

where they are flask-shaped. The other layers reach their maximum development around the fovea at successively increasing distances from its centre. From the inner ends of the cones, fine fibres proceed obliquely from the outer to the inner surface of the retina in a radial direction from the centre of the fovea to the periphery of the retina. These fibres connect the cones with the cells of the outer granule-layer; they next form a thick plexus at the inner surface of this layer, which I term the cone-fibre plexus; then traverse the inner granule-layer, in which they connect themselves with round and roundly oval cells, and are continued through the medium of the ganglion-cell-like cells of this layer into the granular layer, where they join the processes directed outwards from the cells of the ganglionic layer. *Thus they constitute an anatomical path between the cones and optic nerve-fibres.*

These oblique nervous fibres are crossed by vertical fibres of modified connective tissue directed radially from the centre of the eyeball. Around the fovea the connective fibres traverse the cone-fibre plexus and the outer granule-layer in the form of stout vertical pillars corresponding to those which in the turtle I named the outer radial fibres; while in the thinner periphery of the retina, the vertical, connective-tissue fibres are finer, and traverse all the layers between the inner and outer limiting membranes.

The pecten lies excentrically at 1''' from the centre of the fovea. Its minute structure agrees with that of the Gecko's.

The distribution of the optic nerve-fibres with respect to the fovea resembles that which obtains with reference to the yellow spot in the human eye.

XVIII. "Additional Varieties in Human Myology." By JOHN WOOD, F.R.C.S., Demonstrator of Anatomy in King's College, London. Communicated by Dr. SHARPEY. Received June 9, 1865.

In the past winter session thirty-six subjects have been dissected in the Anatomical Rooms at King's College. In them the author has directed especial attention to the combinations of muscular aberrations in the same individual, with a view to obtain data for ascertaining any relation that may subsist between such abnormalities in different parts of the body.

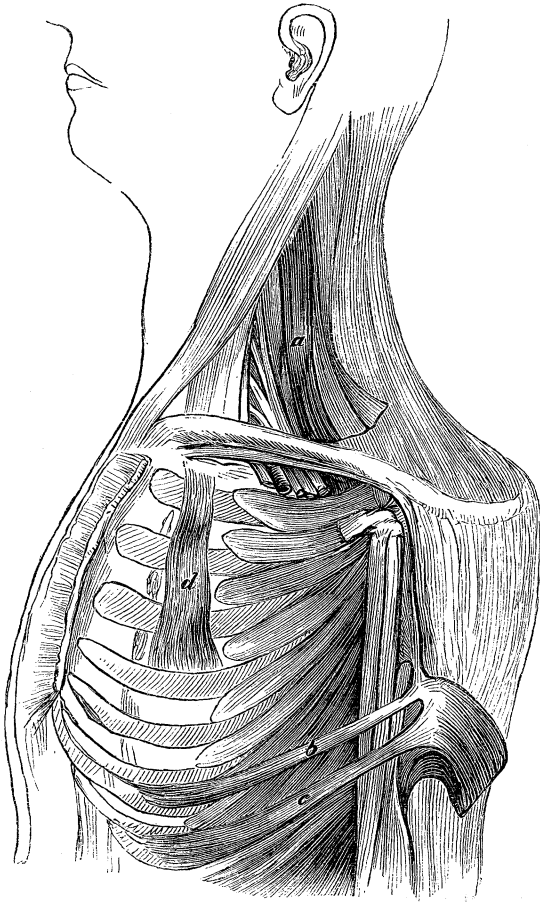
In one subject, a muscular man about 5 feet 8 inches high, with prominent features, aquiline nose, somewhat high cheek-bones, well-pronounced chin, and good skull-development, an extensive departure from the ordinary type was observed in every part of the body, the abnormalities being more numerous than in any other subject previously noted.

In the neck, on both sides, was a well-developed and powerful *levator claviculae*, in all respects like that first described and figured by the author in a paper read last year before the Royal Society. It was connected

above with the posterior tubercles of the second and third cervical vertebral transverse processes, arising with the fibres of the *levator anguli scapulæ*. Passing downwards, forwards, and outwards, as a muscle about an inch wide, it was inserted into the outer third of the clavicle, behind the fibres of the trapezius muscle, and opposite the conoid tubercle of that bone.

The fasciculus was muscular in nearly its whole extent (fig. 1 *a*).

Fig. 1.



Arising from the hinder border of the first rib with the *sterno-thyroideus* muscle, and passing over the common carotid artery to be inserted into the cervical fascia at the upper part of the neck, was a *costo-fascialis cervicalis* muscle, precisely similar to that described and figured in the paper before alluded to.

In the axilla, on both sides, the *latissimus dorsi* sent a muscular slip three-fourths of an inch wide, in front of the vessels and nerves, to be inserted, with the upper sternal fibres of the *pectoralis major*, into the outer bicipital ridge of the humerus (fig. 1 c). A similar detached slip arose from the seventh rib, close below the *pectoralis major*, and was inserted separately into the bicipital ridge a little higher than the foregoing (fig. 1 b).

From the outer border of the first rib, near the cartilage, arose a thin, fleshy, triangular muscle which, widening gradually, dropped fibres of insertion into the second, third, and fourth ribs, close outside the origin of the *pectoralis minor*. It was entirely distinct from the intercostals, and may be termed a *supra-costal* muscle. It existed on both sides, but was more marked on the left (fig. 1 d).

