LECTURES ON THE VARIETIES IN THE MUSCLES OF MAN.

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LECTURE III.—Wednesday,

VARIETIES IN THE MUSCLES OF THE LOWER LIMB.

THE MUSCLES OF THE PELVIS AND THIGH.

THE irregularities in the lower limb are less numerous and of less frequent occurrence than those in the upper limb. This results, in some measure, from the fact, that the fixity of the pelvic girdle both prevents the development of muscles—the homologues of which, in the upper limb, are subject to many varieties—and also gives a more firm basis to the muscles passing from the girdle and trunk to the limb. Moreover, the difference in pronation and supination, and the less varied movements of the digits, admit of a simpler disposition of the muscles in this limb.

In the components of the outer muscular sheet covering the hip, the recorded irregularities are very few. I have not found any worthy of note in the gracilis or the tensor vaginae femoris. The gluteus maximus has been seen in two layers; and its posterior or coccygeal fibres have been found separate from the rest. The sartorius is somewhat more erratic: it is occasionally absent. Hyrtl observed it to be crossed by a transverse inscription; and Kelch found it interrupted by a tendinous portion, an inch and a half long, which was connected with the fascia. It now and then divides—one part going to the femur, or to the fascia over the vastus internus, as is the case in the two-toed Sloth, or to the ligamentum posticum of the knee, or both parts being inserted into the tibia. Its origin sometimes extends along Poupart's ligament, or is connected with the fibres of the iliacus muscle, much as I found it in the two-toed Sloth and the two-toed Anteater.* It is worthy of remark, that of all the members of this sheet the sartorius is by far the most variable in the lower animals, and is the one which has the least precisely isolated function in them and in Man, so that its mode of development is less definitely impressed than that of either of the others, by the cogencies attendant upon utility.

Of the muscles lying closer to the hip-joint, the piriformis is the most liable to variations. It is not unfrequently in two parts, with a branch of the sciatic nerve passing between them. It has been found in three parts, separated by two branches of the nerve. It is sometimes blended with the gluteus medius above, or with the internal obturator and the gemellus superior below, or with these muscles both above and below, the usual segmentation having failed to take place. This most frequently occurs near the insertion: the muscular part, however, often extends upon the ilium, and blends here with the gluteus medius. In the case of the gluteus medius, the anterior portion is sometimes separate, forming a "scansorius". A segmentation also sometimes is found from the deeper part of the gluteal mass, constituting a "gluteus quartus" or an "ilio-capsularis." The superior gemellus is often small or absent. The inferior gemellus and the quadratus have each been found absent, or in two parts; and the psoas magnus and the iliacus are each occasionally in two parts.

With regard to the adductor mass, varieties in the segmentation are not unfrequent—each of the several muscles being occasionally divided into two or more parts, or connected with one or more of the others by slips. Slips, more particularly from the pectineus, have been seen crossing in front of the femoral artery; and slips sometimes pass from the adductor brevis to the obturator externus.

In my lectures last year and elsewhere† I expressed the view, derived from the dissection of the lower vertebrates, that the biceps flexor cruris is a derivative from the gluteo-rectus mass—in other words, from the same muscular sheet as that from which the gluteus maximus and the quadriceps extensor cruris are formed; but that, inclining to the flexor aspect of the limb, it acquires a flexor action, as is not uncommonly the

case with the marginal parts of extensor groups in other regions of the body. If this be so, the original connections of the biceps are with the gluteus maximus, and its true, or rather its primitive, origin is from the sacrum and coccyx. The more important and frequent irregularities in the long head are confirmatory of this, for they hark back, as it were, to its primary sources and connections. Thus additional portions or prolongations of it have been found extending over the ischium to the crista of the ilium, or to the fascia near it, or to the strong fascia on the deep surface of the gluteus; or the tendinous ischial origins have been continued over the great sacro-sciatic ligament to the side of the sacrum.* An interesting variety, of a different kind, yet confirmatory of this view, is described by Gruber† in the form of a slip, muscular in its middle part, passing from a little above the middle of the long head of the biceps over the ham, and losing itself in the sural fascia. This offset is evidently a representative of the muscle I have called "caudo-pedal,‡ which arises from the tail in many of the lower vertebrates, and forms the most superficial stratum on the plantar aspect of the thigh and leg, and terminates in the plantar fascia.

