## THE RIDDLE OF THE UNIVERSE

cannot be distinguished from each other, the fact can only be elucidated by assuming a common parentage. And this explanation is strengthened when we follow the subsequent divergence of these embryonic forms The nearer two animals are in their bodily structure. and, therefore, in the scheme of nature, so much the longer do we find their embryos to retain this resemblance, and so much the closer do they approach each other in the ancestral tree of their respective group, so much the closer is their genetic relationship. Hence it is that the embryos of man and the anthropoid ape retain the resemblance much later, at an advanced stage of development, when their distinction from the embryos of other mammals can be seen at a glance. I have illustrated this significant fact by a juxtaposition of corresponding stages in the development of a number of different vertebrates in my Natural History of Creation and in my Anthropogeny.

The great phylogenetic significance of the resemblance we have described is seen, not only in the comparison of the embryos of vertebrates, but also in the comparison of their protective membranes. All vertebrates of the three higher classes-reptiles, birds, and mammals-are distinguished from the lower classes by the possession of certain special foetal membranes, the amnion and the serolemma. The embryo is enclosed in these membranes, or bags, which are full of water, and is thus protected from pressure or shock. This provident arrangement probably arose during the Permian period, when the oldest reptiles, the proreptilia. the common ancestors of all the amniotes (animals with an amnion), completely adapted themselves to a life on land. Their direct ancestors, the amphibia. and the fishes are devoid of these fostal membranes: they