

epiphysial plates not in position, $88\frac{1}{2}$ inches. If 16 inches be allowed for the thickness of these plates, and another 16 inches for the thickness of the intervertebral discs, the total length of the spine would have been in the fresh state $120\frac{1}{2}$ inches—say 10 feet. The length of the skull proper was 25 inches, but as the lower jaw projected an inch beyond the upper, the entire skull was 2 feet 2 inches in length. The length of the skull being added to that of the spine makes the length of the axial skeleton 12 feet 2 inches, which is considerably below the length of 14 feet, stated by Mr Bonner, the captor, to have been that of the animal. Even if we suppose that, in the macerated condition, one or even two of the terminal caudal vertebræ were absent, and make ample allowance also for the thickness of the integument at the tail and beak, one cannot see that the animal could have been so long as stated by Mr Bonner. The vertebral formula was—

$$C_7, D_9, L_{10}, Cd_{18} = 44 .$$

It is possible that one or even two of the terminal caudal vertebræ may not have been ossified, as not merely were the plate-like epiphyses not ankylosed to the vertebral bodies generally, but the bones in their general aspect had all the characters of immaturity. In Dr von Haast's specimen already referred to, the vertebral formula was $C_7, D_{10}, L_{10}, Cd_{19} = 46$. In *Mesoplodon sowerbyi* the formula is also 46, made up as follows:— $C_7, D_{10}, L_{10}, Cd_{19}$, or, according to Malm,¹ $C_7, D_{10}, L_9, Cd_{20}$. In *Mesoplodon grayi* it is, as Professor Flower has shown,² 48—viz., $C_7, D_{10}, L_{11}, Cd_{20}$; and in *Mesoplodon australis*, 47—viz., $C_7, D_9, L_{11}, Cd_{20}$, though in both it is probable that one minute terminal vertebra is wanting.

The *cervical vertebræ* had in their total length an antero-posterior diameter of $3\frac{1}{2}$ inches. The atlas, axis, and third vertebra were united into a single bone. The fusion between the bodies and spines of the atlas and axis was very complete, but the pedicles and transverse processes were distinct. The body of the third was ankylosed to the second vertebra, but it was differentiated by a deep furrow at the place of fusion. The transverse processes, pedicles, and laminae were quite distinct, but the laminae were not united mesially, and there was, consequently, no spine. The breadth of the atlas was 6 inches, its vertical diameter was $5\frac{1}{4}$ inches. The remaining cervical vertebræ were separate bones, with loose epiphysial plates. Their bodies were thin plates of bones, and each possessed an inferior mesial tubercle. Their neural arches were incomplete mesially, except in the seventh, where the laminae were united, and a spine an inch long was produced. The transverse processes not only in these posterior cervical vertebræ, but in the second and third also, were divided into a superior, projecting from the neural arch, and an inferior, from the side of the body, but these processes were not joined externally to form a "verte-

¹ Hvaldjur i Sveriges Museer år 1869 in Konig. Svenska Vetenskaps, Akad. Handlingar, Band 9, No. 2, Stockholm, 1871.

² On the Genus *Mesoplodon*, Trans. Zool. Soc., vol. x. p. 428, 1878.