanter*. *Origin.*

Is inſerted tendinous into the Inſide of the *Patella*, continuing fleſhy lower down than the laſt. *Inſertion.*

Its Uſe is to extend the Leg in bringing it upwards. *Uſe.*

N. B. From the lower Point of the *Patella* there goes a ſtrong thick Ligament, which is affixed to a *Tubercle* on the fore and upper Part of the *Tibia;* by virtue of which the Extenſion of the Leg is as eaſily performed, as if the Tendons of the extending Muſcles were inſerted there.

In a Dog the Vaſtus internus *ariſes from the Neck of the* Femur *internally.*

CRURÆUS

Ariſes fleſhy from between the two *Trochanters* of the *Femur*. *Origin.*

Is

Inſertion. Is inſerted tendinous into the *Patella* under the *Rectus*.

Uſe Its Uſe is to aſſiſt in the Extenſion of the Leg or *Tibia*.

A Dog has a fifth Extenſor, *which, becauſe it muſt be demonſtrated firſt, I call* Extenſor tibiæ primus Cani proprius. *It ariſes from the* Spine *and Half the* Coſta *of the* Ilium. *In its Deſcent it adheres to the* Sartorius *by a Membrane, and terminates into the* Patella.

GRACILIS

Origin. Ariſes by a thin and broad Tendon from the *Os pubis*, near its *Commiſſure;* it ſoon grows fleſhy, and, deſcending by the Inſide of the Thigh,

Inſertion. Is inſerted tendinous into the Inſide of the *Tibia* near the *Sartorius*.

Uſe. Its Uſe is to bend the Thigh and Leg inwards.

In a Dog it ariſes by a ſmall Tendon from the Tuberoſity of the Iſchium, *which aſcends obliquely to the lower and fore Part of the* Os pubis, *where, going a little croſs in a ſtraight Line, it meets with that of its Fellow on the other Side, whereby the two Muſcles become united. Near its Termination it ſends off a Tendon that runs down upon the* Tibia, *and alſo a broad membranous Expanſion,*

ſion, which, uniting with that of the Biceps *and* Membranoſus, *is continued all over the Leg and Foot.*

SEMINERVOSUS

Ariſes fleſhy, in common with the longeſt Head of the *Biceps*, from the back Part of the Protuberance of the *Iſchium*. *Origin.*

Is inſerted by a flat Tendon at the Inſide of the Ridge of the *Tibia*, about an Inch below the Termination of the *Ligament* that comes from the *Patella*. From its Tendon, about the Head of the *Tibia*, there goes off a *tendinous Expanſion* continued down over the Muſcles on the Inſide of the Leg. *Inſertion.*

Its Uſe is to bend the Leg backwards, and bring it a little inwards. *Uſe.*

SEMIMEMBRANOSUS

Ariſes tendinous from the upper Part of the Tuberoſity of the *Iſchium*. In its Deſent it runs under the Head of the *Biceps*, between which and the former Muſcle it runs down the back Side of the Thigh. *Origin.*

Is inſerted tendinous into the ſuperior and back Part of the Head of the *Tibia*, where ſome Part of its Tendon is mixed with a Ligament that comes from the *Tibia*, and ends in both *Condyles*; or perhaps *Inſertion.*

the

the Ligament ſprings from the latter, and ends in the former.

Uſe. Its Uſe is to bend the Leg, by bringing it directly backwards.

BICEPS.

Origin. This Muſcle has two Beginnings; its *ſuperior* Head ariſes tendinous and fleſhy, in common with the *Semincrvoſus*, from the *Tuberoſity* of the *Iſchium;* the *inferior* ariſes from the *Linea aſpera*, a little below the Termination of the *Glutæus major*, by a fleſhy acute Beginning, which ſoon grows broader as it deſcends to join in with the other.

Inſertion. Is inſerted tendinous into the upper Part of the Head of the *Fibula*, Part of its Tendon reaching to the Head of the *Tibia* next it.

N. B. Near its Inſertion it parts with a tendinous Expanſion which covers the Muſcles lying on the Outſide of the Leg.

Uſe. Its Uſe is to bend the Leg.

In a Dog the thickeſt and largeſt Beginning of this Muſcle ariſes partly from the Knob of the Iſchium, *and partly from a Ligament that goes from the* Os ſacrum *to the foreſaid Protuberance. In its Deſcent it ſpreads itſelf into a broad and fleſhy Belly, which covers Part of the* Gaſtrocnæmius.

The

The other Head, which is very ſmall, round and fleſhy, ariſes by a long and ſmall Tendon from the ſame Ligament. Theſe two join and unite about the Ham; a little lower they grow tendinous, and are ſo inſerted into the upper and fore Part of the Ridge of the Os tibiæ. *This Muſcle ſends off a very broad and tendinous Expanſion, which covers all the Muſcles on the Outſide of the Leg, firmly adhering to the Middle of the fore Part of the* Os tibiæ *in its Deſcent to the Foot: The poſterior Part of this* Faſcia *is formed into a diſtinct Tendon, which, joining in with the* Chorda magna, *ends in the* Os calcis.

POPLITÆUS

Ariſes by a round Tendon from the Edge of a Cavity in the lower Part of the external *Condyle* of the *Femur* backwards; then, running under the *Ligament* that involves the Joint, and ſtrictly adhering to Part of the *Cartilago lunata*, it becomes fleſhy as it perforates the Ligament, and joins in with another fleſhy Beginning proceeding from the ſame Membrane. *Origin.*

Is inſerted into the ſuperior Part of the *Tibia* internally. *Inſertion.*

Its Uſe is to move the Leg obliquely outwards, and aſſiſt in bending the ſame. *Uſe.*

CHAP. XLII.

Of the Muſcles of the FOOT.

THE Foot, or *Tarſus*, is moved by ſix Muſcles.

EXTENSOR TARSI SURALIS, *vel* EXTENSOR MAGNUS,

Is made up of four Heads or Beginnings; the two outermoſt form the Muſcle commonly called *Gaſtrocnemius externus* and *Gemellus*.

Origin. One of them ariſes from the back Part of the internal *Condyle* of the *Femur*, and from the Bone itſelf, a little above it, by two thick and ſhort Tendons. The other Head ariſes tendinous from a little Knob on the outer *Condyle*, juſt above the Beginning of the *Poplitæus*, but ſoon turns fleſhy. A little below the Joint their carnous Bellies unite in a middle Tendon, and below the Middle of the *Tibia* it ceaſes to be fleſhy.

The two innermoſt are known by the Name of *Gaſtrocnemius internus* and *Solæus*. One Head comes from the upper and back Part of the Appendix of the *Fibula*, continuing to derive ſome of its fleſhy *Fibrillæ*

brillæ from the poſterior Edge of that Bone, for ſome Space below the Meeting of the Tendons. The other Head ſprings from the back Part of the *Tibia*, about the Middle of the fleſhy Part of the *Poplitæus*, and from thence it is continued down the Edge of the Bone as low as the other.

The Tendons of theſe four Heads join and make one great Tendon, called *Chorda magna* and *Tendo Achillis*.

Is inſerted into the ſuperior and hinder- *Inſertion.*
moſt Part of the *Os calcis*, which, projecting beyond the *Os tibiæ*, occaſions a conſiderable Diſtance between the Tendon and that Bone. The Middle and upper Part of theſe two inferior Heads, between the Bones whence they ſpring, is adorned with a tendinous Edge in Form of an Arch, under which all the great Veſſels, *&c.* of the Leg paſs.

Its Uſe is to extend the Foot, in bring- *Uſe.*
ing it backwards and downwards.

This great Extenſor *in a Dog has but two Beginnings, and thoſe tendinous and fleſhy from the two* Oſſa ſeſamoidæa *that adhere to the two* Condyles *of the* Femur, *and fleſhy from the lower Part of the ſame Bone.*

EXTEN-

EXTENSOR TARSI MINOR, *vulgo* PLANTARIS,

Origin. Ariſes narrow, thin and fleſhy from the upper and back Part of the external Protuberance of the *Os femoris*, adhering to the Membrane that involves the Joint in its Deſcent. It ſoon becomes a long, ſlender, thin Tendon, which, emerging from between the fleſhy Bellies of the *Extenſor magnus*, marches by the Inſide of its great Tendon, and

Inſertion. Is inſerted at the Extremity of the *Os calcis* below the *Chorda magna*, and ſometimes alſo it ends into the ſame Bone by two Tendons laterally.

Uſe. Its Uſe is to aſſiſt the former in the Extenſion of the Foot.

In a Dog the fleſhy Belly of this Muſcle ariſes in common with the Flexor digitorum communis, *to which it adheres inſeparably a good Way down; its Tendon is very diſtinct, and ends in the* Os calcis.

