

PART III

The search for the missing pieces: in social science

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We noted above that ideas about morality like those in Alexander's and B.G. Hoebel's papers begin the immensely interesting task of building bridges between biology and the law. This section contains a selection of papers in which building bridges between the biological and cultural foundations of law is the major purpose. First, two anthropologists speak. Boehm's suggestion about the place of the moral community in human evolution makes an original statement about the possible origins of human law. Bohannan discusses aggression - one of the topics that lie at the basis of law. If aggression is to be understood, all the biological and the social sciences must provide input or else we will be defeated by its complexity.

Quite another sort of bridge was essayed by the third anthropologist, William H. Durham. He started from ethnographic observations and reached toward biology. He found that regularities - and laws - of many tribal peoples of West Africa concerning the consumption of yams during the height of the malarial season favor (apparently without the people's being overtly aware of it) their relative good physical health. Because he has found some of the evidence in the medical literature questionable, he withdrew his paper at the last moment. We were fortunate to have it at the Conference and look forward to its revision and publication.

Roger Masters' bridge is a bold one: the suggestion that the principles of evolutionary biology form a framework for examining the ideas of the great political philosopher on which our very governments and laws are built.

It is at this stage that we wish to turn again to the papers on morality and those on the non-human primate to set them into the context of the entire symposium. The best introduction to this section is to quote

a comment made by one of our participants, Markl, at an earlier conference, and then to go on to a report prepared by Boehm of the discussion in the group concerned with primate studies at Monterey Dunes.

First, Markl's comment:

"[a] sensible sociobiological interpretation would, of course, be to suppose that morals can (along with having other effects) also increase evolutionary fitness but that they do not do so inevitably by force of genetical determination. It is entirely within the frame of biological evolutionary reasoning to assume that there is no genetic disposition toward specific moral norms, and that man is free to select moral goals, while granting that only those moral systems that give their adherents higher fitness than the followers of competing moral systems could and will prevail" (Markl in Stent, 1980:215).

Boehm's report provides a valuable insight into studies of primatology and morality. Some of the information is relevant to the papers in Part II above, on biological research, but all of it is relevant to this section in which the question of morality becomes central - there is, indeed, no way to discuss the biology underlying human legal behavior without dealing with the areas of morals and the primate analogies. The other participants in the discussion group were Itani, Hofer, and Hook.

GROUP REPORT: PRIMATE STUDIES

Christopher Boehm

Law and morality both minimally involve a sophisticated assessment by individuals of primary group social dynamics, and a calculating, inventive capacity to condition other individuals through a variety of sanctions. In one sense, all dominance which is *calculating* (i.e. involves a good understanding of the situation and an inventive approach) can be considered proto-legal.

In their further development, law and morality also involve consensual values concerning social behavior which, because they are translated into social action, may be viewed as *rules*. These rules are attuned to the perceived needs of the group, as opposed to individual needs and impulses. Because both social calculation and intent to control are present in non-human primates, along with something like an individual sense of responsibility for others, we may find here precursors of human morality. However, it is only when the formulation of goals and the implementation of sanctions become collectivized that we can speak of morality in the human sense.

Social dominance behavior in non-human primates has been studied

chiefly by looking at dyads. But triadic relations are more interesting if we want to compare them to human morality and law.

(1) Ahamadryas babo on female, already a member of a harem, copulates behind a rock with a non-harem male. Several times she interrupts copulation to check circumspectly on her possessive harem master, who generally imposes his rules (that she stay close by) by glaring, eyebrow-raising, chasing, and if necessary, biting. Kummer (1971) has demonstrated experimentally that these females are *conditioned* to be herded, so something similar to rules and punishment would appear to be present.

(2) Hofer relates a similar incident among chimpanzees, in which subtle and presumably deceptive non-verbal communication was used between a female and a younger male to set up a tryst, this exchange taking place in the presence of two possessive larger males.

(3) Itani related a frequently occurring macaque example, in which a subordinate male and a female sit just outside the group in a consort relation. The alpha male notices them and comes over to attack the female, who flees. But she returns to her consort when the coast is clear.

In all these cases, there would seem to be a clear understanding of both rules and punishment for breaking the rules. An inventive attempt was made to maximize hedonic gratification by avoiding detection. There appears to be a relatively sophisticated understanding of the intentions of the animal wielding superior power, and a capacity for long-range anticipation combined with flexible problem solving at the social level.