In the upper arm was a well-marked *brachio-fascialis*, exactly similar to that described in the last paper, arising with the upper fibres of the *brachialis anticus*, and inserted into the semilunar fascia of the elbow, intervening between the brachial artery and median nerve close above the bend of the elbow.

In the right arm only was a large fusiform muscle, arising, by a thin lunated aponeurotic tendon, from the oblique line of the radius under the origin of the *flexor sublimis*, and inserted by a narrow spreading tendon into the deep surface of the anterior annular ligament close to the trapezium.

Some of the fibres could be traced into the middle portion of the palmar fascia.

This muscle was also found in another muscular male, associated, as in this case, with a remarkably developed *extensor brevis digitorum manus*. It seems to be a homologue of the *tensor fasciæ plantaris* given in the series of drawings accompanying the last paper.

A strong and distinct *palmaris longus* and *brevis* were also present. There was increased differentiation of the *flexor sublimis digitorum*.

The *flexor pollicis longus* gave a strong muscular slip to the indicial portion of the *flexor profundus digitorum*.

The third *lumbricalis* was double, half going to the third and half to the fourth digit, and implanted in the usual manner into their opposed sides. This was also seen in another subject.

There was an *extensor proprius digiti medii* from the lower end of the back of the ulna and interosseous ligament, distinct from the indicator muscle, and inserted into the dorsal expansion of the common *extensor* tendon, lying on its deep surface and sending lateral slips to the metacarpophalangeal ligaments.

The *extensor ossis metacarpi pollicis*, on both sides, had three distinct tendons, one to join the *abductor pollicis*, another to the front of the trapezium, and the third, the largest, to the base of the metacarpal bone. This is a common arrangement.

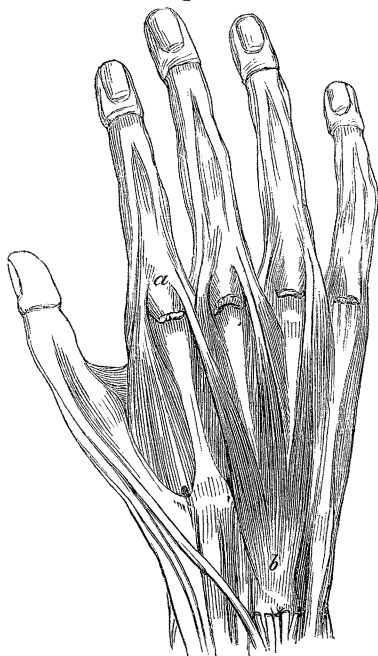
The left *abductor pollicis* was a double muscle, which is also commonly found.

On the back of both hands was a good specimen of the muscle first described and figured by the author, in his last paper, as an *extensor brevis digitorum manus*. It was arranged in three slips, arising by a common aponeurosis from the magnum and unciform bones, the two outer inserted with the *dorsal interossei* muscles into the extensor aponeurosis at the base of the middle finger; and the inner, into the same structure at the base of the ring-finger.

This muscle was also found very well marked in another muscular male arm, associated with the fusiform deep *palmaris* just described.

Fig. 2 is drawn from this specimen, and it will be seen that in it there is a still closer approach to the arrangement of the *extensor brevis digitorum pedis*, inasmuch as the outermost slip is not inserted with the second dorsal interosseus into the middle finger, but with the first palmar interosseus into the ulnar side of the index or second digit and its extensor aponeurosis. This specimen has been preserved as a preparation for the Hunterian Museum of the Royal College of Surgeons, where it may be inspected by those interested in the question.

Fig. 2.



In the foot of the subject first mentioned, the *tibialis anticus* on both sides, sent forwards a tendinous slip, one-eighth of an inch wide, to be inserted with the tendon of the *extensor proprius hallucis* into the base of the first phalanx of the great toe. (This was also found in a female subject on both sides.)

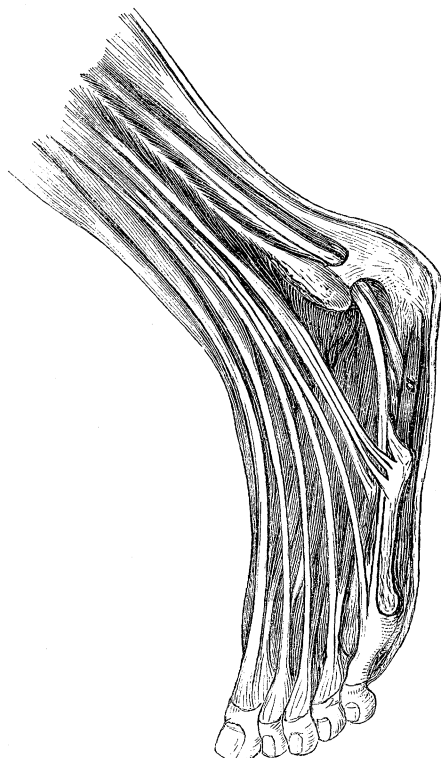
The *peroneus brevis* sent off a tendinous slip (*peroneus quinti*) to the extensor aponeurosis of the little toe on both sides.

The *peroneus tertius*, on both sides, had a very broad tendon, which was inserted into the base of the fourth as well as the fifth metatarsal bone.