N. B. The *tendinous Aponeuroſis*, expanded over the Muſcles in the Bottom or Sole of the Foot, immediately under the Fat, ariſes, by two narrow Beginnings, from the inferior and poſterior Part of the *Os calcis*, hard by the Origin of the *Muſculus ſublimis*. The largeſt adheres firmly

to

to the fleſhy Part of that Muſcle, its membranous Edge being ſpread upon the adjacent *Adductor pollicis*, and is tacked down between theſe two Muſcles to the Bones. It ſplits into four Tendons, each of them being ſoon after ſubdivided into two, between which the *Flexores digitorum* paſs. Is inſerted into both Sides of that cartilaginous Body that covers the firſt Joint of the Toes. The other Beginning of this *Expanſio tendinoſa* comes from the ſame Bone, but more externally, and, going forwards, covers one Half of the *Abductor minimi digiti*, being joined to the former by a thin Tendon. Is inſerted partly into the upper Part of the *Os metatarſi minimi digiti*, and partly by a long Tendon into the Extremity of the *Os metatarſi*, near its Articulation with the third Toe. Its Uſe is to preſerve the ſubjacent Parts from being compreſſed in ſtanding, walking, *&c.* as alſo to aſſiſt the Flexion of the firſt Joint of the Toes, by pulling that cartilaginous Body downwards.

TIBIALIS ANTICUS

Ariſes tendinous and fleſhy from the *Origin.* Middle of the upper Appendage of the *Tibia* externally laterally; it runs down upon the Outſide of the *Tibia*, receiving a fleſhy dif-

diſgregrated Origination from that Bone, near the Membrane that connects it to the *Fibula*, as alſo from the Membrane itſelf. It paſſes under an *annular Ligament* about the lower Part of the *Tibia*.

Inſertion. Is inſerted by a very large Tendon into the Inſide of the *Os cuneiforme majus*, next the *metatarſal* Bone of the great Toe, and by a ſmall one into the upper Part of the laſt named Bone laterally.

Uſe. Its Uſe is to bend the Foot, by drawing it upwards.

In a Dog it ariſes fleſhy from the upper and fore Part of the Tibia, *filling up all that Cavity that is between the* Extenſor digitorum pedis communis, *and a thin bony Protuberance, or Ridge, obſervable about the upper Part of this Bone, to which, in its Deſcent, it firmly adheres. A little below its inbanding Ligament it parts with a ſmall Tendon that runs upon all the Joints of the* Pollex pedis, *or great Toe, which it ſerves to extend.*

TIBIALIS POSTICUS

Origin. Ariſes by a narrow fleſhy Beginning from the fore Part of the *Os tibiæ*, juſt under its Appendix next the *Fibula*; thence paſſing through a Perforation in the upper Part of the Ligament that connects the

two

two Bones, it continues its Origin from the back Part of the laſt named Bone internally, and from near one Half of the upper Part of the *Tibia*, as alſo from the membranous Ligament between them.

Is inſerted, having paſſed through the *Fiſſure* at the inner Ankle, tendinous into the upper Part of the *Os naviculare* internally laterally, being farther continued to the Side of the *Os cuneiforme medium*; beſides it gives ſome tendinous Fibres to the *Os calcis*, and to the *Flexor pollicis brevis*. *Inſertion.*

Its Uſe is to bring the Foot inwards. *Uſe.*

In a Dog this is but a very ſmall Muſcle, ariſing fleſhy from the back Part of the Fibula *and* Tibia, *between the* Flexor digitorum profundus *and the* Subpoplitæus; *it turns into a long ſlender Tendon about the Middle of the laſt named Bone, and then it unites with that of the fore mentioned* Flexor, *a little before it divides in its Paſſage to the Toes.*

PERONÆUS PRIMUS, *ſeu* POSTICUS,

Ariſes tendineo-carnous from the fore Part of the Head of the *Perone*, and ſoon grows into a pretty round fleſhy Belly, made up of ſtraight and compacted Fibres; it has alſo another Beginning, by a great *Origin.*

many

many thin and fleſhy Fibres, from the upper and external Part of the *Fibula*, where it begins to riſe into a round Edge, as alſo from the Hollowneſs between that and its anterior Ridge. It paſſes its long Tendon through the Channel at the inner Ankle together with the following; then, being reflected in the Sinuoſity of the *Calcaneum*, it runs along the Cavity made in the *Os cuboides* under the Muſcles in the Sole of the Foot.

Inſertion. Is inſerted into the Outſide of the ſuperior Part of the *Os metatarſi* that ſupports the great Toe, and by ſome tendinous Fibres into one of the *Oſſa cuneiformia* next it.

N. B. The cartilaginous Bone in the Tendon of this Muſcle, firſt (I think) taken Notice of by *Veſalius*, I have obſerved to be hollowed, or ſinuated, for the better Reception of a little Protuberance in the Edge of the *Os cuboides*, upon which it plays as on a Pully.

Uſe. Its Uſe is to move the Foot outwards, and alſo to bend it a little.

In a Dog it ariſes fleſhy and a little tendinous from the Outſide of the Perone, *juſt where it begins to adhere cloſely to the* Tibia, *from ſome Part of which it alſo continues a carnous Origin, and ends in the* Os metatarſi *that ſuſtains the fore Toe.*

PE-

PERONÆUS SECUNDUS, *ſeu* ANTICUS,

Ariſes by an acute fleſhy Beginning, from above the Middle of the external Part of the *Fibula;* it has another carnous Origination from the outer Side of the anterior Spine of this Bone, as alſo from its round Edge externally backwards. Its Tendon paſſes through the *Fiſſure* of the external Ankle, being there included under the ſame Ligament with that of the following, and a little farther it runs under a particular one of its own. *Origin.*

Is inſerted into the upper and fore Part of the *Os metatarſi* that ſupports the little Toe, by ſeveral tendinous Filaments, one or two of which are carried ſtraight down, and join in with the Tendon that extends that Toe. *Inſertion.*

Its Uſe is to pull the Foot and Toes outwards. *Uſe.*

In a Dog it ariſes from a Protuberance in the Head of the Tibia *laterally next the* Perone, *from the upper Part of which it ariſes alſo, and then proceeds as in Man.*

CHAP. XLIII.

Of the Muſcles common to the FOUR LESSER TOES.

THE Muſcles of the Toes are either common to all the four leſſer Toes, or they are proper and peculiar to the great and little Toes, or common to both theſe.

The *common* to all the four leſſer are fifteen in Number, *to wit*; two *Flexors*, two *Extenſors*, four *Lumbricales*, and ſeven *Interoſſei*.

EXTENSOR LONGUS

Origin. Ariſes by a narrow, tendinous and fleſhy Beginning, from the ſuperior and external Part of the Head of the *Tibia*, next the *Fibula*, and by a fleſhy Origin from the upper Part of the laſt named Bone; dividing into four Tendons, and paſſing under the *Ligamentum annulare*.

Inſertion. Is inſerted, together with the following, into the upper Part of the ſecond Bone of each ſmall Toe, ſending off on both Sides a ſmall Tendon to the laſt Bone of the Toes, which unites with its Fellow a little before its Termination.

Its

Its Uſe is to extend all the Joints of the four little Toes. *Uſe.*

N. B. Veſalius's ninth Muſcle of the Foot ſeems to be very diſtinct from this *Extenſor*, ariſing from about the Middle of the *Spine* of the *Fibula*, to which the Membrane that ties it to the *Tibia* is connected by a great many fleſhy Fibres, which run obliquely downward to their Tendon, not unlike the *Stamina* of a Feather. It terminates, being often divided into two or three Tendons, in the upper Part of the *Os metatarſi* of the little Toe. This Muſcle is not to be found in a Dog.

In a Dog the Extenſor longus *ſprings by a round Tendon from the fore Part of the external* Apophyſis *of the* Femur, *near the Channel of the* Patella, *and, deſcending thro' a* Sinus *in the Head of the* Tibia, *it grows fleſhy; and then, marching down the ſame Bone, and paſſing under the Ligament that binds it in near its Extremity, it ſplits into four Tendons, which are inſerted into the upper Part of the laſt Bone of every Toe, near the Setting on of the Claws, firmly adhering to the* Oſſa ſeſamoidæa *of the Joints, as it paſſes over them.*

N. B. *Here, as well as in the fore Foot, are obſervable two ſpringy Ligaments that keep the laſt Bone of every Toe in an erect or*

ſuſ-

ſuſpended Poſture, for the Conveniency of walking, and for ſaving of this Muſcle from being always in Action. But more of this in my comparative Oſteology.

EXTENSOR BREVIS

Origin. Ariſes fleſhy and a little tendinous from the fore Part of the *Os calcis* externally, near its Conjunction with the *Cuboides*, and, dilating itſelf into a fleſhy Belly, eaſily diviſible into four Portions, paſſes over the upper Part of the Foot under the Tendons of the former.

Inſertion. Is inſerted by four Tendons into the ſecond Bone of the Toes.

Uſe. They ſerve to extend the Toes.

In a Dog it ſeems to be two diſtinct Muſcles, of which one ariſes tendinous, the other fleſhy, from the upper and fore Part of the Os calcis, *where it joins the* Aſtragalus *externally. The innermoſt, ſoon growing fleſhy, makes but one Tendon, which runs to that Toe next the great one; and, about the Middle of the firſt Joint it loſes itſelf in the Tendon of the* Longus: *The outermoſt gives Tendons to the reſt of the Toes.*

PERFORATUS, *ſeu* FLEXOR SUBLIMIS,

Origin. Ariſes by a narrow fleſhy Beginning, from the lower protuberating Part of the

Os

Os calcis, between the *Abductor* of the great and little Toes; but, deſcending, ſoon dilates into a thick fleſhy Belly.

