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ON THE CUTANEOUS LIGAMENTS OF THE PHALANXES. By Professor CLELAND, F.R.S., Glasgow. (PLATE XVII.)

In the Report of the Proceedings of the British Association, at its meeting at Dundee in 1867, I have stated that "strong ligaments, hitherto undescribed, extend from the sides of the phalanges, near the phalangeal articulations, and are inserted into the skin, helping to retain the different parts of the integument in the positions which they are adapted to occupy."

These ligaments are very constant structures; and it is strange, seeing that they are obvious and strong, that they have not attracted attention. Those at the first interphalangeal articulations of the fingers are exceedingly well developed, as also those at the interphalangeal joint of the thumb; and an arrangement similar in kind, though less distinct, can be seen at the distal joints of the fingers, and also in the toes.

Describing the ligaments opposite the first joints of the fingers from a specimen before me, I find a strong band of fibres arising from the lateral ridge of the first phalanx in the distal half of its extent, some of them within and some of them outside the grasp of the ligamentum vaginale binding down the flexor tendons; and joining this band are a few fibres coming from the lateral prominence of the base of the second phalanx. The strong band thus formed is directed downwards, behind the artery and nerve, and its fibres spread out somewhat on reaching the skin, those on the palmar aspect turning over towards the middle line of the finger. Decussating behind this band is one of smaller size, arising from the lateral ridge of the second phalanx, and inclining upwards by the side of the first phalanx in its course to the integument.

At the last joint of the finger the principal band extends upwards from the lateral prominence of the base of the last phalanx, and is strengthened by fibres from the rough expansion of the distal extremity of the phalanx, while other fibres pass directly to the skin behind this band (Plate XVII. fig. 5).

The general result may be described as being the formation of

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AMENTS OF THE PHALANGES. LAND, F.R.S., Glasgow. (PLATE XVII.)

of the British Association, have stated that "strong ligaments from the sides of the phalanges, and are inserted into different parts of the integument adapted to occupy."

at structures; and it is stronger, that they have no first interphalangeal articulation well developed, as also those of the thumb; and an arrangement can be seen at the distal ends of the toes.

At the first joints of the fingers, a strong band of fibres arising from the sides of the first phalanx in the distal half of the joint, and some of them outside the joint, binding down the flexor tendons, and a few fibres coming from the sides of the second phalanx. The tendons are directed downwards, behind the joint, and head out somewhat on reaching the joint, and then turn over towards the joint, and the band is attached behind this band is on the lateral ridge of the second phalanx, and the side of the first phalanx.

The principal band extends from the base of the last phalanx, and arises from the rough expansion of the last phalanx, while other fibres pass from the base of the last phalanx to the side of the first phalanx (Plate XVII. fig. 5).

It is considered as being the formation of

a strong fibrous septum on each side of each finger, lying immediately behind the palmar digital branches of vessel and nerve.

The main advantage of these ligaments appears to be to retain in their places the parts of the integument at the backs of the joints. Behind each joint the character of the integument is different from that on the phalanges, having thicker epithelium, and being thrown into permanent wrinkles on extension of the joint, besides being entirely free from hairs. Each of these districts of integument has within its limits ample provision for the flexion of the joint; and, indeed, the apparent redundancy of integument in extension of the joint may be considered as in some measure a consequence of its being stretched in flexion. Were the integument not retained in position, as it is at the sides of the joints, this arrangement could not exist, for the flexion of the second joint would displace the skin at the back of the first joint; and the flexion of that joint would in turn drag much more the skin over the knuckles, in the same inartistic way in which a glove is dragged; and such a displacement actually occurs to a limited extent in hands which from any cause have the integument unusually loose and baggy. But generally there is no such displacement; the skin over each phalanx retains its position accurately, and is put on the stretch when the fingers are bent.

The ligaments in question doubtless also prevent the integument bagging to the sides of the joints in flexion. All the integument in front of their attachments is made to remain in front of them, however great the flexion of the joint, and has therefore to be accommodated in the bend of the finger, while at the back of the joint the integument is stretched laterally as well as longitudinally, and at the sides it is kept close to the bone by the ligamentous attachment. This provision against the accumulation of integument on the flexor surface, above and below the permanent furrows, fills up the concavity of each finger, and gives firmness to the clenched fist.

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by Professor Turner in the January
(1878), in illustration of which
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