

THE PHYLOGENY OF THE SOUL

pirical starting-point of all scientific human psychology, is the characteristic structure of the central nervous system. This central psychic organ has a particular position, shape, and texture in the vertebrate as it has in all the higher species. In every case we find a spinal medulla, a strong cylindrical nervous cord, which runs down the middle of the back, in the upper part of the vertebral column (or the cord which represents it). In every case a number of nerves branch off from this medulla in regular division, one pair to each segment or vertebra. In every case this medullary cord arises in the same way in the foetus; a fine groove appears in the middle axis of the skin at the back; then the parallel borders of this medullary groove are lifted up a little, bend over towards each other, and form into a kind of tube.

The long dorsal cylindrical medullary tube which is thus formed is thoroughly characteristic of the vertebrates; it is always the same in the early embryonic sketch of the organism, and it is always the chief feature of the different kinds of psychic organ which evolve from it in time. Only one single group of invertebrates has a similar structure: the rare, marine *tunicata*, *copelata*, *ascidia*, and *thalidiæ*. These animals have other important peculiarities of structure (especially in the chorda and the gut) which show a striking divergence from the other invertebrates and resemblance to the vertebrates. The inference we draw is that both these groups, the vertebrates and the tunicates, have arisen from a common ancestral group of the vermalia, the *prochordonia*.* Still, there is a great difference between the two classes in the fact that the body of the

* See chaps. xvi. and xvii. of my *Anthropogeny*.