The same peroneal disposition (*tertius* and *quinti*) was also observed in another muscular male foot, with an additional peculiarity which caused it to be selected as the subject of fig. 3, where it is seen at *a*. In both these subjects an *abductor ossis metatarsi minimi digiti* was present on both sides. In

the subject of the figure, it was the largest specimen the author has met with since he first discovered the muscle as a frequent abnormality in the human foot.

Fig. 3.



In the second metatarsal space, both the bones forming its sides gave origin to both the *plantar* and *dorsal interossei* muscles, producing the appearance as if the dorsal interosseus proper were divided between the second and third digits.

The arteries of the arm in this subject were generally irregular. There was an axillary origin of the radial, and the superficial arch supplied the index and pollex by the aid of a large superficial volar.

We have thus in this remarkable subject a development of a true *levator claviculæ*, such as is found in all kinds of apes, monkeys, and bats, and offsets from the *pectoralis major* and *latissimus dorsi* similar to the *chondro-* and *dorso-epitrochlear* found also in these animals and the moles and birds.

We have further a *brachio-fascialis* or quasi third head of the *biceps* usually found in birds; a muscular connexion between the *flexor pollicis*

*longus* and *flexor digitorum profundus*, as found in the apes and monkeys ; with a curious addition of the nature of a *tensor fasciæ palmaris*, forming a close homologue with the *plantaris flexor* found in many of the lower animals ; a double *lumbricalis*, as often seen in the apes ; and a proper extensor of the middle finger. There is a redundancy of the *extensor ossis metacarpi pollicis* and *abductor pollicis*, and an *extensor brevis digitorum* on the back of the hand. This last curious muscle the author has now traced in all stages of its segregation and posterior displacement from the fibres of the dorsal *interossei*, which indicate strongly the light in which we should view this muscle on the dorsum of the foot. (In the fore paw of the Sloth, Professor Huxley has shown the author a similar displacement and use of the *dorsal interossei* as extensors of the digits, while the *palmar*, as in most of the lower animals, fulfilled the part of *flexores breves* as well as divaricators of the digits. This function in the Sloths is rendered necessary by the imperfect development and abnormal displacement of the tendons of the *extensor longus*.) Lastly, in the foot of this subject we have the *tibialis anticus* and *peroneus brevis* muscles sending forwards tendinous slips to their respective digits (first and fifth). A special abductor of the metatarsal bone of the fifth digit, such as Professor Huxley and Mr. Flower have shown to exist uniformly in the higher and lower apes, and a double origin of the first plantar *interosseus* muscle, complete the list of irregularities which render the above subject one of the most remarkable the author has ever dissected.

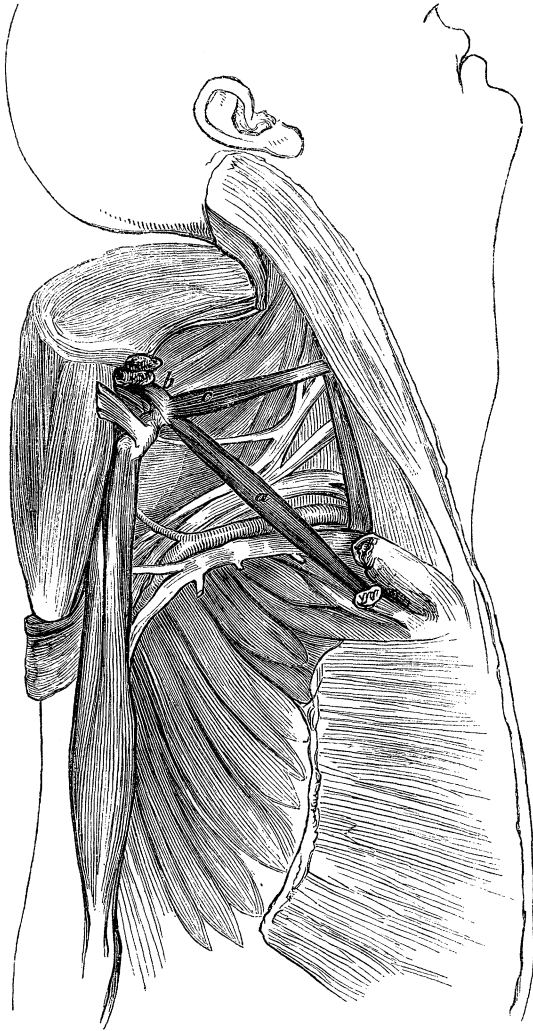
In a thin female subject of low stature was found, on the right side only, the remarkable muscle given in fig. 4. It consisted of a roundish fusiform slip (*a*) arising tendinous from the first cartilage below the *subclavius* close to the *manubrium sterni*, passing across the subclavian vessels and nerves quite distinct from the last-named muscle, and inserted into the upper border of the scapula and suprascapular ligament, where it was connected, to some extent, with the origin of the *omo-hyoideus* (*c*). From this point of insertion another slip of muscular fibres passed forwards, upwards, and outwards, to be inserted, with the *subclavius*, into the outer third of the clavicle (*b*).

This muscle seems to be the same as that given in the author's first series under the name of a double *subclavius*, with the addition of a connecting slip to the clavicle. It seems to the author to represent pretty closely the *sterno-scapular* muscle, while contributing to support the thorax in the pachyderms and ruminants, in which animals it is continued as far as the *manubrium*.