Is inſerted by four Tendons, which ſplit, unite, decuſſate, ſubdivide, and run cloſe by the Edges of the Bones, like thoſe of the Fingers, into the ſecond *Phalanx* of the four leſſer or outermoſt Toes. *Inſertion*

Its Uſe is to bend the ſecond Joint. *Uſe.*

In a Dog it ariſeth fleſhy from the back Part of the external Protuberance or Condyle *of the* Os femoris, *and a little tendinous from the* Os ſeſamoidæum *that has a looſe Connection with the ſame. Its fleſhy Belly lies under the* Gaſtrocnemius, *or* Extenſor ſuralis, *from whoſe external Head it can ſcarcely be ſeparated; but, as ſoon as it grows tendinous, it climbs along the Tendon of that Muſcle down to the* Os calcis, *which it paſſes over, and then ſplits into four thin Tendons, which form a Sort of Caſe, with a little Hole on its Outſide for the Tranſmiſſion of the Tendons of the following. About the Middle of the firſt* Internode *the Half of this* Involucrum *is diſcontinued, and the Tendon is inſerted broad, without any Diviſion, into the Beginning of the ſecond Joint.*

N. B. *In the Middle of this Tendon, as it runs over the End of the* Calcaneum, *Nature has wiſely placed a little hard cartila-*

ginous

ginous Body, which not only prevents that Part of the Tendon from being injured by the ſharp Extremity of the Bone, but alſo ſtrengthens the Action of the Muſcle itſelf; and ſo, like a Rouler, or Patella, *renders its Motion more eaſy and glib in running.*

PERFORANS, *ſeu* FLEXOR PROFUNDUS,

Origin. Ariſes by an acute Tendon, which ſoon becomes fleſhy, from the back Part of the *Tibia*, about two or three Inches from its Head above the Termination of the *Poplitæus;* which Beginning is continued down the inner Edge of this Bone by ſhort fleſhy Fibres ending in its large Tendon. Its other Origination is by a thin and diſgregated Tendon from the Edge of the *Fibula*, interſperſed with Abundance of *carnous Fibrillæ:* Betwixt this double Order of Fibres the *Tibialis poſticus* lyes incloſed. Having paſſed under two imbanding *Ligaments*, it marches through the Sinuoſity of the *Os calcis*, and about the Middle of the Sole of the Foot divides into four Tendons, which paſſing through the Slits of the *Perforatus*, are

Inſertion. Inſerted into the upper Part of the laſt Bone of all the leſſer Toes.

N. B. It parts with a ſmall Tendon juſt before its Diviſion, which, running forwards

forwards, communicates with that of the *Flexor pollicis longus*.

Its Uſe is to bend the Toes. *Uſe.*

N. B. The *Maſſa carnea*, or *Muſculoſæ carnis portio* JA. SILV. in the Sole of the Foot, may well be reckoned a third Head or Beginning of this Muſcle; for it ariſes by a thin fleſhy Origin from the moſt Part of the Sinuoſity of the *Calcaneum*, which is continued forward for ſome Space on the ſame Bone. Beſides, it has a thin tendinous Beginning from the fore Part of the lower Protuberance of this *Os calcis*, and, ſoon becoming all carnous, it joins in, ſloping, with the Tendon of this *Flexor*, juſt at its Diviſion into four Tendons. This *Moles carnea* is wanting in a *Dog*.

In a Dog this Muſcle ariſes fleſhy from all the upper Half of the Fibula *that ſtands off at a Diſtance from the* Tibia, *filling up moſt of the Space between them. It ſplits into five Tendons; one runs to the great Toe, which, in this Animal, is leſs than any of the four, the reſt paſs through ſo many Caſes, made by the Tendons of the* Sublimis, *to their Inſertions at the third Bone of each Toe.*

LUMBRICALES

They all ariſe from the Tendons of the *Perforans*, at ſome Diſtance from the Union *Origin.*

nion of the *Maſſa carnea* with the ſingle Tendon of that Muſcle; are

Inſertion. Inſerted by four ſmall Tendons into the Inſide of the firſt Joint of the leſſer Toes, next the great Toe.

Uſe. Their Uſe is to aſſiſt in bending the Toes.

INTEROSSEI

The ſeven *interoſſeous* Muſcles have the ſame Situation with thoſe in the Hand, but differ in their *Origin*, *Inſertion* and *Uſe*.

Origin. The firſt, or *Abductor indicis pedis Cowperi*, ariſes from all the Outſide and fore Part of the *metatarſal* Bone of the Toe next the great one.

Origin. The ſecond, or *Adductor ejuſd.* fills up all the Diſtance between this and the *Os metatarſi* of the middle Toe, from the Sides of both which it ariſes.

Origin. The third, or *Adductor medii digiti ejuſd.* belongs to the Side of the ſecond leſſer Toe next the firſt, and is only conſpicuous internally, ariſing from all the fore Part of this *metatarſal* Bone, and by a few Fibres from the upper Part of the firſt alſo.

Origin. The fourth, or *Abductor medii digiti ejuſd.* which runs along the firſt Joint of this Toe, on the other Side, ariſes externally from the *metatarſal* Bone of this, and

of

of that which ſupports the third Toe, filling up all the Space between them.

The fifth, or *Abductor tertii digiti ejuſd.* ariſes from the upper Part of the *metatarſal* Bone that ſtays the third Toe, and alſo from the Tendon of the *Muſculus peronæus longus.* Origin.

The ſixth, which belongs to the other Side of this third leſſer Toe, ariſes from the Sides of this *metatarſal* Bone, and from that which ſupports the little Toe, filling up all the Space between thoſe on the back Side of the Foot. It has alſo a tendinous Adheſion to the long *Peronæan Muſcle.* Origin.

The ſeventh, or *Adductor minimi digiti ejuſdem*, ariſes from the upper Part of the *Os metatarſi minimi digiti*, being alſo affixed to the foreſaid Tendon. Origin.

They are all inſerted, partly into the *Oſſa ſeſamoidæa*, placed on the Articulation of the firſt Bone of the Toes with the *Oſſa metatarſi*, and partly on the Side of the ſame Bone. Inſertion.

Their Uſe is to move the four leſſer Toes laterally; for, when the *Interni* act, the Toes are drawn inwards towards the great Toe, and, when the *Externi* act, they are pulled nearer the little one, or are all drawn outwards from the great one. Uſe.

The four ſtraight and two oblique Muſcles, ſituated in the Hollow of a Dog's hind Foot, run altogether conform to thoſe already deſcribed in his fore Foot.

CHAP. XLIV.

Of the Muſcles of the GREAT TOE.

THE *Pollex digitorum pedis*, or *great Toe*, has ſix Muſcles.

EXTENSOR LONGUS

Origin. Ariſes, by an acute, tendinous and fleſhy Beginning, from near the upper Part of the *Fibula*, and from the Membrane that connects it to the *Tibia*.

Inſertion. Is inſerted tendinous into the upper Part of the laſt Bone of the great Toe.

Uſe. Its Uſe is to extend that Joint by pulling it upwards.

EXTENSOR BREVIS *Cowperi*,

Origin. Ariſes tendinous and fleſhy from the fore Part of the *Os calcis*, near its Articulation with the *Aſtragalus*.

Inſertion. Is inſerted tendinous near the upper Part of the ſecond Bone of the great Toe.

Uſe. Its Uſe is to extend this *Internode*.

The

The Pollex pedis *in a Dog, being armed with a Claw much more hooked than any of the other four Toes, is joined to one of the Bones of the* Tarſus *near the upper Part of the* Os metatarſi *that anſwers the fore Toe; whence the hind Foot of this Animal does much more reſemble the Hand of a Man than his fore Foot does.*

This Part is extended by two Muſcles, one proper, which ariſes fleſhy from the Fibula *and Membrane that connects it to the* Tibia; *its ſmall Belly ſoon turns into a fine Tendon, which, adhering to that of the* Tibialis anticus, *runs on to the laſt Joint of this Toe, where its ends.*

The other is a Tendon caſt off from the Tibialis anticus *already deſcribed.*

FLEXOR LONGUS

Ariſes by a ſharp, tendinous and fleſhy Beginning, from the upper and back Part of the *Fibula*, being continued down the ſame Bone almoſt to its Extremity, paſſing its Tendon under a Ligament at the inner Ankle. *Origin.*

Is inſerted into the laſt Bone of the great Toe, giving a Tendon to the *Os calcis* in its Way. *Inſertion.*

Its Uſe is to bend this Joint. *Uſe.*

FLEXOR

FLEXOR BREVIS

Origin. Ariſes tendinous from the *Os cuboides* and *Os cuneiforme* that jets out in the Bottom of the Foot, it being inſeparably united both with the *Adductor* and *Abductor pollicis*.

Inſertion. Is inſerted into the external *Os ſeſamoidæum* of the great Toe, adhering to the *Adductor*.

Uſe. Its Uſe is to bend this ſecond Joint.

In a Dog this Range of Bones is bended by a Slip caſt off from the Flexor profundus.

ADDUCTOR

Origin. Ariſes by a long, thin, diſgregated Tendon, from the *Os calcis*, under the tendinous Part of the *Maſſa carnea*, from the *Os cuboides*, from the *Os cuneiforme medium*, near the Inſertion of the *Peronæus primus*, and from the upper Part of the *Os metatarſi* of the ſecond Toe; it is ſoon dilated into a pretty large Belly.

