

vesicular, giving a rough imitation of a lung. The gar-pike too, is capable of a vertical motion of the head; that is, unlike all other modern fishes, it has a neck, and can raise the head, like a reptile. The ancient ganoids were certainly not less reptilian than the modern ones. The possession of bony armor is also a reptilian prerogative; and it may be added, that the teeth of the ancient ganoids were truly reptilian. Those of *Onychodus* were strikingly so. As in reptiles, too, the vertebral column continued to the end of the tail. Thus the ancient Ganoids possessed several reptilian characters; while in general form, they were fish-like; in aquatic respiration, in many rayed fins, in cranial and general skeletal structure they were fishes. Thus the ancient Ganoids, and to a similar extent, the modern ones, were a comprehensive type. They anticipated reptiles; they were prophetic of reptiles. Later the ganoid type was *resolved*. The ichthyic characters were retained in one organism, and the reptilian were gathered together in a different organism. Now, we can not avoid feeling interest in the question: How did it occur that an animal on the whole a fish, should incorporate in its structure features of a class which was yet far in the future? And what was the *purpose* of such a combination? I will try to express my views on these questions when I come to a Talk on the *method* of creation.

The Amphibians are a comprehensive type. They are comprehensive as a whole—as a class-conception; and within the class are subordinate or ordinal types which are specially comprehensive. Structurally they partake of the natures of fishes and of reptiles. They are fish-like in branchial respiration during early life. They are fish-like in the possession of bi-concave vertebræ; in having two occipital condyls, and in other less conspicuous characters of the skull; in the organs which serve as kidneys; and among Batrachians (frog-like) in the double septum which divides the orbits—which is a ganoid character. They are reptilian in breathing air in adult life; in the possession of appendages for locomotion on land, and in the undivided ventricle of the heart. The nervous