

### Eruption of the Permanent Teeth in the South African Fossil Ape-men

THE great collection of skulls of *Paranthropus crassidens* made at Swartkrans in the past couple of years gives us not only nearly every detail in the structure of the skull and dentition, but also very satisfactory evidence of the sequence of the eruption of the permanent teeth.

A. H. Schultz has recently shown<sup>1</sup> that in all man-like apes and in the majority of monkeys the sequence of eruption is very definite (brackets show variation) :

$$M_1, I_1, I_2, M_2, (P, P), (M_3, C).$$

The premolars are variable, and  $M_3$  and  $C$  may vary in order. But the 2nd molar is always the fourth tooth to erupt, and the canine is either the last or the second last tooth to erupt.

In *Sinanthropus*, Neanderthal man and Bushman, the sequence of eruption is almost as in all anthropoids and most monkeys. But in modern white man the sequence is very different. Schultz gives it as :

$$(I_1, M_1), I_2, (P, C, P), M_2, M_3.$$

Here it will be observed that the 1st incisor usually appears before the 1st molar, and while the canine and premolars are variable in their eruption they all appear before the 2nd molar, which is the second last tooth to erupt.

When we look at the sequence in *Paranthropus crassidens* we find the 1st incisors appear before the 1st molar; the canine appears about the same time as the 1st premolar: this is followed by the 2nd molar, the 2nd premolar, and lastly the 3rd molar.

The sequence may be expressed thus :

$$I_1, M_1, I_2, (C, P_1), M_2, P_2, M_3.$$

It will be noted that this sequence differs very markedly from that in all anthropoids and most monkeys, and agrees closely with that of modern man, the only difference of note being that the 2nd molar appears before the 2nd premolar.

If there are still those who hold that *Paranthropus* (in spite of having a brain of probably more than 1,000 c.c. in the male and of possibly more than 850 c.c. in the female) is only an anthropoid ape, it is interesting to find that it has a dental sequence that is unknown in any living anthropoid or monkey, and is almost identical with that in *Homo sapiens*. It is further of interest to find that in this character it is much nearer modern man than is Pekin man, or Neanderthal man or even the Bushman.

Two years ago, Prof. Dart described an ape-man jaw from the northern Transvaal under the name of *Australopithecus prometheus*. This jaw shows a dental sequence quite unlike that of the Swartkrans ape-man and probably identical with that of anthropoids and some early types of man. The sequence is

$$(I_1, M_1) I_2, M_2, P_1, P_2, (C, M_3).$$

This difference in dental sequence may show that we have perhaps been right in holding that our South African ape-men belong to different species, and perhaps even to different genera.

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<sup>1</sup> Schultz, A. H., *Proc. Amer. Phil. Soc.*, 428 (Oct. 1950).

### Placentation in Père David's Deer, *Elaphurus davidianus*

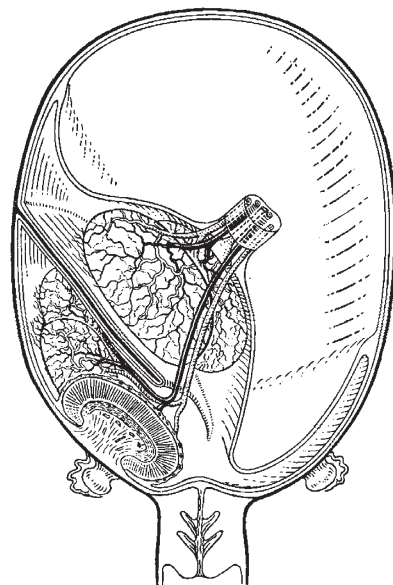
DESPITE the voluminous literature on the placentation of the Artiodactyla, we can find no reference to that of Père David's deer. Recently, His Grace the Duke of Bedford generously made available to us three specimens of the genital tract of this rare animal which now only survives in domesticity at Woburn Park and in certain zoological gardens.

The keeper at Woburn Park informs us that mating occurs in July; but the stags begin the 'rounding up' of the hinds in June. Mating usually occurs at night. Parturition has been reported in early April, but the usual date is mid-April to May; the latest date recorded was in September, the latter being a twin pregnancy.

The first of the specimens, a hind, ten years old, was killed on February 13, 1950. It contained a female foetus 38 cm. in crown-rump length and which weighed 3.1 kgm. after fixation. The second and third specimens were killed on January 10, 1951, and contained a female foetus (crown-rump length 36 cm., weight after fixation 2.515 kgm.) and a male foetus (crown-rump length 33 cm., weight after fixation 1.98 kgm.) respectively.

Each gravid uterus was in the form of a sphere (75-90 cm. in circumference), and it was impossible to determine the position of the non-pregnant horn on external examination. The ovaries were found on the dorsal aspect some 7 cm. on each side of the firm fibrous cervix. In all three specimens the right ovary possessed a single corpus luteum.

On opening the uterus, it was found to be unequally divided by a thin, obliquely placed septum, nine to ten inches in length, into a larger space containing the foetus and part of the placenta and a smaller space containing the rest of the placenta. The two spaces represent the much-dilated uterine horns. The lower crescentic edge of the septum lay above the cervix, and through the space thus formed passed the chorionic sac, the allantois, together with an umbilical artery and vein (see accompanying figure).



Diagrammatic drawing of the interior of the gravid uterus indicating the arrangement of the chorion, amnion, allantois and cotyledons