Inſertion. Is inſerted into the external *Os ſeſamoidæum* of the great Toe.

Uſe. Its Uſe is to bring the great Toe nearer the reſt.

ABDUCTOR

Origin. Ariſes fleſhy from the Inſide of the lower Protuberance of the *Os calcis* laterally,

rally, and tendinous from a little Tubercle in the ſame Bone, near the *Os cymbiforme*; it only adheres to the other Bones on the Inſide of the Foot, filling up the Hollowneſs in the *Os metatarſi pollicis*.

Is inſerted into the internal *Os ſeſamoi-* Inſertion.
deum of the firſt Bone of the great Toe, its Tendons being farther continued upon the ſame Bone laterally.

Its Uſe is to pull the great Toe from Uſe.
the reſt.

In a Dog theſe two laſt deſcribed Muſcles are never found.

CHAP. XLV.

Of the Muſcles of the LITTLE TOE.

THE little Toe has two Muſcles.

ABDUCTOR

Ariſes fleſhy and tendinous from the Origin.
ſemicircular Edge of a Cavity on the Outſide of the inferior Protuberance of the *Os calcis*; it has another tendinous Beginning from the *Os cuboides*, and a third from the upper Part of the *Os metatarſi minimi digiti*.

Is inſerted into the upper Part of the Inſertion.
firſt

first Bone of the little Toe externally laterally.

Use. Its Use is to draw the little Toe outwards from that next to it.

FLEXOR PRIMI INTERNODII MINIMI DIGITI *Cowperi*,

Origin. Arises fleshy from the Outside of the *metatarsal* Bone that sustains this Toe, below its protuberating Part; besides, it has another Beginning from the Tendon of the *Peronæus primus*, as it runs in the *Sulcus* or Furrow of the *Cuboides*.

Insertion. Is inserted into the Cartilage that is placed upon the Articulation of the first Joint of this Toe.

Use. Its Use is to bend this Joint.

In a Dog these two are wanting.

CHAP. XLVI.

Of the Muscles common to the GREAT *and* LITTLE TOES.

TRANSVERSALIS PEDIS *Jul. Cass. Placent.*

Origin. ARises tendinous from the external *Os sesamoidæum* of the great Toe, firmly adhering to the tendinous Part of the *Adductor pollicis;* soon growing fleshy it passes

paſſes over the Extremity of two of the *metacarpal* Bones, between them and the *Flexores digitorum;* and then, growing broader,

Is inſerted, partly into a Tendon that proceeds from the *Expanſio tendinoſa* in the Sole of the Foot, and partly into that cartilaginous Ligament that covers the Articulation of the firſt Joint of the third leſſer Toe with its *Os metatarſi*, ſome of its fleſhy Fibres being continued upon the ſame Part of the little Toe. *Inſertion.*

Its Uſe is to bring the third and fourth leſſer Toes nearer the other two and the great one. *Uſe.*

In a Dog there is no ſuch Muſcle.

Of the PRÆPUTIUM *and* URETHRA *in a Dog.*

TO compleat the *Canine Myology* there remain yet to be deſcribed the Muſcles of the *Præputium* and *Urethra*.

The Præputium, *which in a Man has no Muſcle, is provided with one Pair and a ſingle one in a Dog. The firſt I call*

Præputium Adducens, *which proceeds from the* Membrana carnoſa, *near the* Cartilago

tilago enſiformis; *as it deſcends on each Side of the* Linea alba *it grows thicker and narrower, and is inſerted into the* Præputium *laterally. When this acts, I believe, it ſerves to bring the* Præputium *over the* Glans *after Copulation,* (*tho'* Blaſius *affirms, that it draws the* Penis *forwards* tempore coitus) *being therein much aſſiſted by the Contraction of the two Ligaments which come from about the Middle of the* Linea alba, *and end in the* Præputium. *The ſecond is*

Præputium Abducens, *or* Retrahens, *which is a ſingle ſmall Muſcle ariſing from the* Sphincter ani, *and firmly adhering to the* Accelerator urinæ, *from which it receives two fleſhy Slips, as before noted, runs up along the* Urethra, *and terminates in the lower Part of the* Præputium, *where its dilated Fibres are expanded all over it. Its Uſe is to draw back the* Præputium, *and ſo help to denude or uncover the* Glans *in order to Coition. It may likeways ſerve, in ſome Meaſure, to dilate and keep open the* Urethra *at that Time, leſt the Seed ſhould meet with any impediment or Let in this very long Paſſage.*

That Part of the Urethra *between the* Proſtates *and the Union of the two* Corpora cavernoſa, *being two or three Inches in Length, according to the Bigneſs of the Animal,*

Animal, is ſurrounded by a thin fleſhy Muſcle, contrived and placed there on purpoſe for to compreſs the many Glands *that open within this Paſſage, and ſo oblige them to diſcharge their Contents, which ſerve as a* Vehiculum *to forward the deſcending* Semen, tempore coitus; *to which alſo the Contraction of its fleſhy Fibres, in narrowing this Canal, contributes in a great Meaſure, as Mr.* Cowper *has well obſerved in Boars and in Bulls.*

AN APPENDIX

Concerning the Muſcles of the CLITORIS *and* VAGINA *in a Woman.*

THE *Clitoris* is furniſhed with two Pair of Muſcles.

The firſt, diſcovered by *Fallopius*,

Origin. Ariſes tendinous and fleſhy from the *Os iſchion* internally near its Conjuction with the *Pubis;* in its Aſcent it adheres to the inner Edge of the laſt named Bone, and,

Inſertion. Is inſerted fleſhy into the *Crus* or Beginning of the *Clitoris*.

This Muſcle with its Partner, ſerve for the Erection of this Part, by the detaining the Blood in its cavernous Subſtance.

Uſe. The ſecond Muſcle belonging to the *Clitoris*, is, by *DeGraaf*, very improperly called *Sphincter vaginæ*, ſince it does not ſurround that Part with circular Fibres, tho' it has the ſame Effect as tho' it did.

Origin. It ariſes fleſhy, partly from the *Sphincter ani*, and partly from a white hardiſh

Sub-

Subſtance placed under the Skin in the *Peronæum*, between the lower Part of the *Pudendum* and the *Anus;* from thence it climbs up the Side of the *Vagina*, near its outer Orifice, covering all the *Corpus vaginæ vaſculo-ſpongioſum*, which is nothing but a Production of the *Clitoris*, and

Is inſerted into the Body or Union of the *Crura Clitoridis* laterally. *Inſertion.*

Its Uſe is the ſame with the preceeding Muſcle; and beſides, by compreſſing the *Corpus ſpongioſum*, or *Plexus retiformis*, it ſerves to ſtraiten the Orifice of the *Vagina*, by hindring the Blood in its Return from thence. *Uſe.*

The *Vagina uteri* is furniſhed with two Pair of Muſcles, not mentioned by any Author as far as I know.

The firſt ariſes from the inner Edge of the *Os pubis*, mid Way between the *Iſchion* and the Beginning of the *Crus clitoridis;* it aſcends a little obliquely, and *Origin.*

Is inſerted into the *Vagina*. *Inſertion.*

Its Uſe is to dilate the Sheath, and open the Extremity of the *Meatus urinarius*, its Termination being very nigh the Orifice of that Paſſage. *Uſe.*

The

Origin. The ſecond ariſes tendinous and fleſhy from the *Os pubis* internally, in common with the *Levator ani.*

Inſertion. Is inſerted into the upper Part of the *Vagina*, at the Side of the *Meatus urinarius*, or *Collum veſicæ.*

Uſe. This acting pulls up the *Vagina*, and ſo conſtringes the Neck of the Bladder after the Evacution of Urine.

N. B. Theſe Muſcles can never be well raiſed, unleſs the *Os pubis* be taken off from the *Ilium* and *Iſchium*, with the *Inteſtinum rectum*, the *Vagina* and *Veſica urinaria* left adhering to it.

A N

AN *Etymological Table* OF THE MUSCLES.

The Muſcles take their NAMES,

I. *From their Action or Uſe.*

ABductor, from *abducere*, to move or draw from.

Accelerator, from *accelerare*, to haſten or diſpatch.

Adductor, from *adducere*, to move or bring towards.

Annuens, from *annuere*, to nod the Head forwards, as when we give our Aſſent to any Thing.

Attollens, from *attollere*, to lift or raiſe up.

Caput concutiens, from *concutere*, to ſhake.

Conſtrictor, from *conſtringere*, to ſtraiten or bind faſt.

Cremaſter,

Cremaſter, or *Suſpenſorius*, from κρεμαω, *ſuſpendo*.

Depreſſor, from *deprimere*, to pull or draw down.

Detruſor urinæ, from *detrudere*, to thruſt or ſqueeze out of.

Diaphragma, from διαφράττω, *interſepio*, becauſe it divides the Cavity of the *Thorax* from that of the *Abdomen*.

Dilatator, from *dilatare*, to enlarge or widen.

Diſtortor oris, from *diſtorquere*, to pull or ſet awry.

Extenſor, from *extendere*, to extend or ſtretch out.

Flexor, from *flectere*, to bow or bend.

