Ascidians (Plate XII. Fig. *A*) develop the undeniable beginning of a spinal marrow (Fig. 5 *g*) and of a spinal rod (Fig. 5 *c*), and this moreover in entirely the same way as does the Amphioxus. (Plate XIII. Fig. *B*.) It is true that in the Ascidians these most important organs of the Vertebrate animal-body do not afterwards develop further. The Ascidians take on a retrograde transformation, become attached to the bottom of the sea, and develop into shapeless lumps, which when looked upon externally would scarcely be supposed to be animals. (Plate XIII. Fig. *A*.) But the spinal marrow, as the beginning of the central nervous system, and the spinal rod, as the first basis of the vertebral column, are such important organs, so exclusively characteristic of Vertebrate animals, that we may from them with certitude infer the true blood relationship of Vertebrate with Tunicate animals. Of course we do not mean to say by this, that Vertebrate animals are derived from Tunicate animals, but merely that both groups have arisen out of a common root, and that the Tunicates, of all the Invertebrata, are the nearest blood relations of the Vertebrates. It is quite evident that genuine Vertebrate animals developed progressively during the primordial period (and the skull-less animals first) out of a group of worms, from which the degenerate Tunicate animals arose in another and a retrograde direction. (Compare the more detailed explanation of Plates XII. and XIII. in the Appendix.)

Out of the Skull-less animals there developed, in the first instance, a second low class of Vertebrate animals, which still stands far below that of fish, and which is now represented only by the Hags (Myxinoida) and Lampreys (Petromyzonta). This class also, on account of the absence