Another area of triadic interaction is conflict interference. Goodall reports that high-ranking males may interfere in conflicts. Sometimes the motive seems to be protection; sometimes the male merely wishes to reassert his own rank. Either helps the victims, but only the protective impulse can be compared to human conflict intervention as an altruistic act.

Sometimes interference involves more than three parties. With macaques, group attacks may involve large numbers, still with only one "scapegoat." Analogy to ostracism or expulsion in humans is suggestive, but ethologists do not understand such behavior at present, and it cannot be stated right now that anything similar to collective sanctioning takes place. Indeed, both Itani's and Goodall's papers show that even when homicide occurs within the non-human primate group, the group *never responds as a whole*.

In macaques, triadic interference is clearly different from alliancing behavior in which one animal helps another to win a fight. Boehm

suggests that some active appreciation of social harmony could be present, fostered by genetically prepared sense of aesthetics favoring pattern consistency.

One form of proto-moral behavior would be a concern for social harmony that overrides concerns for individuals when a third party breaks up fights without showing preference to either combatant. Another is altruistic behavior in which an individual displays a sense of social responsibility and the altruist takes personal risks.

Goodall gives an example of control exercised for someone else's good: Goblin physically removes little Freud from a branch, where he's about to tease a large male baboon to the point of a second biting attack. The first time, Goblin had interfered protectively. Another example, described by Lindburg (1971) for Indian rhesus monkeys, involves a group encountering humans in an area where humans sometimes hunt monkeys. The leading male serially threatened various members of his group to "herd" them in a safe direction, rather than withdrawing immediately to maximize his own safety and trusting them to follow.

Possession of objects is prominent in morality and law. In many human societies, sexual possessiveness heads this list, and parallel behaviors have already been pointed out in baboons, macaques and chimpanzees. Goodall provides a dramatic example in chimpanzees, in which Passion temporarily abandons a long term stick and later discovers her daughter Pom has discarded a shorter one to use Passion's longer stick. Passion simply touches her stick, and it is returned immediately. This may be considered to be a (non-verbal) *symbolic* expression of right of prior possession, presumably accompanied by an intention to punish.

In a similar way, many fights are controlled by a mere gesture on the part of a dominant animal, particularly with chimpanzees and gorillas. It is this capacity to send and receive messages about the consequences of breaking the rules that makes such proto-moral social systems highly effective in terms of both individual and group selection. Such subtle communication curtails risks of physical damage, but also reduces investments of time and energy.

As labile social sensitivity develops, the costs of dominance-based systems of social control are decreased, and with humans public opinion took over as the chief sanctioning mechanism within the group. However, such flexible systems also permit abuses.

Further parallels might be discerned by giving close attention to the ontogeny of the human capacity to respond to and generate rules,

using Piaget's basic work. These parallels seem not merely ones of analogy, but could go back to some common genetic traits. Goodall is correct in asserting that much of the order in primate societies is created by dominance orders seemingly operating as self-organizing systems. It is for this reason that only proto-morality and proto-law are present—the true moral community with its strong, conscious and collectively communicated "rules" is confined to human beings."

□

We would like to add something to Boehm's report. Turning back to B.G. Hoebel's paper, rooted firmly in biology, we find him discussing the internal reward system as it applies to human behavior and drives (hunger, thirst, sex, etc.). His studies are done on rats. When it comes to developing new methods to treat the individual's health, such experiments have long been accepted by biologists as well as by lawyers. In medical research, nobody seems to doubt the possibility of finding similar reactions in the brains of humans as are found in other animals.

Could it be that our brain as well as that of chimpanzees is the seat for the drive towards balance in social organization, towards structure and the obedience to rules? That, like chimpanzees, we develop patterns of social structure, helped by the formation of subgroups, be they peer or dominance oriented; that behaviors as expressed in the dominance-submission-reassurance sequence are rewarded by the internal reward system? This system might not be so highly differentiated and developed in chimpanzees as in humans; it might not be activated by observations of misbehaviors (criminal or evil actions in human terms) to the degree that it would strongly stimulate third party interference in dispute settlement. But it might be the same system nevertheless, only less differentiated and adapted to a different economic niche in the overall scenario of living creatures. In this case we might be able to learn much more from long-term field studies of our close relatives; especially if these observations are complemented and further investigated by experiments in primate facilities. There is no reason why we should not be able to learn about fundamental biological rules of group relationships just as we have learned and are continuing to learn about the regularity and predictability of biological processes in the individual living organisms.