time also no attempt was made to bring phytogenesis —the genesis of plant-life—into line and order with zoogenesis, the genetic arrangement of animals. It is Haeckel's undoubted merit to have attempted for the first time to carry out this general scheme on a large scale, and by means of detailed pedigrees, beginning with the undefined organisms in which as yet the peculiar characters of animal- and plant-life do not appear to be differentiated, and ascending in two great trunks into the vegetable and animal kingdom, and thence through many ramifications into the several classes, families, genera, species, and varieties of living things, to construct the supposed real natural system for which systematists had been unconsciously searching since the age of Ray and Linnæus. For the purpose of elaborating this great scheme he employs not only the great law of heredity, according to which ancestral characters are reproduced in development, but also the older law of adaptation to the existing environment, as

45. Combines Darwin and Lamarck.

pointed out by Lamarck. Haeckel, in fact, combines the views of Darwin and Lamarck, which other naturalists are more or less inclined to keep apart, whence has arisen the well-known division into the two great schools of the neo-Darwinians and neo-Lamarckians.[1] Though

[1] Natural selection being an admitted fact among living things, like gravitation in the physical universe, three distinct problems arise : First, how far does it reach ? the scope of the principle. The subsequent writings of Darwin were mainly occupied with this question, though—as we shall see later—he also ventured upon an important suggestion as to the underlying problem of inheritance. Secondly, the fact or principle itself requires to be traced to deeper-lying causes. We may say natural selection is a *vera causa*, but not a *prima causa* : it is a true but not a prime cause. The investigations regarding "variation" and "heredity" work along this line of research, and form the