The short head of the biceps cruris is a derivative from a deeper stratum, and corresponds with the brachialis anticus in the upper limb. It is not usually present in Mammals, and when it is present it sometimes remains distinct from the long head. It is occasionally absent in Man; or it may be supplemented by a third head from the upper part of the linea aspera; or it may be joined near its insertion by a slip from the inner head of the gastrocnemius, as observed by Gruber. Hallett found a band passing from it across the ham, between the popliteal nerve and artery, to the tendon of the adductor magnus; and Gruber describes a similar variety—viz., a muscle which he calls "tensor capsulae genualis posticus", arising from the linea aspera near the biceps, and crossing the ham to the ligamentum posticum, the adductor magnus, and the inner head of the gastrocnemius. These slips indicate a relationship between the short head of the biceps and the adductors, similar to that which I have pointed out between the brachialis anticus and the coraco-brachialis, and are confirmatory of the view that this part of the biceps is the serial homologue of the brachialis anticus.

The other muscles of the thigh—the semitendinosus, semimembranosus, and the quadriceps§—appear to be remarkably free from irregularities; and the same may be said of the popliteus.

THE MUSCLES OF THE LEG AND FOOT.

It is a fact of no small morphological interest that, although the great calf-muscle—gastrocnemius soleus and plantaris—is exceptionally developed and complicated in Man, yet the irregularities, except in the instance of the plantaris, are almost always on the side of excess, or further development and greater complication, rather than on that of deficiency and greater simplicity.

Thus in the case of the gastrocnemius, I have not met with the mention of any instance in which a part of it was absent; but many examples are recorded of its being joined by additional heads or slips. Some of these were superficial, arising from the biceps or the fascia, and showing the semblance of their being representatives of the caudo-pedal muscle of Urodela, after the manner of the superficial slip just mentioned in speaking of the irregularities of the biceps flexor cruris. More frequently the additional slips were deeply situated, arising from one other of the condyles, or from the popliteal surface of the femur near to the condyles, or from the surface of the ligament of Winslow, or from the ridge leading upwards from the inner condyle, or from the popliteal surface between the condyles, or from a tendinous arch between the inner condyle and the ham. In some instances, they crossed superficially to the popliteal vessels and nerves, and in some they were traced between the popliteal vessels. They have been most commonly found in connection with the inner head of the gastrocnemius. Quain (*Commentaries on the Arteries*, pp. 474 and 534) mentions such a slip as of not unfrequent occurrence, arising from one of the condyles of the inner line of the femur. It passed between the artery and the vein in every instance, except one in which it separated the internal popliteal nerve from the blood-vessels. I may here observe, that the inner head of that muscle is more variable than the outer head in the lower vertebrates; being absent in most Reptiles, whereas it is extended much beyond the usual area in most Birds. These additional slips furnish illustrations of the occurrence as variety in Man of that imperfection of concentration, of that more diffused or promiscuous attachment of

* Wood, *Proceedings of the Royal Society*, 1867, p. 540; and Macalister, quoted by Wood.

† *Mélanges Biol. de l'Acad. St. Petersburg*, vii, 687.

‡ *Observations on Myology*, pp. 7, 152; *Journal of Anatomy*, vi, 7, 360.

§ In *Journal of Anatomy and Physiology*, vii, 310, is a notice of a case, by Professor Drachmann, of congenital absence of the quadriceps extensor cruris on both sides in a young woman. The patella was atrophied; the flexor and adductor muscles were rather more atrophied than usual. The observations were made on the living person; we do not, therefore, know the exact condition of the parts.

* *Journal of Anatomy*, iv, 54.

† *BRITISH MED. JOURNAL*; *Journal of Anatomy*, vi, 355; *Observations in Myology*, p. 167.

muscular fibres, which is commonly observable in lower animals, more particularly the lower Mammals, Reptiles, and Amphibians. Bearing in mind the contiguity of the inner head of the gastrocnemius to the adductor magnus, and the close relations between these two which exist in many of the lower animals, we might have anticipated the occasional blending of the two in Man by connecting slips, or in other ways. This, however, I have not found to be the case. Gruber* relates a curious instance of a muscle arising from the outer side of the inner head of the gastrocnemius, and taking the place of the ordinary external muscular part of that head, which crossed behind the vessels and nerves of the ham, downwards and outwards, to join the tendon of the biceps just above its insertion; but I have not met with any other instance of the deviation of these fibres from their normal concentration upon the inner head of the gastrocnemius, and conclude that they were kept to their legitimate ranks by constraining forces attendant on the definite and important action of the muscle in the human leg as an agent in progression. Sesamoid bodies and sesamoid bones, so common in lower Mammals, have sometimes been met with in the outer head, and occasionally in the inner head, of the gastrocnemius.

