Around the œsophageal opening upon the under surface the fibres from the crura meet at its posterior part, and pass on to the central tendon on each side of the vena cava; upon the upper surface the fibres from the right crus divide and run along each side of it, and end behind the vena cava. The vena cava is fibrous on the under surface of the diaphragm; the upper is not, but it receives a few fibres from the left side.

In *Arctocephalus* as in *Phoca* the diaphragm has a costal and a vertebral origin. The former *arises* by fleshy slips from the ensiform sternebra and not from the spade-shaped cartilage attached to it, posteriorly from the posterior surface of the 8th rib, and from the posterior and inner surfaces of the 9th to the 14th ribs. These also interdigitate with the transversalis. The latter origin consists of two crura, the left crus *arises* by muscular fibres from the body of the 1st and 2nd lumbar vertebræ and the disc between, and by tendon from the 2nd and 3rd lumbar vertebræ and the disc between. The right crus is larger than the left, and *arises* by muscular fibres from the 1st, 2nd, and 3rd lumbar vertebræ and the discs between, and by tendon from the 3rd and 4th lumbar; the crura expand and form an oval slip which fits into the back of the central tendon. The tendon is V-shaped, and the crura are attached to its dorsal side. The fibres from the ensiform cartilage and the ribs pass towards the anterior part of the tendon, those from the 14th rib meet the central tendon midway between the opening for the vena cava and this rib, and the gap between is filled in by fibrous tissue. The œsophagus is in the apex of the central tendon, the vena cava to the right, and the aorta between the crura.

In both specimens the left phrenic nerve pierces the diaphragm half an inch to the right of the vena cava; the right goes through the same spot on the other side, which is one and a half inch to the left of the vena cava, and they supply the muscle.

The Deep Muscles of the Back.

The muscles may be considered in the following groups:—The serratus posticus, splenius, erector spinæ, complexus and transverso-spinales, interspinales, intertransversales and interzygapophyses, and the short postero-cranio-vertebral muscles.

The *Serratus posticus* in *Phoca vitulina* is a very thin muscular band, and *arises* from the 2nd to the 5th dorsal vertebræ. The fibres course downwards and backwards, and are *inserted* by a short aponeurosis into the lower borders of the 5th to the 9th ribs, outside the tendons of the ilio-costalis. In the large *Phoca vitulina* it *arises* by thin tendons from the same vertebræ and from the intervals between the vertebræ by thin aponeuroses, and is *inserted* into the posterior borders of the 6th to the 10th ribs by fine tendons. As it is not mentioned by Murie in *Otaria* and *Trichechus*, I conclude it is absent. It is supplied by the external branches of the dorsal spinal nerves.

The *Splenius* in *Phoca vitulina* is not a double muscle as in human anatomy, neither is it strap-shaped, but triangular. It is hidden by the cephalo-humeral, rhomboideus-capitis and cervicis, and *arises* from the ligamentum nuchæ, by muscular fibres in its posterior part, and by a fine aponeurosis in its anterior. It extends posteriorly from where the fibres of the rhomboideus cervicis begin to take a transverse course from the middle line of the neck, which is about one inch anterior to the vertebral anterior angle of the scapula, and terminates anteriorly at the back