another the septum did not extend more than $\frac{1}{8}$th of an inch in front of the bifurcation. The tracheal septum varies in length in different species, but it appears to bear no relation whatever to sex. This is shown in the subjoined table. With regard to structure, the septum tracheæ resembles that of the tracheal walls in the possession of cartilaginous bars which are continuous with the rings of the trachea. These bars are included within a double fold of the tracheal mucous membrane, which, together with the cartilaginous elements, completes the septum. The posterior extremity of the septum tracheæ is attached to the point of bifurcation of the two bronchial tubes, while its anterior extremity invariably presents a hollowed, concave, sharp margin in front of which the tracheal tube is single and undivided. The appearance of cartilaginous bars in the septum seems to show that in the Penguins this septum tracheæ presents a persistent condition of that stage of development of the early embryo of the chick, in which the two diverticula which ultimately form the lungs and bronchial tubes open separately into the œsophagus. In the chick, these diverticula having developed to form the lungs, communicate with the œsophagus by means of a tube (the trachea) which is single throughout, whereas in the Penguins it would appear that the septum, which originally separates the two diverticula persists throughout life to a greater or less extent in different species. In *Eudyptes chrysocome* from Tristan, the last four tracheal rings are welded together to form a single immoveable mass, to which the bronchial tubes are attached.

The Syrinx.

The framework of the lower larynx of *Eudyptes chrysocome* from Tristan d'Acunha consists of the last four tracheal rings. Of these the last three, being situated behind the point of bifurcation, in reality belong rather to the bronchial tubes than to the trachea. In as much as they are inseparably united with the last tracheal ring, however, it is more convenient to enumerate them as structurally connected with the larger tube. The last tracheal ring proper is provided with a mesial process, or pessulus, which lies in the bronchial fork and adapts the posterior extremity of the trachea to the commencement of the bronchial tubes. To this the following three rings on either side are immoveably united to form a single osseous mass. Between the last of these rings and the first bronchial bar proper there exists on the ventral surface of the bronchus an elliptical space, which is filled by an elastic membrane. The dorsal surface of the syrinx on either side of the middle line is completed by means of a broad, elastic membrane, which extends along the whole length of the corresponding bronchial tube, and forms the dorsal wall of the latter. This is apparently the essential part of the organ of voice, as apart from it and the elliptical membrane on the ventral surface of the bronchus the larynx possesses no vibrating structure. The lower larynx is entirely devoid of intrinsic muscles, and only in certain species does the contractor tracheæ extend