

The points of resemblance with the Chordata may be thus tabulated:—

- a. The general features of the nervous system.
- b. The presence of a homologue of the hypophysis cerebri as a massive and important organ (the proboscis).
- c. The presence of tissues which may have become converted into the notochord (viz., the material of which the proboscidian sheath is built up).
- d. The respiratory significance of the anterior portion of the alimentary tract.

At the base of all the speculations contained in this chapter lies the conviction, so strongly insisted upon by Darwin, that new combinations or organs do not appear by the action of natural selection unless others have preceded, from which they are gradually derived by slow change and differentiation.

That a notochord should develop out of the archenteric wall because a supporting axis would be beneficial to the animal may be a teleological assumption, but it is at the same time an evolutionary heresy. It would never be fruitful to try to connect the different variations offered, *e.g.*, by the nervous system, throughout the animal kingdom, if similar assumptions were admitted, for there would be then quite as much to say for a repeated and independent origin of central nervous systems out of indifferent epiblast just as required in each special case. These would be steps that might bring us back a good way towards the doctrine of independent creations. The remembrance of Darwin's, Huxley's and Gegenbaur's classical foundations, and of Balfour's and Weismann's brilliant superstructures, ought to warn us away from these dangerous regions.