

things happened together, and it is important to realise' this. All too often, when the story is told, the separate parts of it are spread out as if one major advance led to another, but this is misleading. The ancestral ground-apes already had large and high-quality brains. They had good eyes and efficient grasping hands. They inevitably, as primates, had some degree of social organisation. With strong pressure on them to increase their prey-killing prowess, vital changes began to take place. They became more upright-fast, better runners. Their hands became freed from locomotion duties-strong, efficient weapon-holders. Their brains became more complex-brighter, quicker decisionmakers. These things did not follow one another in a major, set sequence; they blossomed together, minute advances being made first in one quality and then in another, each urging the other on. A hunting ape, a killer ape, was in the making.

It could be argued that evolution might have favoured the less drastic step of developing a more typical cat- or dog-like killer, a kind of cat-ape or dogape, by the simple process of enlarging the teeth and nails into savage fang-like and claw-like weapons. But this would have put the ancestral ground-ape into direct competition with the already highly specialised cat and dog killers. It would have meant competing with them on their own terms, and the outcome would no doubt have been disastrous for the primates in question. (For all we know, this may actually have been tried and failed so badly that the evidence has not been found.) Instead, an entirely new approach was made, using artificial weapons instead of natural ones, and it worked.

From tool-using to tool-making was the next step, and alongside this development went improved hunting techniques, not only in terms of weapons, but also in terms of social co-operation. The hunting apes were pack-hunters, and as their techniques of killing were improved, so were their methods of social organisation. Wolves in a pack deploy themselves, but the hunting ape already had a much better brain than a wolf and could turn it to such problems as group communication and co-operation. Increasingly 20