In the soleus, although the tibial origin is rarely present in any animal besides Man, I have not seen the mention of any instance in which it was absent in Man. Additional slips are sometimes found arising from the tibia or from the fascia beneath the soleus. These, in some instances, join the soleus or the tendo Achillis near the heel; or they are inserted separately into the os calcis on the inner side of the tendo Achillis, or into the internal annular ligaments†.

The plantaris, which I regard as the condyloid remnant of the flexor sublimis digitorum, is sometimes absent, though, perhaps, less frequently than might have been anticipated, and than is generally thought. Hallett observes that it was not absent once in one hundred and fifty subjects dissected by him; sometimes its muscular part is inseparable from the outer head of the gastrocnemius; and sometimes its tendon is blended with that of the tendo Achillis, or is lost between the gastrocnemius and the soleus. It has been found arising from the fascia over the popliteus, from the popliteal line of the tibia, from the posterior ligament of the knee-joint, and from the head of the fibula; and it has been found inserted into the internal annular ligament and into the fascia of the leg above it, and imbedded in the substance of the tendo Achillis. Wood found a double muscular belly joining a single tendon larger than usual. He also found a muscular slip passing from the inner side of the origin of the plantaris to be inserted into the posterior ligament of Winslow close to the semimembranosus. This curious slip he regarded as an instance of the development of muscular fibres in the substance of a tendon.‡

The tibialis posticus is, above, sometimes imperfectly segmented from the flexor digitorum; and, below, it sometimes sends a slip on to the internal cuneiform bone, which may be blended with the flexor brevis pollicis. A sesamoid bone is not unfrequently developed in its tendon where it plays under the astragalus, which, as Wood remarks, is a remnant of the additional tarsal bone found in this situation in the Armadillos and other Edentates.

In considering the varieties in the flexors of the toes, we must remember that they—the flexor sublimis, *alias* brevis, the flexor communis with the accessorius and the lumbricales, and the flexor hallucis—are segments from one flexor mass; and the varieties, which are numerous, consist, for the most part, of blendings or connections which are remnants of the primitive closer union which these muscles present in some of the lower animals.§

The flexor brevis, which in many of the lower Mammals is continuous with the plantaris, forming a flexor sublimis derived from the fibular condyle, and corresponding with the flexor sublimis of the upper limb, presents in its irregularities many reminders of that disposition. Particularly is this the case with regard to its division to the fifth digit, which, even more frequently than the like division of the flexor sublimis in the hand, is imperfectly separated from the deep flexor. In

some instances it does not appear as a separate muscle at all. In some it is an offshoot from the division to this digit of the flexor profundus. In some it is formed by derivatives from both the muscles (flexor sublimis and flexor profundus) which blend in a common perforated tendon. In some it passes into, or blends with, the perforating tendon. In some instances it has been derived, wholly or partially, from the accessorius. It has also arisen separately from the os calcis between the accessorius and the flexor brevis. A similar disposition has been found, though more rarely, in the case of the perforated or superficial flexor tendons to the other toes. Thus the perforated tendon to the third toe has been derived from the flexor profundus; and that to the second toe has been derived from the flexor profundus, and also from the flexor hallucis; or they have received slips from those deeper tendons. These varieties are not unfrequent in the lower Mammals; and the irregularities of the division to the fifth toe have often been noticed in *Quadrupana*. Indeed, the blending of the superficial with the deeper stratum sometimes, in lower animals, affects the tibialis posticus as well as the flexors of the digits. Thus, I found, both in *Orycteropus* and *Unau*, portions of this tibialis posticus extending into the flexor sublimis digitorum.*

