

in the manus. A fold of integument extended for some distance beyond the tip of each unguis phalanx.

The vertebral column was 2580 mm. in length in the largest of the Challenger skeletons (male *e*), measured with the intervertebral discs in place but shrivelled and dried, so that during life the spine would have been somewhat longer; the extreme length of the skull was 402 mm., giving 2982 mm. or 9 feet 9 inches from the front of the premaxilla to the end of the tail. This dimension was very much shorter than that of the male measured by Professor Flower (p. 5),<sup>1</sup> or that which Professor Peters has measured,<sup>2</sup> the length of the spine of which was 3700 mm., and of spine with skull 4200 mm. or 13 feet 9 inches. A spine with skull in the Museum at Cambridge, Mass., measured by Mr. J. A. Allen, and said to be an adult male, was 4340 mm. or 14 feet 3 inches long, and in the same animal the humerus was 335 mm., radius 310, femur 200, tibia 415 mm. in length. If these measurements are compared with those of the corresponding bones in the young male that I have described, it will be seen that they are very materially longer, so that in all probability the Challenger animal had not attained much more than about two-thirds of the growth of an adult male. Great differences in size exist between the adult male and female Elephant Seals. Captain Scammon, whose observations were made on the Californian Sea Elephant,<sup>3</sup> states that the male is frequently triple the bulk of the female—the oldest males average from 14 to 16 feet, whilst the largest he had ever seen measured was 22 feet. Two females which he measured were 9 and 10 feet respectively. Corresponding differences in magnitude may be seen in the skulls of the Southern Elephant Seal measured in Table I.

The length-breadth indices of the skulls measured in Table I., calculated on the relation of the condylo-premaxillary length to the interzygomatic width, were for the three large male skulls respectively 72·8, 70·9, and 68, for the well-grown male (*e*) 69·9, and for the large female (*f*) 74. Calculated on the relation of the condylo-premaxillary length to the width behind the external meatus the indices for the two Heard Island males were 58 and 61 respectively, for the well-grown male (*e*) 62·9, and for the large female (*f*) 66. The greater magnitude of the zygomatic index expresses the greater breadth of the skull in that region.

<sup>1</sup> Notwithstanding the dimensions of this animal the plates were not united to the bodies of the vertebræ, nor the epiphyses of the bones of the fore-arm and fore-leg to their respective shafts.

<sup>2</sup> *Monatsber. d. k. preuss. Akad. d. Wiss. Berlin*, 1875, p. 393.

<sup>3</sup> *The Marine Mammals of the North-West Coast of North America*. San Francisco, 1874.