

border by a twig from the suprascapular, and below by another from the circumflex. In *Arctocephalus* it is supplied by the subscapular nerve and at the insertion by the circumflex. It rotates the limb inwards, but this powerful action is checked by the prominent lesser tuberosity coming against the glenoid.

The *Subscapulo-capsularis*<sup>1</sup> is a small muscular slip under cover of the subscapularis, and is found in the Phocinæ and not in *Arctocephalus*. It *arises* from the anterior part of the axillary border of the scapula near the glenoid, and from the ventral surface of the scapula, and it is *inserted* into the ventral aspect of the capsule of the joint, and into the humerus below the lesser tuberosity. In *Phoca barbata*, in addition, it takes origin from the dorsal surface of the axillary border.

No notice is taken by the authors frequently quoted of this small muscle in Seals. According to various anatomists it goes either into the capsular ligament or the humerus, but in the dissection of the Phocinæ it was seen going to both. It is supplied by the circumflex nerve.

The *Episubscapularis* is found in *Arctocephalus* and not in the Phocinæ. It is a cylindrical muscle overhanging the anterior border of the scapula, the subscapularis, and the supraspinatus muscles. It *arises* from the inner half of the arched anterior border of the scapula, by a tendinous band on the ventral side, and by muscular fibres on the dorsal edge, also by muscular fibres from the outer half of this border, from the anterior surface of the neck to the glenoid cavity; and where the neck is covered by the capsule from the anterior surface of it. It makes a bed for itself on the subjacent anterior portions of the supraspinatus and subscapularis, blending with both. In the substance of the muscle, about the middle of the anterior arched border, there is a flat strong tendon, and on both sides of this, throughout its whole extent, many of its fibres are attached. The tendon is *inserted* into the upper anterior surface of the lesser tuberosity of the humerus; and the fibres coming from the outer half of the arched border of the scapula which do not ascend to this internal tendon, go transversely outwards to the superior posterior of the lesser tuberosity, and into the superior surface of the capsule of the shoulder. At the insertion this tendon and these fibres are continuous, forming a hook over the lesser tuber; lastly, it is inserted by a flat bundle of fibres from the part which overlies the ventral anterior surface of the subscapularis, and after crossing its insertion goes into the small part of the lower inner side of the lesser tuberosity, below the insertion of the subscapularis, and into the inner border of the humerus above the teres major insertion. From Murie's accounts of the *Otaria* and *Trichechus*, I conclude that he inclines to the episubscapularis being a derivative from the supraspinatus and subscapularis, but from evidence gathered from the Phocinæ, I consider it as formed from the subscapularis. It is supplied by the suprascapular nerve. It tilts forwards and outwards the lower end of the humerus. It is principally for forcing the fore-limb forwards through the water, and is in place of clavicular deltoid fibres; it also turns the limb inwards, thus preparing it for the backward stroke.

The *Supraspinatus* *arises* from the supraspinous fossa to the outer side of the insertion of the levator anguli scapulæ, from the anterior border of the scapular spine, and from the capsule of the shoulder-joint. Anterior to the neck of the scapula it is fused with the subscapularis. At the vertebral side the muscle is a thin sheet, but anterior to the neck it is thick and fleshy. It is *inserted* into the outer surface of the lesser tuberosity, into the superior surface of the ligament stretching between the greater and lesser tubers, and into the upper end of the great tuberosity.

<sup>1</sup> Wenzel Gruber, *Abhandl. aus der menschl. und vergleich. Anat.*, 1854; also Macalister, *Muscular Anomalies*, Dublin, 1872.