

京大過去問 1989年 第1問

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The human brain is very like those of the great apes, somewhat similar to those of monkeys, and is built on generally similar lines to those of other mammals. There is also a general structural similarity with the brains of other vertebrates*, but very little with the nervous system of invertebrates. On anatomical grounds, therefore, we might expect similarities in behavior between humans, non-human Primates**, and perhaps other mammals.

(1)The complexity of the behavior of higher mammals confirms this view. Much of their behavior can be interpreted only in terms of the trying out of alternative methods to reach a goal. Problems requiring an animal to respond to the middle of three objects, to the odd one out, or to an abstract number of objects (up to about five), or to form concepts of categories of objects, have been demonstrated many times in laboratory studies of mammals, and also in some birds. Field studies show that chimpanzees not only use but also make tools, and that many Primates have an extraordinarily complex social organization based on elaborate signalling systems. (2)Observation also indicates that chimpanzees have a concept of self and can dissemble and deceive others. Chimpanzees can cooperate in that one can learn to ask another for one out of six possible tools required to obtain food, which is then shared. It has even been claimed that they attribute mental states to others. (3)The evidence here is that a chimpanzee, shown pictures of a human actor struggling with a problem, can select from a series of photographs the one portraying the solution. Although we can have no direct knowledge of animal emotional states, there is strong evidence that dogs have pleasant and unpleasant dreams, and it seems likely that the greater the similarity in brain structure, the greater the similarity in emotional experience.

The main difference, of course, lies in the complexity of human language. All animals communicate by a repertoire of signals, and chimpanzees can learn to use complex systems of signs or symbols for communicatory purposes. However, these fall so far short of human language that the difference is best seen as one of quality rather than quantity. One immediate consequence of this is that anything corresponding to human institutions is virtually nonexistent in animals, and cultural differences, though present, are minor. (4)Local traditions can be acquired only through individuals' experience and their observation of the experiences of others, and perhaps to a limited extent by parental training. Lack of linguistic complexity no doubt also restricts animals' abilities to solve problems by the manipulation of symbols, to reflect on the past

and future, and so on. In so far as our emotions are culturally influenced, it may limit the range of emotional states animals can experience.

*vertebrates: せきつい動物、 **Primates: 霊長目