I have said that, in the upper limb, the segmentation of the flexor pollicis from the flexor digitorum profundus frequently fails to be complete. In the case of the flexor hallucis, which is formed from somewhat different serial elements of the deep stratum, it is rarely complete—so rarely that the entire separation of the two muscles constitutes a rather unusual form of variety. More commonly its union with the flexor digitorum exceeds that of the normal arrangement, and so approximates to the forms prevalent in *Quadrupana* and other lower animals. It sometimes entirely supplies the deep tendon to the second toe as well as to the hallux. In 100 specimens dissected by Schultze, it sent a slip to the tendon of the second toe in 32 instances, to the second and third toes in 58, and to the second, third, and fourth toes in 10. In 29 specimens, a slip passed from the flexor digitorum to the flexor hallucis.† Additional examples of imperfect segmentation are afforded by the instances in which it receives slips from the accessorius, as well as by those just mentioned in which it supplied slips to the flexor sublimis; and, further, by those in which it sent slips to the lumbricales.

Except in its relations to the other members of this flexor stratum, some of which have just been mentioned, and some of which are presently to be alluded to when I come to speak of the accessorius and the lumbricales, the flexor digitorum profundus does not present many variations. It shows an occasional want of concentration of its elements. Thus, a separate portion of it forming a special flexor to the second toe has been described;§ also a distinct muscle to the fifth toe has been found arising from the inner tubercle of the os calcis.|| Above, it is sometimes extended upon the tibia; and a slip from the back of the tibia has been seen to join it near its union with the flexor hallucis.¶

The accessorius part of the flexor digitorum group varies a good deal. This muscle is a remnant of the extensive origin which the primitive pronato-flexor mass of the back of the leg derives from the tarsal and metatarsal bones, as well as from the bones of the leg. Although it is normally restricted to the small muscle, with which we are familiar, passing from the outer and under part of the os calcis to the tendon of the flexor profundus digitorum, yet we are not surprised to find occasional remnants of its former grandeur indicated by extensions up the leg, and by wider connections towards the digits. Thus its range of origin is sometimes increased upon the os calcis, and sometimes upon the tibia a little above the ankle; and many examples have been described of its receiving an accession—an “accessorius longus” or “secundus” from higher up the leg. The muscle so named has arisen either from the fibula at the upper part of its lower third, between the peroneus brevis and the flexor hallucis, or from the deep fascia of the leg over the tibial vessels, or from the flexor digitorum. The muscles described by Wood as additional plantaris, and by Gantzer as “accessorius ad calcaneum,” are probably to be referred to this extension of the accessorius.** They arose from the back of the fibula below the soleus, and were inserted by their tendons upon the inner side of the

* Müller's *Archiv*, 1848, p. 430.

† J. Beswick Perrin describes a digastric soleus; the second belly arising from the anterior surface of the lower part of the tendon of the soleus, and being inserted on the inner side of the os calcis, superficial to the plantaris (*Medical Times and Gazette*, Dec. 14, 1872). Quain (*Commentaries on the Arteries*, pp. 504, 540) almost mentions a similar muscular mass covering the internal tibial artery. In *Guy's Hospital Reports* is an account of a “second soleus”, arising from the oblique line on the back of the tibia and the fascia over the flex. dig., as well as from the fibula, and inserted in the os calcis.

‡ “In one body the plantaris arose on both sides by two heads; one from its usual point of origin, but unusually large; the second from the posterior ligament of the knee-joint: the latter joined the tendon of the muscle about two inches after its origin. The tendon itself was broad at its insertion, and completely ensheathed the tendo Achillis” (*Guy's Hospital Reports*, xvi, 154).

§ See description of these muscles in Cryptobranch in my *Observations in Myology*, and *Journal of Anatomy*, v.

* *Journal of Anatomy*, ii, 314; and iv, 60.

† Wood, *Proceedings of the Royal Society*, 1867, p. 539.

‡ In each of fifty specimens dissected by Turner (*Transactions of the Royal Society of Edinburgh*, xxx, 181), the flexor hallucis sent a slip to the flexor digitorum, the disposition of which varied: indeed, the same anatomist observes (*ibid.*, xxiv, 181) that the disposition of the flexor hallucis, flexor digitorum, accessorius, and lumbricalis, is seldom to be found alike in two specimens.

§ Bahnsen, *Journal of Anatomy*, iii, 196.

¶ Wood, *Proceedings of the Royal Society*, 1864, p. 303.

