what was the real value of all these divisions. Trusting, in a measure, to the principles discussed in the second chapter of the first part of this work, I soon ascertained which of them exhibit generic characters, and which were to be considered as families. I may well add, that I had also the gratification of finding that the natural groups, which I had thus practically circumscribed, afforded new and additional evidence of the correctness of the general principles ascertained before by a more extensive study of other classes. This direct confirmation of the general views there expressed shows plainly that these principles are likely to be of immediate practical use in the special investigation of any type of the animal kingdom, and may particularly assist zoölogists in finding out the prominent characters of any kind of natural groups of animals.

In the following pages, I have attempted to show how, according to these principles, families ought to be characterized. It will be seen, I hope, that, though it is easy to acquire satisfactory evidence that families are distinguished one from the other by distinct forms, it requires the most careful comparison to discover what are the structural elements which constitute these different patterns. And if this be so, it must be obvious, that such investigations necessarily lead to interesting results respecting the meaning of the structural differences which distinguish them. For my own part, I have already satisfied myself that in this way much can be learned of the habits of animals, the mode of life being in direct relation to the form of the animal. More than once already has the direct observation of the habits of our Turtles confirmed what the study of their form had at first only led me to suspect.

The essential elements of the form of Testudinata, as far as the body is concerned, are, first, the curve of the back, following the line of the vertebral column, and its relation to a similar line along the middle of the lower surface; secondly, the outline of the outer edge of the shield, in its relation to the height of the carapace, and the depth of the lower part of the body; thirdly, the connection of the upper and the lower surface of the body, as determined by the lateral curves of the carapace and the plastron; fourthly, the outline of the plastron in connection with the openings through which the head, the limbs, and the tail are protruded between the upper and the lower parts of the shield; fifthly, the relation of the bulk of the body with reference to the longitudinal axis. Next to these elements, the form of the neck and head affords excellent characters, as well as the form of the limbs, the relations of the front and hind pair, the articulation of their joints, and especially the form of the feet, the mode of connection of the toes, and the manner in which they act upon the medium of resistance when the animal is in motion.

It has already been stated above, that though orders form necessarily progres-