Indicator, from *indicare*, to ſhew or point, becauſe that Finger is uſed in the Demonſtration of any Thing.

Levator, from *levare*, to lift or pull up.

Maſſeter, from μασσάομαι, *manduco*, *comedo*, to eat.

Pronator, from *pronus*, which denotes the Poſture of lying with the Face downwards; but the Word is here taken for turning the Palm only downwards.

Renuens, from *renuere*, to nod the Head back, as when we deny or refuſe any Thing.

Retra-

Retrahens, from *retrahere*, to draw back.
Sartorius, from the Uſe Taylors make of it to ſit croſs-legged.
Sphincter, from σφιγγω, *conſtringo*, to ſhut.
Supinator, from *ſupinus*, which denotes that Poſture of lying upon the Back with the Belly upwards; but in this Caſe it is taken for turning the Palm only upwards.
Tenſor, vide *Extenſor*.

II. *From their Beginning or Origin.*

Graphoides, or *Styliformis*, from γραφὶς, *ſtylus*, becauſe of its ſuppoſed Origination from the Proceſs of the *Temple-Bone*, ſo called. The *Muſculus digaſtricus* was thus named by the Ancients.
Pectinæus, or *Pectinalis*, from *Pecten*, i. e. *Os pubis*.
Pterigoidæus, or *Aliformis*, from πτὲρυξ, υγος, *ala*, a Wing, and εἶδος, *forma*.
Sacer, from the *Os ſacrum*.
Sacro-lumbalis, from the laſt named Bone, and from the tranſverſe Proceſſes of the Loins.
Semifibulæus, from one half of the *Fibula*.
Tranſverſalis, from the tranſverſe Proceſſes of the Back and Neck.
Zygomaticus, from the Bone called ζύγωμα, which is derived from ζύγος, *vel* ζεύγος, *jugum*,

jugum, a Yoke; *Os jugale*, the Yoke-bone.

III. *From their Colour.*

Lividus, i. e. *pectinæus*, from its black and bluiſh Colour.

IV. *From their Compoſition and Variety of Parts.*

Biceps, from its having *Bina capita*, two Heads or Beginnings.

Bicornis, from its having two Origins, like ſo many Horns.

Complexus, from its being made up of many tendinous and fleſhy Fibres, intricately mixed one with another.

Complicatus is another Name for the ſame Muſcle, having the ſame Etymology.

Digaſtricus, or *Biventer*, from δις & γασηρ, becauſe it has two fleſhy Bellies, with a Tendon interveening.

Gemellus, from its having a double Origin.

Gemini, from their being two diſtinct Muſcles, united only by a Membrane.

Quadriceps, from its ariſing by four Heads or Beginnings.

Triceps, from its ariſing by three Heads.

V. *From*

V. *From the Courſe and Direction of their Fibres.*

Obliquus. Orbicularis. Rectus. Tranſverſalis.

VI. *From their Figure or Shape.*

Cucullaris, from the Reſemblance the lower Part of this Pair of Muſcles has to that Part of a Monk's Hood that lyes between his Shoulders.

Deltoides, or *Deltiformis*, from Δέλτα, the fourth *Greek* Letter, and εἶδος, *forma*.

Faſcialis, i. e. *Sartorius*, from its croſſing ſome of the Muſcles of the Thigh and Leg, like a Swath-Band or *Faſcia*.

Faſcia lata, from its incloſing moſt of the Muſcles that ly on the *Os femoris*.

Lumbricales, from the Likeneſs of the Shape to the common Earth-Worm.

Marſupialis, becauſe the *Gemini*, by ſome reckoned a Part of this Muſcle, do form a *Marſupium*, or fleſhy Purſe by their membranous Connexion through which its Tendons paſs.

Pyramidalis, becauſe it ariſes by a broad *Baſis*, and terminates by a narrow Point like a Pyramid, or pyramidal Figure, which is broad beneath, and ſharp or narrow above.

Pyriformis, from the faint Reſemblance it bears to a Pear.

Quadratus, from its ſquare or quadrilateral Figure.

Rhomboides, from ῥόμβος, a Diamond Figure, and εἶδος, *forma*, *i. e.* a Diamond-like Figure, whoſe oppoſite Sides and oppoſite Angles are equal.

Rotundus, from its being round and ſpherical.

Scalenus, from the Figure of a Triangle, whoſe three Sides are all unequal, called in *Greek* σκαληνος.

Scrratus, from its being divided at its Termination into ſeveral diſtinct fleſhy Portions, which are not unfitly compared to the Teeth of a Saw, called *Serra* in *Latin*.

Solæus, or *Soleus*, from *Solea*, a Sole-Fiſh.

Splenius, from *Splenium*, a Ferula, or rouled Splint, which Surgeons are wont to apply to the Sides of a broken Bone.

Teres, from its being long and round.

Trapezius, from τράπεζα, which denotes, in Geometry, a Kind of quadrilateral Figure; but properly it ſignifies *menſa*, a Table; hence ſome call this the *Table Muſcle*.

Triangularis, from *triangulum*, which is a Figure with three Corners.

VII. *From*

VII. *From their Inſertion or Termination.*

Ciliaris, from *cilia*, or the ſoft cartilaginous Edges of the Eye-Lids, into which the *Tarſi*, or Hairs, are fixed.

Maſtoidæus, or *Maſtoides*, i. e. *mammiformis*, from μάσος, *uber*, *mamma*, & εἶδος, *forma*.

Semiſpinalis, from Half of the ſpinal Proceſſes of the Back.

Spinalis, from ſeveral of the *Spines* of the Neck.

VIII. *From their Origin and Inſertion.*

Baſio-gloſſus, from βάσις, the fore Bone of the *Os hyoides*, and γλῶσσα, *lingua*, the Tongue.

Cerato-gloſſus, from κέρας, ατος, *cornu* & γλῶσσα, *lingua*.

Coraco-brachialis, from the *Proceſſus* called κόρακοειδης, from κόραξ, κὸς, *corvus*, & εἶδος, *forma*, and *brachium*.

Coraco-hyoidæus, from the laſt named Proceſs and the *Os hyoides*.

Crico-arytænoidæus, from κρικος, *annulus*, and ἀρύταινα, *guttus*, ſeu *gutturnium*, an Ewer or Cruet.

Crico-thyreoidæus, as above, and from θυρεοειδης, i. e. *ſcutiformis*.

Genio-

Genio-gloſſus, from γενειον, *mentum*, the Chin.

Genio-hyoidæus, as above, and from the *Os hyoides*.

Gloſſo-ſtaphylinus, from γλῶσσα, *lingua*, and σαφυλη, *uva*, *uvula*, *gargareon*.

Hyo-thyreoidæus, from the *Os hyoides*, and θυρεοειδης, *ſcutiformis*.

Mylo-hyoidæus, from μύλοι, *dentes molares*.

Occipito-frontalis, from the *Occiput*, and the Skin of the *Os frontis*.

Palato-ſtaphylinus, from the *Os palati*, and σαφυλη, *uvula*.

Salpingo-ſtaphylinus, from σάλπιγξ ιγγος, *tuba*.

Sterno-hyoidæus, from the *Os ſterni* or *pectoris*.

Sterno-thyreoidæus, as above.

Stylo-chondro-hyoidæus, from σύλος, *ſtylus*, i. e. *Proceſſus ſtyliformis*, from χόνδρος, *cartilago*, &c.

Stylo-gloſſus, from σύλος & γλῶσσα.

Stylo-hyoidæus, as above.

Thyreo-arytænoidæus, from θυρεὸς, *ſcutum*.

Thyreo-ſtaphylinus, as above.

It is worth obſerving, that the firſt Word denotes always the Origin, and the laſt the Inſertion of the Muſcle.

Tra-

Trachelo-maſtoidæus, from τράχηλος, *collum, cervix*, its chief Origin being from the *Vertebræ* of that Part.

IX. *From the Parts they belong to.*

Coccygæus, from κόκκυξ, *cucullus*, i. e. *Os coccygis*, a Bone ſo called from its Shape.
Oeſophagæus, from οἰσοφάγος, *æſophagus, gula*, the Gullet.
Pharyngæus from φάρυγξ, *guttur, fauces.*
Cephalo-pharyngæus, from κεφαλή, *caput.*
Chondro-pharyngæus, from χόνδρος, *cartilago.*
Crico-pharyngæus, from κρικος, *annulus.*
Gloſſo-pharyngæus, from γλῶσσα, *lingua.*
Hyo-cerato-pharyngæus, as above.
Mylo-pharyngæus, from μύλοι, *dentes molares.*
Pterigo-pharyngæus, from πτέρυξ, *ala.*
Salpingo pharyngæus, from σάλπιγξ, *tuba.*
Stylo-pharyngæus, as above.
Syndeſmo-pharyngæus, from σύνδεσμος, *vinculum, ligamentum.*
Thyreo-pharyngæus, from θυρεός, *ſcutum.*
Rinæus, from ῥὶν, ῥινός, *naſus.*
Stapidæus, from *ſtapes.*

X. *From the Parts they conſtitute or compoſe.*

Buccinator, becauſe it makes up the greateſt Part of the Cheek, called *Bucca.*

Gaſtroc-

Gastrocnemius, from γαστροκνημια, *sura*, the Calf of the Leg, which comes from γαστὴρ, *venter*, & κνημὴ, *tibia*.

