

which have developed independently of one another and independently of the animal and the vegetable kingdoms. Even if we adopt the monophyletic hypothesis of descent, and maintain a common origin from a single form of Moneron for all organisms, without exception, which ever have lived and still live upon the earth, even in this case the connection of the neutral Protista on the one hand with the vegetable kingdom, and on the other hand with the animal kingdom, must be considered as very vague. We must regard them (compare p. 74) as lower offshoots which have developed directly out of the root of the great double-branched organic pedigree, or perhaps out of the lowest tribe of Protista, which may be supposed to have shot up midway between the two diverging high and vigorous trunks of the animal and vegetable kingdoms. The individual classes of the Protista, whether they are more closely connected at their roots in groups, or only form a loose bunch of root off-sets, must in this case be regarded as having nothing to do either with the diverging groups of organisms belonging to the animal kingdom on the right, or to the vegetable kingdom on the left. They must be supposed to have retained the original simple character of the common primæval living thing more than have genuine animals and genuine plants.

But if we adopt the polyphyletic hypothesis of descent, we have to imagine a number of organic tribes, or phyla, which all shoot up by spontaneous generation out of the same ground, by the side of and independent of one another. (Compare p. 75.) In that case numbers of different Monera must have arisen by spontaneous generation whose differences would depend only upon slight, to us imperceptible, differences in their chemical composition, and