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PROBLEMS OF CULTURAL EVOLUTION¹

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This paper is concerned with the biological factor in cultural evolution, with possible ways in which inherent physical, physiological and psychological characteristics shared by all human beings have conditioned culture and channeled the direction of its development.

About thirty years ago, Clarence Day wrote a whimsical and provocative little book entitled "This Simian World." He speculated about what human beings would be like if they had evolved from orders other than the primates. Descended from felines, he suggested, they would be fiercely jealous, and from bovines they would be placid and unimaginative. But, derived from the primates, they are insatiably curious and given to scrutinizing, manipulating and inventing things.

This charming speculation suggests that the inherent characteristics of mankind have perhaps been so obvious as to be overlooked. Not that there is anything new in enquiries about "human nature." But when human nature is examined in the light of its extremely diversified manifestations in the many different world cultures, there is a strong tendency to emphasize the cultural variable and to ignore the biological constant. This is true even of the recent culture and personality studies, which are interested in how what are presumably the same psychological processes manifest themselves in different cultural personalities.

In approaching this problem, it is important to distinguish the organic human factors which make culture in a general

sense possible from those which may help explain particular and differing patterns of cultural behavior.

The organic preconditions of culture—the developed brain, speech center, hands, bipedalism, and other human characteristics—have been set forth in a separate paper in this symposium by Washburn and Avis. These enabled man to develop language, but they do not explain particular languages. They permit inventions, but since each invention is a rational solution to particular problems, they cannot tell us what things men will devise. For these reasons, there has been a tendency for some scholars to argue that the specific inventions or innovations, languages, and behavior patterns which distinguish the various cultural traditions or culture areas of the world must be explained solely by cultural events, by culture history, and on a purely cultural level without reference to the inherent or organic factor.

The remarks that follow are intended to point up the importance of the human common denominator rather than to suggest substantive conclusions. It is certain that there are limits upon the range of cultural behavior, although these have never been specified. It is also true that the distinguishing characteristics of particular cultures are really a combination of cultural-historic factors and biological factors. The contention that the latter are extremely important is consistent with a recognition that they always operate in connection with traditional or socially inherited patterns.

Some of the cultural implications of man's inherent make-up have previously been suggested, although they have not been followed up. Twenty-five years ago,

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Zukerman (1932) called attention to the importance of the primate sexual cycle to human society. That primates, unlike other animals, have a fairly constant sexual urge rather than seasonal rutting is one of the critical factors in the universality of the nuclear or biological human family. The need to care for children through their many years of comparative helplessness, which is another biological factor, also gives the family a vital function. While this care might be accomplished through other social arrangements, modern attempts to socialize child care seem always to have failed. The nature of human sexual activity is clearly a very real factor in delimiting the range of cultural forms that the nuclear family takes, even though extended family relations vary considerably. The prolonged human infancy also is a factor in sexual division of labor which assigns women household chores and other tasks that do not take her far from home.

Washburn and Avis' point that *Homo sapiens*, unlike the other primates, is carnivorous, invites speculation beyond the interesting suggestions of these authors as to its effect upon culture. While carnivorous habits, like other biological factors or potentials, operate only in the context of particular cultural and environmental circumstances, its effect is very positive and real.

The importance of carnivorous habits in bringing social cooperation is strikingly evidenced by the contrast between the fairly tight-knit hunting bands of the native people of Canada, Australia, South Africa, South America and elsewhere with the independent family units found among food collectors such as the seed-gathering Shoshoni Indians of Nevada and the shellfish gatherers of the Chilean archipelago (Steward, 1955). In both hunting and collecting societies, the nuclear family exists because of the organic factors of sexual behavior and prolonged infancy, combined with the sexual division of labor. The hunting bands are conditioned by the further organic fact

that man will eat meat if he can get it and that cooperation increases the take in hunting whereas seed gathering in areas of limited resources puts individuals in competition with one another.

The carnivorous habit alone does not explain the nature of hunting bands. Man must also have technological devices, such as bows, spears, traps, nets, and others; and the manner in which he organizes in order to employ these devices depends upon the game itself. A prolonged collective drive to hunt large migratory herds of caribou entails different organization than that needed for a brief rabbit drive.

In some cultures, manifestations of what may be basically carnivorous habits extend much farther. The Chibchans of Colombia, the Carib of the Antilles, the Tupinamba of Brazil and many other primitive people had a most sanguinary pattern of warfare wherein captives were tortured, slain, and eaten. In some cases, their heads, whole skins, or bones were made into trophies. In this pattern, as in the others mentioned, the question is not whether the organic factor automatically and invariably produces cultural patterns. Obviously it does not; for many societies are eminently peaceful; and some, like the modern western nations, place great value on human life—except in times of warfare.

The varieties of warfare require attention to the cultural historical factors. In modern times, warfare is motivated by the desire to conquer people or to control their wealth. Perhaps this economic competition also rests upon a biological basis, although one need not follow the older psychologists in postulating an instinct of avarice.

In some of the bloodthirsty primitive patterns of warfare which have no economic motivation, another inherent human characteristic must be considered. Among the members of close-knit families and small societies, any hostilities must normally be suppressed lest the in-group be disrupted. Culture may provide dif-

ferent means of release for these pent-up aggressions in non-disruptive ways.

One cultural outlet is the kind of warfare just mentioned. This pattern is best exemplified by the Tupinamba Indians of South America (Métraux, 1948), who raided their neighbors in order to take captives whom they first adopted as members of the captor's family, then tortured, killed and ate. It is interesting that the Tupinamba so stressed harmonious relationships within the community that anger was a cause for great shame while a quarrel might lead the transgressor to burn down his own house or commit suicide by eating earth.