In the same subject was a slip, on the left side only, arising from the eighth rib, with the digitation of the *serratus magnus*, and inserted into the short head of the *biceps* close to the coracoid process. A rather larger muscle like this was described and figured in the first series, under the name of a *chondro-coracoid* muscle. There was a third head of the *biceps* on the left side, arising with the *brachialis anticus*, and on both sides

a scapular head of the *latissimus dorsi*, and a tendinous slip from this muscle to the long head of the *triceps*.

Fig. 4.



In the left arm of this subject, was found, for the fourth time, the curious muscle first described in the author's last paper as the *extensor carpi radialis accessorius*, arising by a broad fleshy head from the external condyloid ridge of the humerus, below and distinct from the *extensor carpi radialis*

*longior*, and inserted by a long tendon into the base of the metacarpal of the pollex, below and distinct from the *extensor ossis metacarpi pollicis*. In this instance no slip was given to the *abductor*, as is sometimes the case. The author had the satisfaction of showing this specimen to Professor Sharpey, with the *levator claviculæ* before described. Professors Ellis and Huxley, and Messrs. Flower and Pettigrew of the Royal College of Surgeons, also inspected it. It was not present on the right side, but here a muscular connexion existed between the *supinator longus* and *extensor carpi radialis longior*. There was no *palmaris longus* on the left side, and only a small one on the right. On the left side also the fourth *lumbricalis* was absent.

In the body of a fine young Negro, which was very carefully dissected and observed, few departures from the ordinary muscular arrangement were observed, and these were present only in the upper extremity. In the left arm was a complex arrangement of the *flexor sublimis digitorum*. Two large muscular slips from the coronoid origin of this muscle passed to the tendons of the deeper muscles. The inner and more superficial terminated in two long tendons, which passed separately under the anterior annular ligament, and became blended in the middle of the palm with those of the *flexor profundus* going to the fourth and fifth fingers. The outer slip also divided (a little higher up) into two tendons. One of these joined, in the middle of the forearm, that of the *flexor pollicis longus*; and the other, after receiving a muscular head from the radius below the last-named muscle, became connected in the palm with the perforating tendon of the index, giving part origin to the first *lumbricalis*. Here were three additional tendons intermediate between the *flexor sublimis* and *profundus*, passing separately under the annular ligament. Additional tendons have been before met with in this position in Europeans, but the author does not remember to have met with them to the extent seen in this Negro. In the same arm, the third *lumbricalis* joined the ulnar side of the middle finger instead of the radial side of the ring-finger, which had no *lumbricalis*. The *interossei* muscles were regular, that to the thumb (the first palmar of Henle) was also present. All the *palmares* muscles were well developed, as well as the *plantares* and the *peroneus tertius*. The latter was connected at its origin (as is commonly found) more intimately with the *extensor tendons* of the fourth and fifth toes, than these were with those of the second and third.

The *arteria comes nervi mediani* was very large, forming the greater part of the superficial palmar arch, and supplying the thumb and index.

In a well-formed tall adult Lascar, with a good cranial development, features of an elevated type, and of a deep olive colour, the most careful observation detected no further irregularity than an *extensor proprius* of the middle finger on both sides, arising partly in common with the *indicator*, and inserted into the common extensor aponeurosis. There was also an increased differentiation of the *flexor sublimis digitorum*.

In two muscular male subjects were found a well-marked *sternalis brutorum*, very similar to that figured in the last series, and in both (as in that case) on the right side only. In another male it was found on the left side only; and in a fourth, slips of tendon, intermingled with muscular fibre, were found on both sides, passing from the sternal tendon of the *sterno-mastoideus* down to the cartilages of the ribs as low as the sixth, and evidently of the nature of a *sternalis* muscle. Two of these subjects were affected with further abnormalities, confined to the arms. In the right arm of one was found the *tensor fasciæ palmaris* before described, and associated with the *extensor brevis digitorum manus* (given in fig. 2). The latter was present in both hands. The *palmaris longus* on the left side was much stronger than that on the right. In the right arm also was a muscular slip connecting the *flexor profundus* with the *flexor longus pollicis*, a double *indicator* muscle, and no less than three *extensor tendons* to the little finger. In the subject in which the *sternalis brutorum* existed on the left side only, were found, in both arms, slips connecting the *flexor sublimis* with the *flexor longus pollicis*, and a distinct muscle, arising from the radius inside the last muscle, and becoming connected, by means of a long and strong tendon, with the perforating or deep tendon of the index just below the annular ligament, precisely similar to one given in the last series. On the dorsum of both hands were found three well-marked and distinct muscular slips, forming an *extensor brevis digitorum*, arising in common as high as the posterior annular ligament. Small slips representing these, and passing to the middle and ring-fingers only, have been found in no less than six other subjects during last session.

In another male left arm were found combined the following abnormalities, viz. three heads to the *biceps*, a double *palmaris longus*, and a double tendon to the *extensor minimi digiti*. Right arm normal.

In two subjects were seen, in the legs, good samples of the *extensor primi internodii hallucis*, distinct muscles, with a strong tendon, as described and figured in the last series. In five subjects were found, on both legs, tendinous slips representing the *peroneus quinti*. In that from which fig. 3 was taken (a very tall and muscular man), it will be seen that the digital slip passes in a curious way through a division of a large tendon of the *peroneus tertius*, at its insertion into the bases of the fourth and fifth metatarsals. It is associated also with an *abductor ossis metatarsi minimi digiti*.

