the germ to be an actual miniature of the organism, though his words sometimes convey this impression, but he postulated that the germ "contained *très en petit* the elements of all the organic parts". He assumed, he says, "as a fundamental principle, that nothing is generated, and that what we call generation is but the simple development of what pre-existed under an invisible form, and more or less different from that which becomes manifest to our senses". He thus excludes all new formation or epigenesis.

To this main hypothesis two subsidiary ones were added: (*a*) the doctrine of *emboîtement*, according to which the germ contains the preformation not of one organism alone but of successive generations; and (*b*) the hypothesis of the dissemination of germs scattered throughout the organism, and capable of developing into buds, replacing lost parts, and so forth. As surely as Harvey overshot the mark in one direction, and made development magical by failing to credit the ovum with a heritage of organization, so surely did Bonnet overshoot the mark in the opposite direction, by a theory which amounts to a denial of development altogether. His greatest service was in presenting a *reductio ad absurdum* of the extreme preformationist position.

Bonnet was supported in his extraordinary "system of negations", as Whitman terms it, by the authority of the renowned physiologist Albert von Haller. The latter started as a believer in epigenesis, but was somehow led by his studies on the development of the chick to a complete confidence in the truth of preformation. A single sentence, "Es gibt kein Werden—There is no Becoming", sufficiently indicates his position.

Throughout the seventeenth and eighteenth centuries almost all embryological thinking was dominated by this preformationist creed, and many of the disciples were even cruder than their two masters, Bonnet and Haller. All development was an illusion, it was really only an unfolding (*evolutio*) of a preformed miniature. Moreover, the germ contained not only a preformation of the organism into which it was destined to grow, but of successive generations as well. Preformed minia-