

THE RIDDLE OF THE UNIVERSE

may be directly proved by microscopic observation, and clung to the old dogma of "preformation." This theory assumed that in the human ovum—and in the egg of all other animals—the organism was already present, or "preformed," in all its parts; the "evolution" of the embryo consisted literally in an "unfolding" (*evolutio*) of the folded organs. One curious consequence of this error was the theory of *scatulation*, which we have mentioned on p. 55; since the ovary had to be admitted to be present in the embryo of the woman, it was also necessary to suppose that the germs of the next generation were already formed in it, and so on *in infinitum*. Opposed to this dogma of the "Ovulists" was the equally erroneous notion of the "Animalculists"; the latter held that the germ was not really in the female ovum, but in the paternal element, and that the store of succeeding generations was to be sought in the spermatozoa.

Leibnitz consistently applied this theory of *scatulation* to the human soul; he denied that either soul or body had a real development (*epigenesis*), and said in his *Theodicy*: "Thus I consider that the souls which are destined one day to become human exist in the seed, like those of other species; that they have existed in our ancestors as far back as Adam—that is, since the beginning of the world—in the forms of organized bodies." Similar notions prevailed in biology and philosophy until the third decade of the present century, when the reform of embryology by Baer gave them their death blow. In the province of psychology, however, they still find many adherents; they form one group of the many curious mystical ideas which give us a living illustration of the ontogeny of the soul.

The more accurate knowledge which we have recent-