

THE RIDDLE OF THE UNIVERSE

bilical vessels. The hollow, blood-filled villi of the foetal placenta protrude into the sinuses of the maternal placenta, and the slender membrane between the two is so attenuated that it offers no impediment to the direct interchange of material through the nutritive blood-stream (by osmosis).

In the older and lower groups of the placentals the entire surface of the chorion is covered with a number of short villi; these "chorion-villi" take the form of pit-like depressions of the mucous membrane of the mother, and are easily detached at birth. That happens in most of the ungulata (the sow, camel, mare, etc.), the cetacea, and the prosimiæ; these "malloplacentalia" (with a *diffuse* placenta) have been denominated the *indeciduata*. The same formation is present in man and the other placentals in the beginning. It is soon modified, however, as the villi on one part of the chorion are withdrawn; while on the other part they grow proportionately stronger, and unite intimately with the mucous membrane of the womb. It is in consequence of this intimate blending that a portion of the uterus is detached at birth, and carried away with loss of blood. This detachable membrane—the *decidua*—is a characteristic of the higher placentalia, which have, consequently, been grouped under the title of *deciduata*; to that category belong the carnassia, rodentia, simiæ, and man. In the carnassia and some of the ungulata (the elephant, for instance) the placenta takes the form of a girdle, hence they are known as the *zonoplacentalia*; in the rodentia, the insectivora (the mole and the hedge-hog), the apes, and man, it takes the form of a disk.

Even ten years ago the majority of embryologists thought that man was distinguished by certain pecu-