THE CHAIN OF THE ANIMAL ANCESTORS, OR THE SERIES OF THE PROGENITORS, OF MAN.

(Comp. Ch. XX., XXI.; Plate XIV. and p. 22).

FIRST HALF OF THE SERIES OF THE ANCESTORS OF MAN.

INVERTEBRATE ANCESTORS OF MAN (Prochordata).

First Stage: Monera.

The most ancient ancestors of Man, as of all other organisms, were living creatures of the simplest kind imaginable, *organisms without organs*, like the still living Monera. They consisted of simple, homogeneous, structureless and formless little lumps of mucous or albuminous matter (protoplasm), like the still living Protamœba primitiva. (Compare vol. i. p. 186, Fig. 1.) The *form value* of these most ancient ancestors of man was not even equal to that of a cell, but merely that of a *cytod* (compare vol. i. p. 347); for, as in the case of all Monera, the little lump of protoplasm did not as yet possess a cell-kernel. The first of these Monera *originated* in the beginning of the Laurentian period by *spontaneous generation*, or archigony, out of so-called "inorganic combinations," namely, out of simple combinations of carbon, oxygen, hydrogen, and nitrogen. The assumption of this spontaneous generation, that is, of a mechanical origin of the first organisms from inorganic matter, has been proved in our thirteenth chapter to be a necessary hypothesis. (Compare vol. i. p. 338.) A direct