

was a process of differential infantilism. Once the trend was under way, natural selection would favour the slowing down of any parts of the animal's make-up that helped it to survive in its hostile and difficult new environment. The brain was not the only part of the body affected: the body posture was also influenced in the same way. An unborn mammal has the axis of its head at right angles to the axis of its trunk. If it were born in this condition its head would point down at the ground as it moved along on all fours, but before birth occurs the head rotates backwards so that its axis is in line with that of the trunk. Then, when it is born and walking along, its head points forwards in the approved manner. If such an animal began to walk along on its hind legs in a vertical posture, its head would point upwards, looking at the sky. For a vertical animal, like the hunting ape, it is important therefore to retain the foetal angle of the head, keeping it at right angles to the body so that, despite the new locomotion position, the head faces forwards. This is, of course, what has happened and, once again, it is an example of neoteny, the pre-birth stage being retained into the post-birth and adult life.

Many of the other special physical characters of the hunting ape can be accounted for in this way: the long slender neck, the flatness of the face, the small size of the teeth and their late eruption, the absence of heavy brow ridges and the non-rotation of the big toe.

The fact that so many separate embryonic characteristics were potentially valuable to the hunting ape in his new role was the evolutionary breakthrough that he needed. In one neotenuous stroke he was able to acquire both the brain he needed and the body to go with it. He could run vertically with his hands free to wield weapons, and at the same time he developed the brain that could develop the weapons. More than that, he not only became brainier at manipulating objects, but he also had a longer childhood during which he could learn from his parents and other adults. Infant monkeys and chimpanzees are playful, exploratory and inventive, but this phase dies quickly. The naked ape's infancy was, in these respects, ex-