Glutæus, from γλυτός, *nates*.

N. B. The *Pharyngæus*, with all its various Orders of Fibres, might have been described under this Head, as well as in the former.

Suralis, from *sura*, the Calf of the Leg.

Θέναρ, seu *Thenar*; thus the *Greeks* call the rising and prominent fleshy Part in the Palm of the Hand, which Word seems to come from Θείνειν, *percutere*, *verberare*.

XI. *From their passing through some Parts.*

Perforatus, because its Tendon passes thro' a Slit or Fissure in that of the *Perforatus*.

Trochlearis, from passing its Tendon thro' a Cartilage called *Trochlea*, a Pulley.

XII. *From their Quantity or Magnitude with respect to one another.*

Brevis.

Gracilis, from its being the thinnest and slendrest Muscle of the *Tibia*.

Latissimus, from its being the broadest and largest Muscle that lyes on the Back or Neck.

Longissi-

Longiſſimus, from its being the longeſt of thoſe of the Back.

Longus. Magnus. Major. Maximus. Medius. Minimus. Minor. Parvus. Theſe need no Explication.

Platyſmo-myoides, i. e. *expanſio* vel *dilatatio muſcularis*, from πλάτυσμα, *latum linteum, vel alquid ſimile;* or from πλάτυσμὸς, *dilatatio*, and μυς, *muſculus*, & εἶδος, *forma.*

Vaſtus, becauſe it and its Fellow are the two biggeſt and thickeſt Muſcles belonging to the Leg or *Tibia.*

XIII. *From their Situation or Poſition.*

Anconæus, or *Angonæus*, from ἀγκὼν, *cubitus*, but in a ſtrict Senſe is taken for that Proceſs of the Cubit called the *Elbow.*

Anticus, that which lyes in the fore Part.

Antithenar, from its Situation, which is oppoſite to the *Thenar*, or from its Uſe, which is contrary to it.

Brachiæus, from βραχιων, *brachium.*

Cruræus, from *Crus*, i. e. *femur.*

Cubitalis, *Cubitæus*, *Externus.* } from *cubitus*, i. e. *ulna.*

Fibulæus, from *fibula.*

Hypo-

Hypothenar, becauſe it is ſituate below the *Thenar*.

Iliacus, from the *Os ilium*.

Immerſus, from its being ſunk, as it were, under the reſt of the Muſcles of the *Scapula*.

Infraſpinatus, below the *Spina ſcapulæ*.

Intercoſtales, from their being placed *inter coſtas*, or between the Ribs.

Internus.

Interoſſeus, between the *metacarpal* and *metatarſal* Bones of the Hand and Foot.

Interſpinales, between the Spines of the Neck.

Intertranſverſales, between the tranſverſe Proceſſes of the Neck or Loins.

Intervertebrales, from their being placed upon and between the Bodies of ſome of the *Vertebræ* of the Neck.

Palmaris, from the ſpreading of its Tendon upon the Palm of the Hand.

Plantaris,, from the ſuppoſed ſpreading of its Tendon upon the Sole of the Foot under the Skin.

Pectoralis, from the *Os pectoris*.

Peronæus, from the *Perone*, περόνη in *Greek*, the ſmalleſt Bone in the Leg.

Poplitæus, from *poples*, the Ham.

Poſticus, that is ſituated behind, or on the back Side.

Pſoas,

Pſoas, from Ψόα, *lumbus*, the Loins.
Radialis, } from *radius*.
Radiæus, }
Subclavius, from the *Clavicula* under which it is placed.
Subſcapularis, under the *Scapula*.
Supraſpinatus, above the Spine of the *Scapula*.
Temporalis, from *tempora*, the Temples.
Tibialis, } from *tibia*.
Tibiæus, }
Ulnaris, from *ulna*.

XIV. *From their Subſtance.*

Membranoſus, becauſe of its broad Membrane-like Tendon.
Semimembranoſus, from its being half membranous.
Seminervoſus, } from its being half ten-
Semitendinoſus, } dinous.

A LIST of the Muſcles found in a human Body, that are not met with in a Dog.

Pyramidalis abdominis.
Muſculus frontalis verus.
Muſculus naſi proprius, ſeu *Rinæus.*
Elevator labiorum communis.
Depreſſor labiorum communis.
Stylo-chondro-hyoidæus.
Coraco-hyoidæus.
Salpingo-ſtaphylinus.
Thyreo-ſtaphylinus.
Subclavius.
Levator ani externus.
Serrator minor anticus.
Palmaris longus.
Palmaris brevis.
One of the *Extenſores carpi radialis*
Extenſor tertii internodii indicis.
Adductor indicis.
All the Muſcles of the Thumb, except one *Flexor* and one *Extenſor*.
All the Muſcles of the little Finger, except the *Extenſor*.

Supinator

Supinator longus.
Coccygæus.
Tendinosa expansio in planta pedis.
Par nonum pedis Vesalii.
Massa carnea in planta pedis
All the Muscles in the great Toe, except one *Extensor.*
Abductor minimi digiti.
Flexor primi internodii minimi digiti.

A LIST of the Muscles peculiar to a Dog.

Mus-

An

An Alphabetical INDEX of all the human Muſcles deſcribed in this Treatiſe.

A

B

E

F

G

Obturator

Quadratus

Q

R

S

T

Tranſver-

V

Z

An

An Account of what Dr. Douglaſs *obliged himſelf to perform in a Courſe of* human *and* comparative ANATOMY.

In the OSTEOLOGICAL Part.

1. TO diſcourſe on the *Bones*, *Cartilages* and *Ligaments* in general.

2. To examine the *Bones* in particular, all of them being ſo prepared as their inner Subſtance may be viewed as well as their outer.

3. To ſhew the Articulations of the *Bones*, both in a Skeleton and in a freſh Subject.

4. To demonſtrate the *Perioſteum*, the *Medulla*, the Entrance and Exit of the Blood-veſſels, with all the *mucilaginous Glands* ſeated in or near the Joints.

5. To compare the *Bones* of a *Fœtus* with thoſe of an Adult, and to give an Account of their Accretion, from Conception to the Birth.

6. To adjuſt the Difference between a male and female *Skeleton*.

7. To ſhew and deſcribe all the *Cartilages* and *Ligaments*.

In

In the MYOLOGICAL Part.

1. To give the Structure of a *Fibre*, *Membrane* and *Muscle* in general.

2. To raise every *Muscle* in particular; shewing its Origin, Progress and Insertion; giving an Account of its first *Discoverer*, and to whom we are obliged for its best Description.

In the INTEROLOGICAL Part.

1. To give the Division of the Body, with a Description of its common containing Parts, as the *Cuticula*, *Cutis*, &c.

2. To shew all the *Viscera* contained in the Cavity of the *Thorax* and *Abdomen*, *in situ naturali*, observing their Situations and mutual Connections one with another, and from thence explaining several *Phænomena* that happen in the Practice of *Physick* and *Surgery*.

3. To demonstrate each *Viscus* in particular.

4. To shew the Parts subservient to Generation in both Sexes, in fresh Bodies and dried Preparations.

5. To shew the Organs of *Sense* in fresh and dried Preparations.

6. To demonstrate all the Parts of a human *Fœtus* that differ from an Adult,

as

as the *Thymus*, *Glandulæ Renales*, (their numerous Veſſels being all filled with different coloured Wax) the *Funiculus* and *Vaſa umbilicalia*, the *Foramen ovale*, *Canalis Botalli*, vel *Ductus arterioſus*, *Ductus venoſus*, &c.

7. To examine the *Placenta uterina*, with the Membranes that involve the *Fœtus in utero*.

In the NEUROLOGICAL Part.

1. To diſcourſe of the *Nerves* in general.

2. To trace all the *Nerves* that riſe from the *Medulla oblongata*, through the Holes in the *Cranium* to their reſpective Terminations in the Noſe, Eyes, Ears, Tongue, Skin of the Head and Face, Neck, and Parts contained in the Cheſt and lower Belly; and thoſe that ſpring from the *Medulla ſpinalis* into the Extremities where they chiefly end.

In the ADENOLOGICAL Part.

1. To explain the Structure of the *Glands* in general.

2. To demonſtate the *Brain* and *ſpinal Marrow*, with all the Membranes that involve them.

3. To examine the *salivary*, the *mammary*, and the other *conglomerated Glands*, injecting the excretory Ducts of some of them with *Mercury* and *Wax*.

4. To demonstrate several of the *lymphatick* or *conglobated Kind*.

In the ANGEIOLOGICAL Part.

1. To discourse of the *Arteries*, *Veins*, and *lymphatick* Vessels in general, demonstrating their several Coats and Valves.

2. To fill all the *Arteries* with a *ceraceous Matter*.

3. To inject the *Sinuses* of the *Dura mater*, and fill some of the *Veins* with a different coloured Wax, and to trace the rest of them, particularly the *Azygos*, the Ramifications of the *Porta*, and those that are opened in *Venæ-section*.