In connexion with these more common irregularities of the peroneal tendons, the author would call attention to that given in fig. 5 from a left female foot, in which the tendon of the *peroneus longus* (*a*), as it turns over the cuboid bone, gives distinct and sole origin to the *flexor brevis minimi digiti* (*b*), and to the outermost *plantar interosseus* of the same digit (*c*).

Of other detached muscular abnormalities observed during the session,

the more remarkable may now be briefly described.

In a female was found, on both sides, an increased development of a common irregularity, viz. a broad muscular slip from the tendon of the *latissimus dorsi*, passing across the axillary vessels and nerves to be inserted with the deeper or sternal fibres of the *pectoralis major*. This slip was separated from the rest of the *latissimus* by a well-marked tendinous intersection, and was connected with the ninth rib. In a male subject, which presented an abnormal subclavian slip of muscle closely resembling that in fig. 4, were found upon the larynx two small but curious muscular slips arising from the lower border of the thyroid cartilage on the left side, between the *crico-thyroid* and *thyro-hyoid* muscles, and passing obliquely across the median line, in front of the thyroid isthmus, to be inserted into the front of the fifth ring of the trachea, near to and parallel with each other. They seemed to be prolongations of the superficial fibres of the *crico-thyroides*, with the tendency to cross the median line more commonly shown by the hyoid and laryngeal muscles than elsewhere.

In a male pharynx, the middle constrictor showed an irregularity. A few of the upper fibres, on both sides, arose from the vaginal process of the temporal bone, and, curving inwards and upwards, were inserted with the rest of the upper fibres of the constrictor into the pharyngeal ridge and median raphe. This arrangement is somewhat different from that of the *salpingo-pharyngeus* described by Cruveilhier and not unfrequently found in this situation.

In both arms of a muscular male was found a small slip of tendon giving off a fourth head to the *biceps*, and springing from the *lesser* tuberosity of the humerus at the insertion of the capsule and tendon of the subscapularis. This is a bicipital head of the same character as the fourth head described by Meckel as arising sometimes from the *greater* tuberosity at the edge of the bicipital groove. The third head in the present case arose in the usual situation, from the upper fibres of the *brachialis anticus*.

In a feebly developed male left arm was found a curious offset from the *flexor pollicis longus*. On its inner side, arising partly in common with this muscle, was a penniform muscle of good size, ending in a long and strong tendon which, after passing under the annular ligament, became continuous with the outer of the two heads of a double *first lumbricalis*

Fig. 5.



muscle. The other head was derived in the usual penniform way from the indicial tendon of the *perforans*. The whole muscle was larger than common, and was inserted in the usual way.

The same hand presented also a double insertion of the third *lumbricalis*, which was divided between the inner side of the medius and the radial side of the ring-finger, and inserted in the usual way. The middle finger is thus provided with a *lumbricalis* on each side. An exactly similar arrangement to this was found in another subject, a female, on both sides.

In a muscular male, the *extensores radiales* of the left arm exchanged tendinous slips of considerable size. That from the *longior* was highest, and joined the *brevior* just below the place where the latter gave off its return slip to join the tendon of the *longior* at its insertion into the base of the second metacarpal. Mr. Langmore, a student of University College, has lately written to the author to say that he has seen in a subject there dissected, a muscle arising with the *extensor carpi radialis longior*, the tendon of which, passing under that of the *brevior*, was inserted to its ulnar side into the base of the middle metacarpal. These irregularities are interesting in their bearing upon the occasional occurrence of the *extensor carpi radialis accessorius* before described. This muscle, however, is distinguished from all these by its insertion into the metacarpal of the *pollex*, and its frequent connexion with the *abductor* in the manner of the tendon of the *extensor ossis metacarpi*.

In many feet of both sexes, examined during the session, were found sesamoid bones developed in the tendon of the *tibialis anticus*, and playing over a bursa on the internal cuneiform cone. In one, a male, a strong distinct slip of tendon passed from it to join and strengthen the inner division of the plantar fascia, being ultimately attached to the base of the great toe.

In many of the same feet, and in others, a sesamoid bone was likewise found in the tendon of the *tibialis posticus*, placed to the inner side of, and playing over, the scaphoid bone. Its relation to the occurrence of an additional tarsal bone in this situation in the hinder limbs of the Armadilloes and other Edentata is suggestive. The special muscle found attached to it in these animals is produced apparently by a differentiation of fibres of the *tibialis posticus*, similar to that which frequently occurs in the *tibialis anticus* in the human subject, as shown in the author's last paper read before the Society.

In a small male foot (right) was found a slip of muscle revealing a transitional formation towards that universal in the apes, and sometimes seen complete in the human subject. A small slip of muscle from the *flexor brevis digitorum* (fig. 6 b) is joined by a similar one, arising by a tendinous origin from the outer part of the tendon of the *flexor longus* (a). The two, after joining, result in a tendon, which instead of forming a regular *perforatus* for the little toe, becomes blended with that of the long or *perforating flexor* at the first phalanx, giving off slips

only to the middle and ungual phalanges. On the other foot no abnormal muscle, but a similar blending of the tendons of the little toe was found.

