

before Bateson drew renewed attention to the numerous points of agreement between *Balanoglossus* and the Chordata, M'Intosh had done the same for *Balanoglossus* and the Nemertea, a separate paragraph of his monograph (XIX) being devoted to the discussion of these homologies.

Sedgwick (*loc. cit.*) holds the unsegmented worms to be wholly "negligeable quantities," at any rate superfluous links in the chain that connects the Chordata with the antecedent Diploblastic stages. In my idea both these authors, valuable as certain of their suggestions are, have not been thoroughly aware of the necessity that, in all discussions on the origin of metameric segmentation, we must attempt to grasp at data that give a clue to the possible action of natural selection in the gradual evolution of metamery. This clue appears to me to be far more distinctly contained in the views here advocated than in the other hypotheses.

It may further be remarked, now that we have once more alluded to Bateson's phylogeny of the Chordata, that even this naturalist does not feel justified in wholly rejecting the Nemertea from the Vertebrate pedigree. Whilst in the text of his article (*loc. cit.*, p. 566) he does seem to prefer this negative alternative; still, in the subjoined diagram of the general relationships of Urochorda, Hemichorda, Cephalochorda, and Vertebrata, the Nemertea are introduced—with a point of interrogation, however—as a side branch lower down on the common parent stock. Now, this being concordant with my own views of the Chordate phylogeny,—the point of interrogation excepted,—it is necessary to inquire why there is this discrepancy between Bateson's speculations in the body of his treatise and the hypothetical pedigree at the end of it. It appears to me that this is due to his hesitation (*loc. cit.*, p. 555) in accepting the views hitherto entertained and advocated by myself as to the phylogenetic connection between the Nemertean and the Vertebrate nervous system. For this hesitation Bateson has good reasons, and while I appreciate the soundness of them, I hope in the remainder of this chapter to remove the reluctance of him and others to accept the phylogenetic significance of the Nemertea, thanks to new light that may be thrown on the evolution of the central nervous system of the Chordata by the observations above recorded on the nervous system of the Challenger Nemertea.

It is to these speculations on the nervous system that we now have to turn our attention.

As will be seen from the terminology introduced in the paragraph on the nervous system (p. 76), and as it is now time more fully to develop, I am inclined to attach considerable morphological importance to the arrangement of the different constituent parts of the nervous system in the Nemertea. In former publications (X, XIa) I have repeatedly insisted on the significance of certain points in the anatomy of the Nemertea, when considering the general question of the relationship of the Chordata to their