N. B. The above mentioned Parts are to be exhibited in human Bodies, most of them being likeways shewn in dried Preparations, and in describing them the following Particulars are to be considered and explained, *viz.* their *Names* in *Greek*, *Latin* and *English*, *Etymology*, *Discoverer*, *Number*, *Situation*, *Connexion*, *Figure*, *Substance*, *Cavities*, *Magnitude*, *Membranes* or *Coats*, *Vessels*, *Colour*, *&c.* with their most probable *Use*. There will be added, in the

De-

Demonſtration of the *Viſcera* and *Glands*, ſome Obſervations from diſſecting *morbid Bodies*, how they may be preternaturally affected, with an Explication of the *Symptoms* that proceed from thence.

In the COMPARATIVE Part of this Courſe.

1. To demonſtrate and compare all the Parts of a *Quadrupede*, at the ſame Time, with thoſe of a *human* Body, that their different Structures may be the better obſerved.

2. To ſhew the *Vaſa lactea*, the Glands of the *Meſentery*, *Receptaculum chyli*, *Ductus thoracicus*, and its Opening into the *ſubclavian Vein*.

3. To demonſtrate the four *Stomachs* of ſome Animals that *chew the Cud*, and to give an Account of the Cauſe and Uſe of *Rumination*.

4. To ſhew the *periſtaltick Motion* of the Guts, and the Action of the *Diaphragm* in a Rabbit.

5. To demonſtrate the *Uterus* of a Cow, with its *Cotyledones*, and the Liquors and Membranes of the *Fœtus* included.

6. To raiſe all the *Muſcles* in a *Volatil*, inject its *Arteries*, and trace its *Nerves*; to examine the internal and external Structure of its *Ear*; to demonſtrate the *Mem-*

brana

bran nectitans, and shew the Contrivance that hinders the Tendon of its Muscle from compressing the *Globe* of the Eye, while it acts, with the Structure of the other Parts of the Eye. To examine the two *Stomachs*, *viz.* the *Ingluvies* and *Ventriculus*, or Gizzard, with the *Prolobus* or *Vestibulum*, the Heart and Lungs, with the Perforations or Openings of the last mentioned, into several pellucid membranous Bladders that ly between the Folds of the *Intestines*.

7. In a *Cock*, to demonstrate the *Testes*, *Kidneys*, *Ureters*, the two *Penises* and *Cloaca*.

8. In a *Hen* to shew the *Ovarium*, with the *Racemi vitellorum*, the *Oviductus* and *Uterus*.

9. To shew the Circulation of the *Blood*, and the *Animalcula in semine musculino*, with Glasses.

10. To give the anatomical Description of all the Parts of an *Oyster*, *Skate*, *Lobster* and *Whiting*. The Structure of the Heart, and the elegant Contrivance of the *Gills*, will be demonstrated in this last named Fish, with an Account of the Motion of the Blood in those Animals that have but one Ventricle in their Heart.

11. To

11. To exhibit the Structure of that most *abstruse Organ* of *Hearing* in seven or eight different *Animals.*

After a faithful and complete Demonstration of the above mentioned Particulars, to conclude the Course I will give a short History of the OECONOMIA ANIMALIS, drawn from the Structure of the Parts thus described, and comprehended under the following Heads, *viz.* Of *Mastication, Deglutition, Digestion, Chylification, Sanguification,* the *circular Motion* of the *Blood* in a *Fœtus* and in an *Adult;* of *Nutrition, Secretions* of all the particular Humours in the Body from the *Massa sanguinea;* of *Generation, Respiration, muscular* and *progressive Motion,* with an Account how the *Senses* are performed, *&c.*

From the Blue Boar *over against the End of* Fetter-Lane *in* Fleet-Street, September 24. 1706.

F I N I S.

A SHORT APPENDIX TO THE ACCOUNT OF *Human Muſcles*,

Publiſhed by

J. DOUGLAS M.D.

Containing Additions to the Deſcriptions of ſome of the Muſcles.

Page 1. OBLIQUUS DESCENDENS ariſes by ſeveral Tendons; that next the *Vertebræ dorſi*, being longer than any of the reſt, from the lower Edge of the 5th, 6th, 7th, 8th, 9th, 10th, and 11th Ribs, a little before they become cartilaginous, and tendineo-

dineo-carnous from all the Outside of the same Ribs near their Cartilages. Its four uppermost acute Beginnings are intermixed with the terminating *Digituli* of the *Serratus anticus major* upon the Body of the Rib, and all the rest adhere to the *Latissimus dorsi* at its Origin from the Ribs. Its Insertion is likeways tendinous into the fore Part of the *Os ilium*.

N. B. Before you can raise this Muscle, you must free Part of the *Latissimus dorsi* from its Adhesion to the last named Bone, and then you will have a View of the *Obliquus internus*, the *Triangularis lumborum*, the Tendon of the *Transversalis abdominis*, and the *Sacro-lumbalis*.

Page 2. OBLIQUUS ASCENDENS runs in fleshy between the three last Ribs, when their cartilaginous Endings do not adhere to one another.

N. B. If you will take the Trouble to separate the two Tendons of these oblique Muscles, you will observe that *that* of the *Internus* is almost quite lost in the Tendon of the *Externus*, before it reaches what they call the *Linea alba*: But, before you can effect this, you must cut thro' a tendinous Membrane that comes from the Tendon of the *Transversalis* at the semilu-

nary

nary Line, and joins in with that of the *Ascendens*.

Page 3. RECTUS is much broader at its Insertion than in any other Part, where it receives some fleshy Fibres from the lowermost Origination of the pectoral Muscle.

N. B. The Tendons of the oblique Muscle cannot be easily separated from its Intersections, the lowermost of which lyes parallel with the Navel, but all the rest are above it.

The fleshy Fibres of the *Transversalis*, above the fore Part of the *Os ilium*, run disgregated, and firmly adhere to the Muscle above them.

Page 5. In *Columbus*'s Time it was a prevailing Opinion, that the oblique and transverse Muscles of the *Abdomen* were *Digastricks*, or *Biventers*, *Vid. Reald. Columb. de re anatom.* lib. v. cap. xxii. *de musculis.*

Page 7. Some describe and delineate, for the *Transversalis penis*, the *Levator ani externus Riol.*

Page 11. *Columbus* was of the Opinion, that the *Musculus occipitalis*, which he first described, and named *Musculus supercilium trahens*, joined the *Frontalis* by its broad Tendon, and so drew the Skin of the fore

fore Head and hind Head backwards. *Vid.* cap. vii. *de musculis.*

Page 12. I have often took Notice of a little fleshy Slip, which parted from the *Orbicularis palpebrarum,* and run down with the *Zygomaticus.*

Page 18. DEPRESSOR LABIORUM COMMUNIS arises between that Part of the *Latissimus colli,* which climbs over the *Maxilla* to the Angle of the Lips, and the *Depressor labii inferioris proprius.*

Page 20. The Origin of the DEPRESSOR LABBII SUPERIORIS PROPRIUS is continued as far back as the foremost *Dens molaris,* from whence it runs up, under Part of the *Levator labii superioris proprius,* to its Termination.

Page 22. BUCCINATOR being continued between these two Originations, to the *Pterigo-pharyngæus* on one Side, and the *Mylo-pharyngæus* on the other.

Page 22. LATISSIMUS COLLI. Its Slip that terminates in the Angle of the Lips, runs up between the *Depressor labiorum communis* and the *Masseter.*

Page 30. *R. Columbus* first took notice of the true Origin of the *Coraco-hyoidæus.*

Page 33. In some subjects I have observed, that a great Part of the CERATOGLOSSUS did arise from the Basis of the

Bone, and, in some others, I have found few or none of its Fibres to spring from thence.

Page 34. LINGUALIS was first described by the last named Author, being thus named only by *Spigelius*.

Page 41. That some of the Fibres of the THYREO-PHARYNGÆUS run up, and are spread upon the Membrane of the *Glottis*, is Mr. *Cowper*'s Observation.

Page 42. The PALATO-STAPHYLINUS seems to have been partly known by Mr. *Dionis* a *French* Surgeon; for, in his *Anatomy of human Bodies improved*, he affirms the *Uvula* to be formed by the Union of two little round Muscles that spring from the *Septum nasi*. If I had known so much when I first described these Muscles, his Name, and not my Mark, had been affixed unto them, and I had only given their true Description, which he has erred in. This same Author does likeways very accurately describe the two Arches that reach from the Sides of the *Uvula* to the Tongue, which are afterwards reckoned two new Muscles by *Valsalva*, under the Name of *Glosso-staphylini*.

Page 43. The circular Fibres of the *Thyreo-staphylini* cover the last described Muscles.

Page 43. SALPINGO-STAPHYLINUS is a pretty thick and round Muſcle, its true Origination being pointed at by *Veſlingius* in his *Syntagm. anatom.* cap. xi. *pag. mihi* 175, long before *Valſalva* chriſtned it by its Name.

Page 45. In my humble Opinion, with all Submiſſion to the better Judgment of others, the MUSCULUS TUBÆ NOVUS may well be divided into two diſtinct Muſcles, as upon Occaſion I think I can very eaſily demonſtrate. The firſt I bring broad and tendinous from the *Os palati*, and fix its Termination into the Tube of the Ear, which it ſerves to dilate. The other, which is much ſmaller, ſeems to derive its Origin from the *Apex* of the bony Part of the foreſaid Tube; in its Aſcent it cloſely adheres to the firſt, but, at the Hook-like Proceſs of the Bone, its ſmall Tendon departs from it, and growing broad and thin, is ſoon ſpread upon the *Membrana faucium* above the *Foramina narium*, at the Sides of the *Uvula*. Its Uſe being, when it acts with its Partner, to antagonize the *Thyreo-ſtaphylinus*.