Attention having been drawn by Mr. Huxley to the importance of ascertaining the arrangement of the *interossei* muscles in the hand and foot, and especially the usual or most frequent manner of insertion in the toes in the human subject, the author has carefully examined these muscles in a considerable number of subjects. It was found that in the hand, although the origin of these muscles is usually such as described in anatomical works, viz. of the dorsal by a double penniform arrangement from the adjacent metacarpals, and of the palmar by a single penniform origin from the metacarpal of its own digit, yet in several cases the so-called first *palmar interosseus*, viz. that of the index, had a bipenniform origin from both second and third metacarpals, exactly as that on the corresponding side of the same digit in the foot. This abnormality is sketched in fig. 7 *a*. The *dorsal interosseus* of the same space covers it by its double penniform origin (one portion of which is represented divided in the sketch).

Fig. 6.

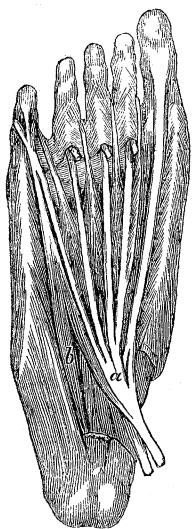


Fig. 7.



Both the muscles are perforated by the arterial branch of communication from the dorsum to the palm. In this hand is also well seen the *palmar*

*interosseus* of the thumb (*b*) exposed by the division of the *abductor indicis*, and lying upon the *flexor brevis*, with the deep fibres of which it is usually confounded.

The insertions of these muscles are invariably (as usually described, and as seen in the sketch) divided between the base of the phalanx (where it is blended with the capsular investment of the joint derived from the extensor aponeurosis) and the sides of the extensor tendon, passing with the fibres from the *lumbricalis*, partly to the middle, and chiefly to the ungual phalanx.

In the foot, the same occasional reference to the type occurring in the hand is found, in the origin of the first *plantar interosseus*. This muscle is sometimes a double penniform, arising from the adjacent second and third metatarsals on the plantar aspect of the second dorsal, and, like it, perforated by the communicating artery. In both the hand and foot where these irregularities are found, the respective digits to which the muscles are attached seem somewhat larger in proportion than is usual, the size and extent of attachment of the muscles appearing to be determined by the size and uses of the corresponding digit. The foregoing abnormalities of the interossei reflect some light upon the differences in the normal arrangement in the upper and lower extremities, which have often perplexed anatomists. The terms *dorsal* and *plantar* or *palmar*, referring to position only, and not to the action of these muscles, have apparently somewhat obscured the homologies of the separate muscles.

In the hand, the middle digit being the most bulky, has a double or dorsal interosseous muscle for each of its divaricators. Its divaricator to the pollex excludes from the third metacarpal the divaricator from the pollex of the second digit, and obtains origin for itself from the dorsal part of the second metacarpal, so becoming a dorsal muscle. The transverse convexity of the back of the hand gives a dorsal prominence to the middle metacarpal and its digit over the rest. This explains the circumstance of this muscle assuming a dorsal position over the palmar interosseous of the index.

In the foot, the first and second metatarsals and their digits attain a greater proportionate size and dorsal prominence, to fulfil their chief function of sustaining and propelling the body. Here we find the divaricator to the pollex of the second digit (the first palmar interosseous of the hand) becoming developed into a double penniform muscle, with a dorsal position, excluding the divaricator to the pollex of the third digit (the second dorsal of the hand) from attachment to the second metatarsal, and itself acquiring an origin from the third metatarsal.

An occasional recurrence of one to the type of the other might have been expected under peculiar conditions of development. Mr. Huxley informs the author that he has found, almost invariably, that the interosseous muscles in the foot are inserted entirely into the bases of the phalanges, and are not, as in the hand, prolonged by a tendinous expansion in

common with the *lumbricales*, into the extensor aponeurosis, and so to the middle and extreme phalanges. He looks upon this as one characteristic distinction between the hand and foot. In the arrangement which the author believes to be almost general in respect to the insertion of the *interossei* in the foot, and which supports essentially Mr. Huxley's view, it will be found that the bulk of each tendon is implanted into the base of the first phalanx, blending with the lateral ligaments of the metatarso-phalangeal joint, while only a few of the dorsal fibres are sent upwards and forwards, to meet and blend with the slips sent down to the sides of the joint from the extensor aponeurosis. These are not, however, so distinct and powerful as we find them in the hand, and, in their thin and scattered appearance, differ entirely from the insertion of the *lumbricales* tendons into the more forward part of the same extensor aponeurosis.

“On New Cornish Minerals of the Brochantite Group.” By Professor N. STORY MASKELYNE, M.A., Keeper of the Mineral Department, British Museum. Communicated by A. M. STORY MASKELYNE, M.A. Received February 13, 1865\*.

In March last my attention was drawn to a very small specimen of Killas, with some minute blue crystals on it, associated with a few equally small green crystals. The latter I proceeded to investigate with the goniometer. They proved to have almost identical angles with Atacamite, and, presuming them to be crystals of that mineral, I neglected them in order to measure the angles of the blue crystals. These proved also to belong to the prismatic system, and evidently were a new mineral. The specimen had come to the Museum from Mr. Talling, of Lostwithiel, a dealer from whom the National Collection has received a very large proportion of its finest Cornish minerals, and whose attention had been called to this specimen by the novelty of its appearance. Mr. Talling no sooner was apprised of the interest attached to his little fragment of Killas, than he set energetically about tracing it to its locality.

After a short time he succeeded in finding this locality; and though he has not yet divulged it, he soon forwarded other specimens to me at the British Museum. He has since found fine masses of the minerals, which are described in this memoir, and they are now in the collection under my charge.