The practice of making a war captive the surrogate or scape goat for in-group hostilities is not unique among the Tupinamba, although few people carried it out with such frenzy. The Iroquois and their neighbors also forced war captives into a similar role.

This analysis undoubtedly oversimplifies the problem. On the one hand, there are other culturally-derived factors, such as religious beliefs or a drive for prestige, which motivate warfare. And many people do not torture or kill their captives. On the other hand, while culture may provide for the release of hostilities by such means as hurling verbal insults in formal exchanges and duels as well as captive-taking and human sacrifice, it may handle them in other ways.

The age-old belief in witchcraft is one cultural device for suppressing open aggression under certain circumstances. In recent years, influences from the larger economic world have tended to change Navajo land use from one of common ownership to individual ownership and to increase the individually-owned herds of sheep. But the strong belief that anyone who increases his fortunes at the expense of his fellows will be a victim of witchcraft has been a strong deterrent to the new trends. Open competition for wealth has been inhibited by this fear. In Puerto Rico (Padilla, 1956), the north coastal plains are overpopulated by sugar

workers who cannot find sufficient employment on the government-owned, profit-sharing plantations. The overflow of excess mountain population into this area meanwhile intensifies the underemployment and places the people in bitter competition for jobs. The antagonism engendered by this competition is expressed as fear of witchcraft rather than in open conflict. Such fear has been a factor in eliminating open competition in many societies throughout history.

Another culturally-derived means of deflecting aggression is certain patterns of drunkenness. Among the Northern Paiute, brothers-in-law are normally the closest friends—closer, in fact, than brothers. One day, however, two brothers-in-law began to drink and within an hour attacked each other with every intention of murder. The basic hostilities were clear, but there was no patterned means for releasing them. The Inca Empire, on the other hand, apparently with considerable awareness of the deeper implications of drunkenness, encouraged the common people to alcoholic excesses during the great religious festivals. On these occasions, the accumulated resentment of the people toward the state as well as toward one another, could be diverted into religious frenzy. A very different but equally effective religious outlet is found in modern revivalistic cults, where group participation provides an emotional safety-valve for persons frustrated in their earthly ambitions.

There are probably many other cultural mechanisms or patterns that meet this inherent human need to drain off aggressions. The need for substitutes for physical violence against the competitor may involve villages or states as well as individuals. In aboriginal Meso-America, local groups competed in a fairly complicated ball game played in large, walled courts. This, like many modern athletic contests, has been described as "the moral equivalent of warfare." In this connection it is worth noting that games everywhere are essentially competitive, as are

many play patterns of children, and that these are more like those of young carnivores than herbivores.

A very different subject matter that also illustrates the role of the inherent human or organic factor as a condition and partial explanation of culture is found in humor. Nearly thirty years ago, in an unpublished doctoral dissertation, I analyzed the themes of humor that cut across the different cultures of native North America (Steward, 1931). While clowning was carried on in such different contexts as the organized societies of the Pueblo Indians or the informal groups among the Plains Indians whose members became clowns because they were thought to have been struck by lightning, certain basic subjects were universally a cause of laughter. In all cases, the clowns indulged in sexual pranks that were normally forbidden. In all, they impersonated quarreling and bickering spouses and played scenes of domestic strife that would have disrupted any family. They limped about as sick, lame and starving beggars. They defiled sacred objects, broke religious taboos, and interrupted ceremonies. And they burlesqued and ridiculed persons of foreign groups and cultures.

While there are many theories of humor, ranging from Crile's psychological theory through Bergson's philosophical approach to dozens of psychological theories, including that of Freud, all postulate some inherent characteristic of human beings. These themes of humor are familiar in Western European culture, and they all involve circumstances that would be socially and psychologically disastrous if real but are correspondingly funny when done in jest. My own study dealt with the institutionalized clown, which was somewhat patterned in each culture by different religious functions and rather formalized behavior. Nevertheless, the comic performances were strikingly similar, and spontaneous, every day humor appears to be based on much the same themes.

By way of conclusion I would like to emphasize again that the significance of the organic factor in cultural evolution depends upon how one conceptualizes culture. Someone has said that any characteristic shared by all cultures is organically determined rather than culturally determined. Language is an expression of an organic potential while a particular speech results from culture history, and dancing is an expression of inherent capacity for body movements and rhythm while particular dance forms are culturally derived. By this definition, culture is that which distinguishes the behavior of human societies.

This distinction does not, however, imply that the varieties of culture can be explained solely on a cultural or superorganic level. That a person like A. L. Kroeber is interested in cultural phenomena and their history, and believes that anthropology should deal only with the superorganic, is not arguable. Nor, I submit, is there room for contention that it is equally justifiable to seek explanations on a deeper level and in whatever directions they may lead.

My point has importance in the perspective of evolutionary approaches to culture. The nineteenth century scholars sought general or universal explanations of culture change. As it happened, their explanation was the philosophical hypothesis that there is inherent tendency for progress. In reaction to the belief in the original creation, acceptance that culture had evolved from primitive "savagery" to "civilization" just as life had developed from very simple forms to the higher organisms was interpreted as inevitable improvement. But twentieth century attention to detailed cultural differences led to stress on the uniqueness of each tradition or culture area and negated generalizations.

In the last two decades, interest in evolution has revived, and, while it has taken several forms, I think it is still characterized by a search for causal explanations. If we define culture as that

which distinguishes societies, we must conclude that any universal explanations will be found in organic factors. Just how these factors have imposed limits on the range of cultural variation, how they have channeled directions of the evolution of any culture and how they have interacted with cultural forms to give the latter special function and meaning is our fundamental problem.

Surely this simian world, and more especially this human world, is not one in which culture evolves as if there were no people.

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