

of very minute cells, all of which are alike in appearance and form, (Fig. 102, g.) But soon after, as the germ increases in thickness, several layers may be discerned, in vertebrated animals, (Fig. 103,) which become more and more distinct.

299. The upper layer, (s,) in which are subsequently formed the organs of animal life, namely, the nervous system, the muscles, the skeleton, &c., (59,) has received the name of *serous* or *nervous layer*. The lower layer, (m,) which gives origin to the organs of vegetative life, and especially to the intestines, is called the *mucous* or *vegetative layer*, and is generally composed of larger cells than those of the upper or serous layer. Finally, there is a third layer, (v,) interposed between the two others, giving rise to the formation of blood and the organs of circulation; whence it has been called *blood layer*, or *vascular layer*.

300. From the manner in which the germ is modified, we can generally distinguish, at a very early epoch, to what department of the animal kingdom an individual is to belong. Thus, in the Articulata, the germ is divided into segments,



Fig. 104.



Fig. 105.

indicating the transverse divisions of the body, as, for example, in the embryo of the crabs, (Fig. 104.) The germ of the vertebrated animals, on the other hand, displays a longitudinal furrow, which marks the position the future back-bone is to occupy, (Fig. 105.)

301. The development of this furrow is highly important, as indicating the plan of structure of vertebrated animals in general, as will be shown by the following figures, which represent vertical sections of the embryo at different epochs.*

* In these figures, the egg is supposed to be cut down through the middle, so that only the cut edge of the embryo is seen; whereas, if viewed