The Killas which usually carries these minerals is of a very friable texture, often occurring as a breccia cemented by the minerals themselves, and at other times coated by them as incrustations.

Sometimes, however, they are found on it as minute crystals scattered over, and in direct contact with, the rock, or in a succession of layers deposited on it. In the latter mode of occurrence, the stone, whether Killas

\* Read February 23, 1865: see Abstract, p. 86.

Fig. 1.

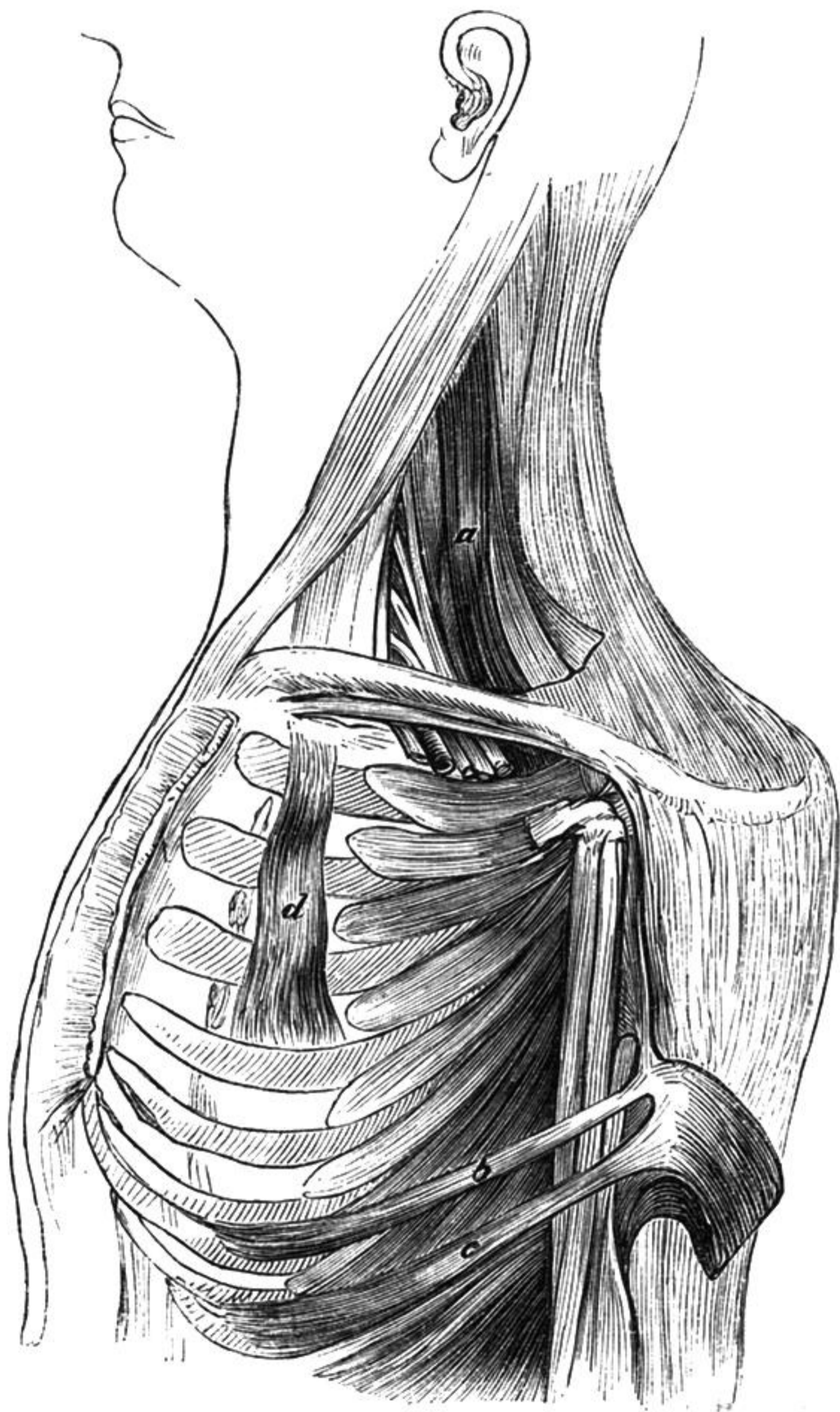


Fig. 2.



Fig. 3.

