

OUR EMBRYONIC DEVELOPMENT

After Wolff's "epigenesis theory" had been established by Oken and Neckel (whose important work on the development of the alimentary canal was translated from Latin into German), a number of young German scientists devoted themselves eagerly to more accurate embryological research. The most important and successful of these was Carl Ernst Baer. His principal work appeared in 1828, with the title, *History of the Development of Animals: Observations and Reflections*. Not only the phenomena of the formation of the germ are clearly illustrated and fully described in it, but it adds a number of very pregnant speculations. In particular, the form of the embryo of man and the mammals is correctly presented, and the vastly different development of the lower invertebrate animals is also considered. The two leaflike layers which appear in the round germ disk of the higher vertebrates first divide, according to Baer, into two further layers, and these four germinal layers are transformed into four tubes, which represent the fundamental organs—the skin layer, the muscular layer, the vascular layer, and the mucous layer. Then, by very complicated evolutionary processes, the later organs arise, in substantially the same manner, in man and all the other vertebrates. The three chief groups of invertebrates, which in their turn differ widely from each other, have a very different development.

One of the most important of Baer's many discoveries was the finding of the human ovum. Up to that time the little vesicles which are found in great numbers in the human ovary and in that of all other mammals had been taken for the ova. Baer was the first to prove, in 1827, that the real ova are enclosed in these vesicles—the "Graafian follicles"—and much smaller,