** *Guy's Hospital Reports*, xiv.

†† So also probably are the additional long flexor of the great toe (described in *Guy's Hospital Reports*, xvi, 154) inserted into the sustentaculum tali, and the muscle (described by Curnow, *Journal of Anatomy*, vii, 507) arising from the back of the fibula and inserted into the os calcis near the inner bend of the accessorius.

calcaneum. In one instance, fibres were traced from the lower part of its outer border into the plantaris tendon.* The fibres were in each instance superficial to the rest of the deep flexor; and I conceive they were interrupted by the os calcis on their way to the accessorius, just as the plantaris is interrupted by the same process on its way to the flexor sublimis, and just as the tendo Achillis is cut off from the plantar fascia. Moreover, the fibres of the two muscles—the plantaris and the accessorius longus—both interrupted nearly at the same spot and by the same bony process, were found in one specimen blended with each other.

Traced downwards, the remnants of the wide relations of the accessorius are shown by its occasional junction with the flexor hallucis, and by occasional more extensive connection than usual with the flexor perforans digitorum, of which it sometimes supplies the tendon to the fifth toe. It was also found by Wood in two instances to supply the perforated tendon to the fifth toe, and in one that to the third toe; and Turner saw a slip from it which divided to each moiety of the tendon of the flexor sublimis to the fifth toe. It has sometimes been extensively attached to the tendon of the flexor hallucis, as well as to that of the flexor digitorum.†

I may observe that the accessorius longus has sometimes been more or less independent of the accessorius proper, being inserted with it, or independently of it, into the flexor hallucis or the flexor digitorum. Wood describes a fully developed specimen of the flexor longus accessorius arising from the lower third of the hinder surface of the fibula and the adjacent aponeurosis, as a distinct muscle ending in a stout tendon which passed under the annular ligament outside the vessels, and was joined by the muscular fibres of the massa carnea Sylvii, and by the tendons of the perforans in the middle of the sole. The fibres of its tendon passed exclusively to the three outer toes.‡ In another case,§ the flexor accessorius was made up four distinct heads—1, the long head from the fibula; 2, another tapering fleshy belly from the upper part of the os calcis and the insertion of the plantaris tendon in front of the tendo Achillis, and ending in a distinct tendon; 3, the usual massa carnea from the hollow surface of the os calcis; and 4, an outer tendinous slip from the long plantar ligament; these all uniting, joined with a large slip from the tendon of the flexor longus hallucis, to form a distinct or third set of flexor tendons passing to the four outer toes. Each of these joined that of the perforans in the inside of the sheath, about the first joint. These third or intermediate flexors remind us of other instances in which we have intermediate muscles segmented as irregularities from between two similarly disposed muscles—for example, the intermediate extensor carpi radialis; and we shall find the same thing in connexion with the extensors of the toes.

The lumbricales in the foot show less frequent irregularities than do those in the hand. The irregularities occur in the case of the fourth lumbricalis more often than in either of the others; whereas in the hand the third muscle is the one most often affected. Either of them may be absent; and they in various ways show evidence of the primitive oneness of the several parts of the flexor mass. Thus one of them is sometimes derived from the flexor sublimis, or the flexor hallucis, or the accessorius; or they may be continuous with the latter, or may derive accessory slips from either of these muscles. There may be also other varieties similar to those mentioned as occurring in the hand, and, like them, indicating a disposition to maintain their position upon the two sides of each digit; though such varieties are comparatively rare in the foot. Either of the lumbricales may be derived from adjacent sides of two tendons, or may be connected by slips with the sides of the adjacent tendons; or there may be two in one space, one passing to the fibular, as well as one to the tibial, side of the toe. I have not, however, seen the mention of their being joined by any long slip from the leg similar to those which are occasionally derived from the forearm by the lumbricales in the upper limb. Such irregular slips in the leg appear, as we have just seen, to attach themselves to the accessorius rather than to the lumbricales; though it is true that they may connect themselves with the latter muscles through the medium of the former. Indeed, we may regard the accessorius as a structure intermediate between the lumbricales and the supernumerary flexor elements in the middle division of the limb, which we have just been considering.

In the ball of the great toe, either the adductor or the flexor brevis may send a slip beneath, deeper than, the transversus, to the first phalanx of the second toe. Wood found this slip from the adductor in

several instances, and remarks that a similar slip is said by Meckel to be found in the foot of the White Bear.