Page 52. The CROTAPHITE, or *temporal* Muſcle, is covered with a particular tendinous Membrane, that ſprings from the Bones which give Origin to the upper and

and ſemicircular Part of this Muſcle, and, paſſing over the ſame, contracts like it, and is inſerted into all the *Os jugale*, and the adjoining Part of the *Os frontis*. Its Uſe is to fortify this Muſcle in its Action, by bracing it down at that Time. When this Membrane is removed, we meet with a few thin fleſhy Fibres, which terminate in the broad middle Tendon of the Muſcle, juſt as it paſſes under the Yoke-Bone. The under Side of this Tendon, which appears as if it were compoſed of ſeveral ſmall ones cloſely conjoined, is lined, as it were, by a great many more fleſhy Fibres, to prevent its being injured by the Hardneſs or Roughneſs of the ſubjacent Bones. It runs down the two Edges of a *Sulcus* in the fore Part of the *Proceſſus coronæ* tendinous and fleſhy.

Page 53. The third Beginning of the *Maſſeter* ariſes from all the inner Edge of the *Os jugale*, being eaſily ſeparated from its other Beginnings, and is inſerted tendineo-carnous into all the Outſide of the *Proceſſus coronæ*, and the Neck of the lower Jaw.

Page 56. This moveable Cartilage receives, in like Manner, ſome fleſhy Fibres from the *temporal* and *Maſſeter* Muſcles.

Page 58.

Page 58. SUBCLAVIUS ariſes alſo from the Root of the *Proceſſus coracoides ſcapulæ*, cloſely adhering to the Ligament that runs between it and the *Clavicula*.

Page 60. The *Diaphragm* ariſes on each Side of the *Vertebræ lumborum* by the following diſtinct Beginnings.

1. Is fleſhy from the Side of the firſt *Vertebra* of the Loins.
2. Is tendinous from the fore Part of the ſecond, third, and ſometimes fourth *Vertebra*. This Tendon is almoſt inſeparable from ſome Part of its Fellow on the other Side.
3. Is tendineo-carnous from the Side of the ſecond *Vertebra*, and often from the third alſo, eſpecially on one Side.
4. Its fourth Origin is by a thin Tendon from the Root of the tranſverſe Proceſs of the ſecond *Vertebra lumborum*; between this and the laſt Rib the *Triangularis* runs up to its Termination.

The ſuperior Muſcle ariſes by two fleſhy Beginnings, whoſe Fibres are carried ſtraight down, *&c.* whereas all thoſe from the Ribs run obliquely inwards.

Page 62. Line 3. inſtead of *relaxed*, read *contracted*.

Page 64.

Page 64. The *Anus* has two Sphincters; the first may be called *externus*, or *cutaneus*, which surrounds the *Podex* about the Breadth of one Inch, being placed immediately between the Skin and the Fat. The second is named *internus* and *vaginalis*, being described in the Specimen.

Page 64. LEVATOR MAGNUS arises from the *Os pubis*, between its Juncture and the Hole common to it with the *Ischion*, from the Tendon that covers the *Marsupialis*, and from the acute Process of the last named Bone; between which and the lower Part of the *Os coccygis* it adheres to the *Musculus coccygæus*, being both covered with one Membrane.

Page, 66. *Galen* divides the *Trapezius* into two Muscles, the *superior* and the *inferior*. The first he calls *Trapezia*, and to the second later Anatomists have given the Name of *Cucilla*, from whence they are both commonly denominated *Cucullares*. The inferior Part of this Muscle grows a little tendinous before it is inserted into the back Part of the *Spina scapulæ*; its upper Part, from the *Os occipitis* to the spinal Process of the last *Vertebra colli*, is inseparably united to its Fellow of the other Side.

Page 76.

Page 76. The *Complexus* ſeems to derive ſome Part of its Origin from the oblique Proceſſes of the *Vertebræ* of the Neck.

Page 79. The Inſertion of the *Spinalis colli* is by four ſmall Tendons.

Page 81. I diſcovered the *Intertranſverſales vertebrarum colli* ſome Time before I knew that Mr. *Cowper*, to whoſe penetrating Eyes there is nothing hid of this Kind, had made Mention of them any where; however if I had not quite forgot it, not having the Tranſaction (N°. XXI. *An.* 1699. *Page* 132.) by me, when I put my looſe Papers in Order for the Preſs, I had certainly affixed his Name, and not my Mark.

Page 88. The *Faſciculus* of Fibres, that runs off from the *Pectoralis* to the *Obliquus abdominis externus*, is deſcribed very accurately by *R. Columbus*.

Page 92. The ſecond Origination of the *Latiſſimus dorſi* is tendinous and fleſhy from the Extremity of the bony Part of the four or five lowermoſt Ribs near their Cartilages. In ſome muſcular Diſſections, ſince this Specimen was made publick, I obſerved a ſmall Bundle of fleſhy Fibres to ariſe from the Outſide of the *Baſis ſcapulæ*

near

near its inferior Angle, and, adhering to the upper Part of this Muſcle in its Progreſs along the *Coſta inferior* of the Shoulder-blade, to be loſt into the ſame, juſt where it begins to grow tendinous. That this is ſo in all Bodies I am apt to believe, tho' before this I had never remarked it.

Page 102. PALMARIS LONGUS gives ſome tendinous Filaments to the *Ligamentum annulare*, to the *Abductor pollicis*, and not to the *Adductor*; *as it is falſly printed*, and to the *Flexor* of its Internode.

Page 105. FLEXOR CARPI ULNARIS has likeways a narrow fleſhy Beginning from the Side of the *Ancon*, between which and its tendinous Origin a large Branch of the brachial Nerve, called *Ramus ulnaris*, paſſes to the Cubit.

Page 111. EXTENSOR DIGITORUM COMMUNIS gives a Tendon to the little Finger, beſides the Tendon of its *Extenſor proprius*.

Page 118. What they call EXTENSOR MINIMI DIGITI is commonly inſerted by two Tendons.

Page 128. ILIACUS INTERNUS ariſes from all the inner Lip of the ſemicircular Part of the *Ilium*, from the Edge of that Bone between its anterior Spine and the

Acce-

Acetabulum, and from moſt of its *Coſta* or hollow Part.

Page 130. Line 1. *read*, Muſcle, *being* inſeparably joined to that of the *Membranoſus*.

GLUTÆUS MEDIUS is inſerted by a broad Tendon which runs after an oblique Manner.

Page 130. I mean, ſome Part of the tendinous Fibres of the *Glutæus minimus* are ſpread upon the Membrane that involves that Part of the Bone.

Page 136. COCCYGÆUS is alſo inſerted into the inferior Part of the *Os ſacrum* in ſome Subjects.

Page 141. VASTUS EXTERNUS, its Origin is continued from near the Inſertion of the *Glutæus minimus* obliquely outwards over the great *Trochanter* to the *Linea aſpera*; or rather, this Muſcle has a ſecond Origination from all that rough Line, by fleſhy Fibres, which run obliquely forwards to a middle Tendon, where they terminate.

VASTUS INTERNUS ariſes tendinous and fleſhy from between the fore Part of the *Os femoris* and the little *Trochanter*, and from almoſt all the Inſide of the *Linea aſpera*, with Fibres running obliquely forwards and downwards. From its inſert-

ing Tendon there runs off an *Aponeuroſis* to the Muſcles below the Head of the *Tibia*.

CRURÆUS firmly adheres to moſt of the fore Part of the *Os femoris*.

Page 149. *Line* 11. EXPANSIO TENDINOSA, *read*, is ſpread upon the adjacent *Abductor pollicis*.

Page 152. *Line* 6. PERONÆUS PRIMUS, *read*, at the *outer* Ankle.

Page 153. *Line* 11. PERONÆUS SECUNDUS, *read*, with that of the *preceeding Muſcle*.

Page 154. EXTENSOR LONGUS. Theſe ſmall Tendons I am now inclined to believe proceed from the *Interoſſei*.

Page 159. I keep by me the Muſcles of a *Fœtus* prepared, in which I obſerved a ſmall fleſhy Muſcle to ariſe from the *Os perone*, near the Extremity between the *Flexor pollicis longus* and the *Peronæus brevis*; this, in the Sinuoſity of the *Calcaneum*, grows tendinous, and, adhering ſtrictly to the *Maſſa carnea*, in its Progreſs forwards joins in with the Tendon of the *Perforans* that belongs to the Toe next the great one.

Page 160. Upon a ſtricter Inquiry I have obſerved that the *Interoſſei digitorum pedis*

pedis do really all terminate as they do in the Fingers.

Page 161. All the Muſcles that I ſaid ariſe from the Tendon of the *Muſculus peronæus*, ariſe rather from the Membrane that covers this Tendon, and incloſes it in the *Sulcus* of the *Os cuboides*.

Page 165. ABDUCTOR POLLICIS has very often a tendinous Origin from the Edge of the *Os cymbiforme*, receiving near this Bone ſome tendinous Filaments from the *Tibialis anticus*.

FINIS.


(Lablest)