

described as being inserted into the thyroid cartilage. I regard that insertion as belonging to the contractor tracheæ rather than to the sterno-trachealis. At the same time, in as much as some of the fibres composing the sterno-trachealis are directly continuous with those of the contractor tracheæ, the former muscle may not improperly be described as being inserted into the thyroid cartilage, although its principal and direct insertion is undoubtedly, as above described, into the tube of the trachea.

### 3. *Contractor tracheæ.*

*Broncho-trachealis*, Owen, *Anatomy of Vertebrates*, vol. ii. p. 223.

*Attachments.*—The muscle so named by Macgillivray (*History of British Birds*, vol. ii. p. 25) arises from the posterior border of the inferior surface of the thyroid cartilage, and may be considered as a prolongation backwards of the thyro-hyoid muscle, with which it is almost continuous. From this origin it extends along the lateral border of the trachea, and terminates in a pointed extremity which is inserted into the lateral surface of that tube,  $\frac{1}{2}$  an inch in front of its bifurcation. As the muscle passes backwards its fibres are attached to each of the tracheal rings. Its posterior extremity extends beyond the insertion of the sterno-tracheal muscle, with which some of its fibres are continuous, and although it does not reach the syrinx, it evidently represents the single muscle (*broncho-trachealis*) with which, according to Cuvier (vol. iv. p. 473), that organ is provided in the genera *Falco*, *Larus*, *Phalacrocorax*, &c.

*Action.*—This muscle when contracting approximates the tracheal rings to one another and shortens the tube.

*Relations.*—The origin of this muscle is situated below (in front of) the insertion of the cleido-trachealis, and corresponds to the origin of the thyro-hyoid muscle. Between the muscles of opposite sides there is an interval free of muscle fibres, both on the superior and inferior surfaces of the trachea, in which the rings of the trachea are seen uncovered by muscle.

*Nerve supply* (?)

*Variations.*—(Pl. XIX.)—In *Eudyptes chrysocome* from Kerguelen, the two muscles of opposite sides are in contact along the upper surface of the trachea for the posterior half of that tube. There is thus no interval between the two as in *Eudyptes chrysocome* from Tristan d'Acunha. In *Eudyptes chrysocome* from the Falklands, the insertion of the contractor tracheæ is situated  $\frac{3}{4}$  of an inch in front of the tracheal bifurcation.

In *Eudyptes chrysolophus*, in which the trachea is larger than in *Eudyptes chrysocome*, the contractor tracheæ is likewise inserted  $\frac{3}{4}$  of an inch in front of the bifurcation. Consequently, the muscle in this species is relatively to the trachea longer than in *Eudyptes chrysocome*.