In connexion with the fifth toe, a muscle has been noted by Wood as frequently passing from the outer tubercle of the os calcis to the base of the metatarsal bone, and has been named by him “abductor ossis metatarsi quinti”. It may be regarded as a prolongation backwards of the abductor minimi digiti derived from the mass which forms that muscle in the Cryptobranch, and which is a part of the supinato-extensor mass. It is found in Quadrumana and many animals. An opponens minimi digiti is sometimes well developed, and it is common in many of the lower animals. Wood found it largely developed in the Orang, but not present in the Bonnet Monkey. He remarks that Cuvier and Laurillard represent it as very large in the Lion and the Panther. In one instance, the same anatomist found the abductor minimi digiti provided with two tendons.

The transversalis pedis has in several instances been found deficient or absent.

[To be continued.]

ON CASES OF SIMPLE VERTIGO.*

By T. CLIFFORD ALLBUTT, M.A., M.D.,

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I WISH to consult rather than to try to instruct my brethren in my remarks of to-day, for I propose to read you the short notes of a few cases selected from a much larger number, and to ask what is the meaning of their symptoms, and how they are to be cured. When I speak of their symptoms, indeed, I speak with almost unnecessary comprehension, for the one symptom—vertigo—is the only one that can be called constant; and we find a singular absence of any such concomitant morbid phenomena as might help us to the understanding of the disease or disorder. This vertigo occurs generally in males. Of my cases, I find that all are males. It is often so severe as to be extremely distressing; it may continue for months or years, and it is very rebellious to treatment. Ultimately, however, it disappears without the necessary development of any further evidence of nervous or other mischief. The average of age in my cases, which number twenty-seven, is rather high, being 44.7, or thereabouts; but I do not find that the patients, as a rule, have manifested any definite arterial or other tissue degenerations.

As I have said that the vertigo to which I refer generally exists alone, I thereby implied, and now would state explicitly, that from my class of cases I have excluded all those instances of vertigo in which was found any evidence of disease or disorder of the encephalon or arterial system, or any evident dyspepsia or external injuries. In women, I should also exclude menstrual disorders. I have also excluded all cases of vertigo in which the symptom has been but a transient one, and dependent upon some chance and passing derangement. Few of us, perhaps, have not experienced some vertigo at times. The vertigo in the cases from which I extract a few examples is not transient, or, if transient, is continually recurring, or ebbing and flowing. The patients complain of a dizziness so severe as to cause a great sense of uncertainty in gait, to cause actual reeling in the gait; or, again, even to hurl them about the room, or to throw them down. In the cases which I describe, consciousness is always retained, however bewildered the patient may be; nor is there ever any *petit mal* or other epileptical condition. The connection of it with other neuroses, if neurosis it be, is not very evident, though there is some argument in favour of such a connection. One patient suffered from *migraine*, which ceased about the time of the onset of the vertigo; another belonged to a neurotic family. Many of them were men of anxious or irritable temperaments, or placed in positions of anxiety and heavy responsibility. In another patient, also a male, there was some hysteria, evidenced by temper, and by discharge of large quantities of limpid urine. I am satisfied that the complaint depends primarily upon the nervous system, either directly or through the mediation of vascular changes. Whether in any of my cases disease of the internal ear exists or has existed, I cannot tell; I have not overlooked the chances of such a thing, but cannot say anything more than this: perhaps no means exist of detecting such a thing. I do not think that the attacks depend upon any changes, negative or positive, in the quantity of blood in the brain, for I have had these patients closely watched by their friends, in order to ascertain whether pallor or flush preceded or accompanied the attacks. All have agreed in saying that the complexion does not change in these respects. The state of dizziness described is not attended with sinking or nausea, except in any severe cases where sickness may follow; indeed, in this its identity with common dizziness is further shown, for

* Read before the Yorkshire Branch.

* *Proceedings of the Royal Society*, 1867, p. 541. Similar varieties are given in *Guy's Hospital Reports*, xiv.

† Curnow (*Journal of Anatomy*, vii, 308) found a tendon from the accessorius perforating the flexor brevis, which was inserted into the proximal phalanx, and running on to the second phalanx, into which it was inserted, being in its turn perforated by the tendon of the long flexor.

‡ *Proceedings of the Royal Society*, 1867, p. 527. § *Ibid.*, 1866, p. 240.