

artificial and in no way tenable. I quite agree with Jean Lamarck, who has entitled the first chapter of his classical *Philosophie Zoologique* (1809):—"Des parties de l'art dans les productions de la nature"; he has clearly proved that all our systematic categories, classes and orders, no less than the genera and species, are artificial products of the human mind, and that they all possess only a relative, not an absolute, character. The theory of selection, given half a century afterwards by the immortal Charles Darwin, explains how all these categories have arisen, and shows that natural classification can only be phylogenetical, and that all apparently "good species" were originally "bad species."

Special diligence has been displayed by Poléjaeff in giving an absolute definition of the category of genus. According to him, "generic unity serves as a firm basis, which has been wanting in descriptive zoology since the mutability of species was actually proved."¹ He regards "the generic character to be a character of sufficient constancy, and together with this, allowing numerous modifications either in the direction of a further development or in the direction of different variations."² But may we not say the same of the family? the same of the species? the same of the variety? This dogmatic definition, and also any other attempt to characterise any category of the system by an absolute definition, are, in my opinion, quite untenable and worthless. I think I have proved this in chapter xxiv. of my *General Morphology*. Genera are artificial conceptions in the same way as species; varieties are incipient species, species incipient genera.

Poléjaeff gives in chapter ii. of his *Report on the Keratosa* a criticism of the genera, and commences it with an enumeration of the three conditions which Nägeli holds indispensable for the absolute distinction of genera.³ But what Nägeli demands for the allied species of one genus may be demanded for the genera of one family, the same for the families of one order, the same for the varieties of one species. Poléjaeff adopts the opinion of Nägeli, that "the existence of an absolute distinction of genera is indispensable,"⁴ and he undertakes to give such an absolute distinction. In my opinion, these genera are no more and no less artificial than all other genera. The history of systematic classification shows us that the absolute distinction of genera is quite impossible, and that the progress of one century has been sufficient to dissolve the definitions and the conceptions of nearly all the older genera, and to replace them by a larger number of smaller genera; the latter, of course, must increase in the same degree as the specialisation of our knowledge and the specification of minor morphological differences.

Having stated that the first principles of classification employed by Poléjaeff and by myself are quite contrary to each other, and that we have adopted quite opposite general views, it will be understood that as a natural consequence this diligent Russian author severely attacks the less important parts of my *Monograph of Calcispongiæ*.

¹ *Zool. Chall. Exp.*, pt. xxxi. p. 82.

² *Loc. cit.*, p. 21.

³ *Narr. Chall. Exp.*, vol. i. p. 644.

⁴ *Narr. Chall. Exp.*, vol. i. p. 645.