as it is among the Viverrina, or among the Canina, or among the Bradypodidæ, or among the Delphinoidæ, etc., etc. We must, therefore, exclude form from the characteristics of natural genera, or at least introduce it only as a modification of the typical form of natural families.

Of all the natural groups in the animal kingdom there remain then only families and orders, for the distinction of which form can apply as an essential criterion. But these two kinds of groups are just those upon which zoölogists are least agreed, so that it may not be easy to find a division which all naturalists would agree to take as an example of a natural order. Let us, however, do our best to settle the difficulty and suppose, for a moment, that what has been said above respecting the orders is well founded, that orders are natural groups characterized by the degree of complication of their structure, and expressing the respective rank of these groups in their class, then we shall find less difficulty in pointing out some few groups which could be generally considered as orders. I suppose most naturalists would agree, for instance, that among Reptiles the Chelonians constitute a natural order; that among Fishes, Sharks and Skates constitute an order also; and if any one would urge the necessity of associating also the Cyclostomes with them, it would only the better serve my purposes. Ganoids, even circumscribed within narrower limits than those I had assigned to them, and perhaps reduced to the extreme limits proposed for them by J. Müller, I am equally prepared to take as an example, though I have in reality still some objections to this limitation, which, however, do not interfere with my present object. Decapods, among Crustacea, I suppose everybody would also admit as an order, and I do not care here what other families are claimed besides Decapods to complete the highest order of Crustacea. Among Acephala, I trust Bryozoa, Tunicata, Brachiopods, and Lamellibranchiata would be also very generally considered to be natural orders. Among Echinoderms, I suppose Crinoids, Asterioids, Echinoids, and Holothurioids would be conceded also as such natural orders; among Acalephs the Beroids, and perhaps also Discophoræ and Hydroids; while among the Polypi, the Halcyonoids constitute a very natural order when compared with the Actinoids.

Let us now consider these orders with reference to the characteristic forms they include. The forms of the genuine Testudo, of Trionyx, and of Chelonia are very different, one from the other, and yet few orders are so well circumscribed as that of Chelonians. The whole class of Fishes scarcely exhibits greater differences than those observed in the forms of the common Sharks, the Sawfishes, the common Skates, and the Torpedo, not to speak of the Cyclostomes and Myxinoids, if these families were also considered as members of the order of Placoids. Ganoids cannot be circumscribed within narrower limits than those assigned to them by J. Müller, and yet this order, thus limited, contains forms as heterogeneous as the Sturgeons,