

LOWER LIMB.—SOLE OF FOOT—No. 4.

PLANTAR ARCH AND FOURTH LAYER.

The second layer of muscles and portions of the adductor obliquus hallucis and flexor brevis hallucis have been removed.

The third layer of the sole contains the following muscles:—

Flexor brevis minimi digiti arises from the base of the fifth metatarsal and the sheath of the peroneus longus, and is inserted into the outer side of the base of the proximal phalanx of the little toe.

Flexor brevis hallucis arises from the cuboid bone and from a slip of the tendon of the tibialis posticus.

The **adductor obliquus hallucis** arises from the bases of the 2nd, 3rd, and 4th metatarsals and the sheath of the peroneus longus tendon.

The **adductor transversus hallucis** arises from the inferior metatarso-phalangeal ligaments of the 3rd, 4th, and 5th toes.

The **insertion** of these muscles is as follows—the flexor brevis hallucis divides into two tendons, in which large sesamoid bones are developed, and which are inserted into the sides of the first phalanx of the great toe. The inner tendon joins the tendon of the abductor hallucis, and the outer is joined by the tendons of the transverse and oblique adductor muscles.

In the fourth layer are found the interosseous muscles and the tendons of the peroneus longus and tibialis posticus muscles.

The **peroneus longus** passes obliquely across the sole to be inserted into the internal cuneiform and base of the first and sometimes also the second metatarsal bones, while the **tibialis posticus** is inserted principally into the tubercle of the scaphoid, but sends slips forwards to the bases of the 2nd, 3rd, and 4th metatarsal bones, and to the os calcis, cuboid, and cuneiform bones.

The **plantar arch** runs deeply across the sole from the base of the fifth metatarsal bone to the first interosseous space where it is joined by the dorsalis pedis, and gives off four digital branches, which go to the outer side of the little toe and to the three adjacent spaces,—some articular branches and three posterior perforating which ascend to the dorsum of the foot. The arteria magna hallucis is seen in the first interosseous space as a branch from the dorsalis pedis in the sole.

The **deep division** of the external plantar nerve runs with the plantar arch, and gives off muscular branches to adductors, transversus, and obliquus, to the three outer lumbricals, and to the interosseous muscles of the three inner spaces.

The figures indicate—

- | | | |
|---------------------------------|----------------------------------|---|
| 1. Tuberosity of os calcis. | 7. Flexor longus hallucis. | 13. Adductor transversus. |
| 2. Base of fifth metatarsal. | 8. Flexor longus digitorum. | 14. Sesamoid bones of flexor brevis hallucis |
| 3. Base of first metatarsal. | 9. Internal plantar nerve. | 15. Deep plantar arch and nerve. |
| 4. Long plantar ligament. | 10. External plantar nerve. | 16. Arteria magna hallucis. |
| 5. Tendon of peroneus longus. | 11. Flexor brevis minimi digiti. | 17. Prolongations of tendon of tibialis posticus. |
| 6. Tendon of tibialis posticus. | 12. Adductor obliquus hallucis. | |

CARD NO. 29.

SECTION VIII.

