parts; before we can combine families into natural groups, we have to make a thorough investigation of their whole structure, and compare it with that of other families. So form is characteristic of families; and I can add, from a careful investigation of the subject for several years past, during which I have reviewed the whole animal kingdom with reference to this and other topics connected with classification, that form is the essential characteristic of families.[1] I do not mean the mere outline, but form as determined by structure; that is to say, that families cannot be well defined, nor circumscribed within their natural limits, without a thorough investigation of all those features of the internal structure which combine to determine the form.

The characteristic of the North American Chelonians which follows, may serve as an example how this subject is to be treated. I will only add here, that however easy it is at first, from the general impression made upon us by the form of animals, to obtain a glimpse of what may fairly be called families, few investigations require more patient comparisons than those by which we ascertain the natural range of modifications of any typical form, and the structural features upon which it is based. Comparative anatomy has so completely discarded every thing that relates to Morphology; the investigations of anatomists lean so uniformly towards a general appreciation of the connections and homologies of the organic systems which go to build up the body of animals, that for the purpose of understanding the value of forms and their true foundation, they hardly ever afford any information, unless it be here and there a consideration respecting teleological relations.

Taking for granted, that orders are natural groups characterized by the complication of their structure, and that the different orders of a class express the different degrees of that complication; taking now further for granted, that families are natural groups characterized by their form as determined by structural peculiarities, it follows that orders are the superior kind of division, as we have seen that the several natural divisions which are generally considered as orders, contain each several natural groups, characterized by different forms, that is to say, constituting as many distinct families.

After this discussion it is hardly necessary to add, that families cannot by any means be considered as modifications of the orders to which they belong, if orders are to be characterized by the degrees of complication of their structure, and families

[1] These investigations, which have led to most interesting results, have delayed thus far the publication of the systematic part of the Principles of Zoölogy, undertaken in common with my friend, Dr. A. A. Gould, and which I would not allow to appear before I could revise the whole animal kingdom in this new light, in order to introduce as much precision as possible in its classification.