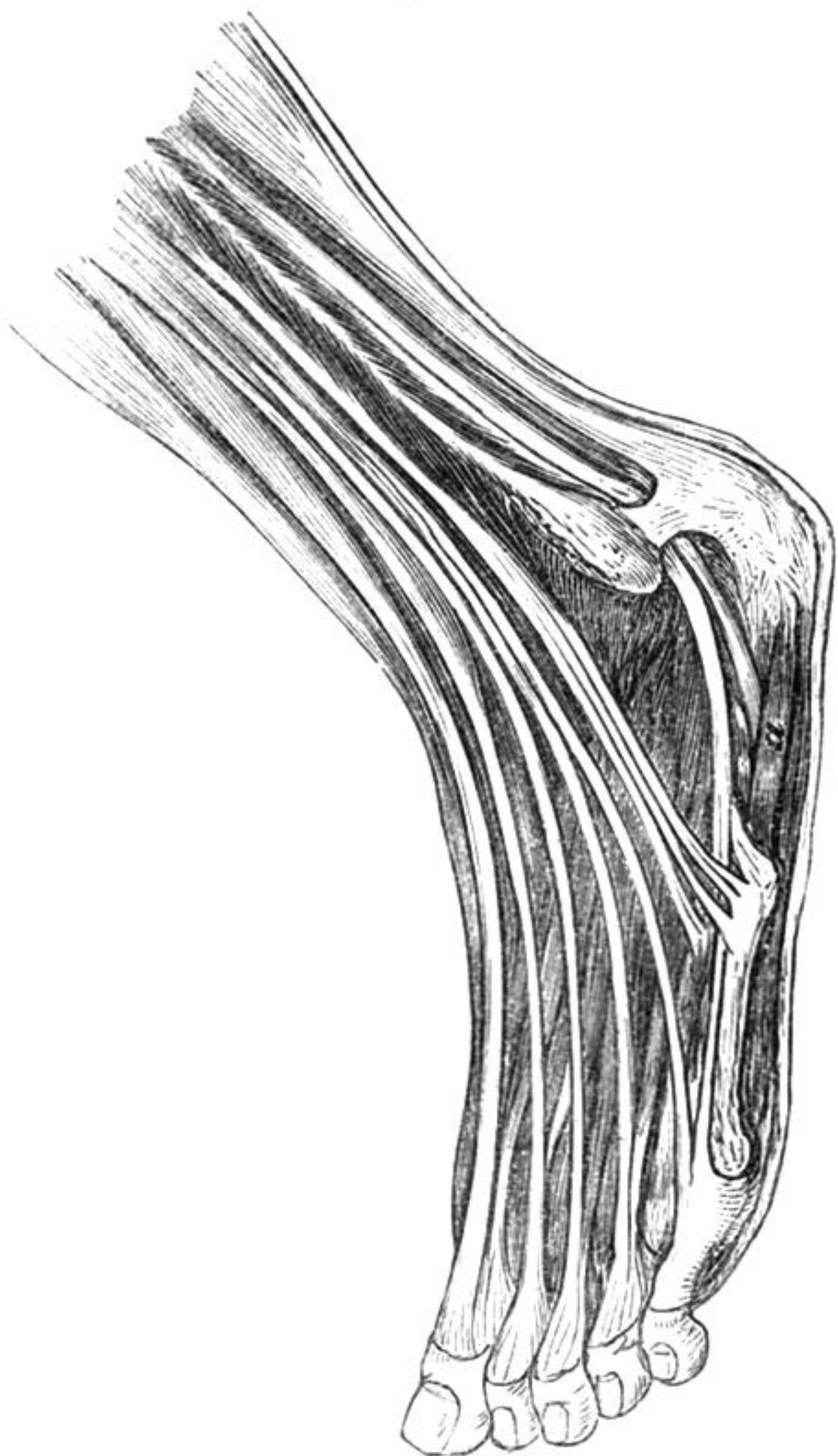


Fig. 4.



Fig. 5.



Fig. 6.

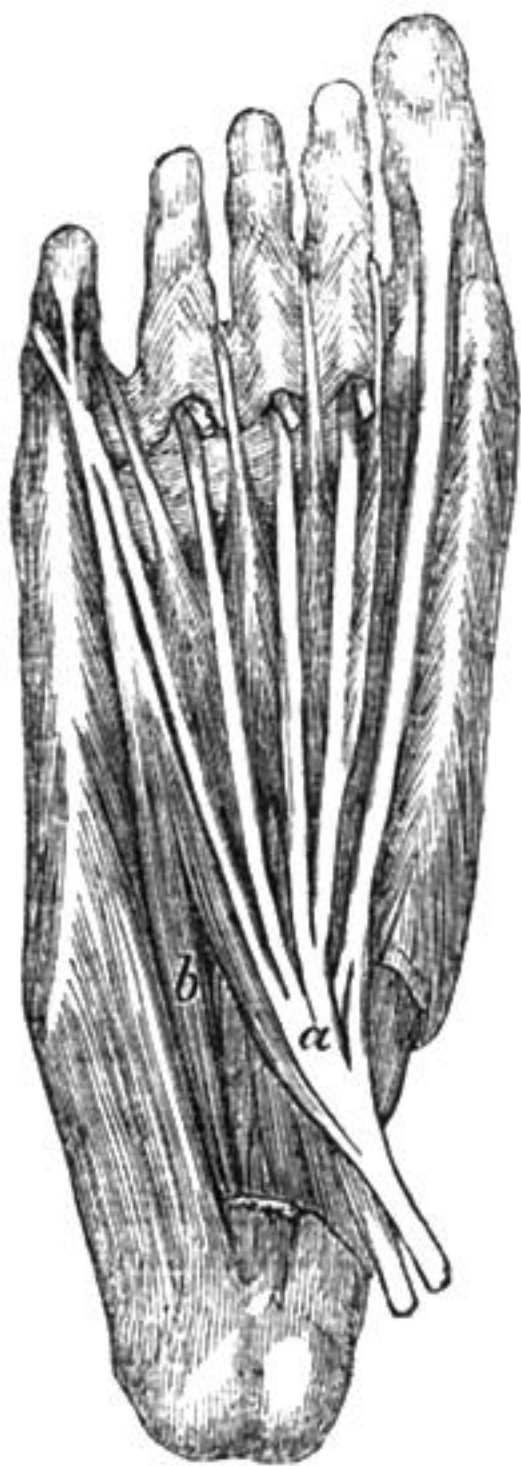


Fig. 7.

