

At the present day, though the origins of many of the great branches seem more uncertain than ever, some of the minor ramifications are being worked out with what seems strong probability of accuracy. In course of time it may be possible to piece the smaller branches together after the fashion of a puzzle picture.

Before the work of Ray, the term "species" was used quite loosely, as it still is by the careless conversationist who speaks indifferently of "the fish species" or "the human species". According to Ray, however, all similar individuals which exhibited constant characters from generation to generation form a species, and should be called by a particular name. Thus there is in Britain one species of daisy, but there are several species of buttercups. At the same time, Ray observed that the two sexes of the same species might be very different, and that one species of plant might "*degenerate*" into another.

Grades of
Classifica-
tion.

Linnæus defined species as Ray had done, but even more rigidly. Each species was descended, he said, from an originally created pair, and each expressed an idea in the divine mind. Moreover, these ideas were consecutive, each species being intermediate between two others in the great system of nature, wherein, as Leibnitz had insisted, there was no leap or hiatus. Thus two long-lived dogmas were formulated: (a) the fixity of species, and (b) the doctrine of continuity—*natura non facit saltum*. At present no naturalist accepts the first, and many are very doubtful about the second.

To each species, as we have already noted, Linnæus gave a double name; thus the lion was called *Felis leo* and the daisy *Bellis perennis*, the second name being the specific title, while the first name was that of the genus—a group of more or less similar species. Similarly, Linnæus grouped genera into orders, and orders into classes.

No great change has been made in the grades of classification. In 1780 Batsch introduced the useful grade "family" between the order and the genus; Hæckel introduced (1866) the term "phylum" for any distinct branch of the genealogical tree, whether it in-