

## PERCEPTIONS OF ORDER AND RICHNESS IN HUMAN CULTURES

*by Anthony F. C. Wallace*

Thermodynamics, entropy, and evolution seem to many of us intuitively to be relevant to questions of values and ethics.<sup>1</sup> But it is not clear to me why this should be so. In this essay I would like to shift attention from the phenomena of physical and informational thermodynamics to the observers of these phenomena, who see in them the lineaments of a natural and absolute system of ethics.

The most general, conceptual measure of the phenomenon which interests us is *quantity of organization*. The concept applies broadly to physical and to informational (thus including cultural) systems and recognizes that organization is a function of both the orderliness of a system (i.e., of the predictability of events) and of its richness (i.e., of the number of alternative events that can happen). How do human folk cultures—and in this discussion I think it fair to include scientists as part of the folk—view the constantly varying levels of organization in the universe? How do they think about the relative values of law-and-order and of freedom and richness of experience?

First of all, I think it is plain that everywhere in the world, from time out of mind, people have observed much the same problems of order and disorder, of boredom and enchantment. They see birth and growth and sickness and death. They notice how unexpected events interrupt the best of plans. They see tools rust and wear out, they see wood rot, fabrics unravel, pots break, buildings fall down. They see that rules are unfairly administered, that many people are ignorant and all of us mistaken, and that priests and rulers are often evil and corrupt. They note that messages are all too often garbled and meanings lost in repetition. They see human relationships blossom in the rich uncertainty of courtship and deteriorate in the boredom of simple, uncomplicated wedlock. They see institutions, communities, and whole

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nations built up, come unstuck, and then get reorganized again. They note that poverty, oppression, and deprivation are not merely angering but, if long continued, destructive. They see the perverse enjoyments of chaos again and again seduce men from a narrow but virtuous life.

Although these things are phrased and conceptualized somewhat differently from society to society, there seem nonetheless to be common features. I shall approach the discussion of these common features first by briefly introducing the world view of a "primitive" people in regard to the matter of order and disorder, of richness and monotony. Then I shall review what seem to me to be a few generalizations that can be drawn from the past generation of anthropological studies of religion, in which folk thinking is expressed. Third, I shall consider factors which affect the accuracy of both folk and scientific estimates of the varying levels of organization in human affairs. And finally and briefly I shall speculate about the importance of a hypothetical "instinct" in men and animals to maximize both the orderliness and the richness of their experience.

### IROQUOIS MYTHOLOGY: CONCEPTIONS OF ORDER AND RICHNESS

The mythology and ritual of the Iroquois Indians was consciously, directly, and immediately concerned with the question of the orderliness of the universe and with the richness of experience; and the two values were both seen as being essential, even though in particular circumstances one or the other might have priority. In the origin myth, for instance, the world was given its present form by two twins, sometimes called the "Good Twin" and the "Evil Twin," who were born of a virgin who died giving them birth. The Good Twin traveled about the world, creating useful and helpful things: rivers that flowed both ways, stone soft to work, immortal and ever-healthy creatures; the Evil Twin, following him, made the rivers flow one way, made stone hard, brought disease and death and witchcraft. In later time, the Good Twin remained as the god of stable and regular things, the "Holder of the Heavens," and the Evil Twin, transformed into a being called False Face, held control of witchcraft, various diseases, and tornadoes. But in the ritual, the dancers wearing False Face masks also represented the freedom of regressive, infantile play, indulging in baby talk, "eating" their toes, and enjoying tobacco and mush. And each year representatives of the Good and Evil Twins played a sacred game of chance.

The theme of the delights of variety, muted in the False Face mythology and ritual, where the notion of an optimum balance of order and diversity was central, came more to the fore in the cult of dreams. It was, briefly, the Iroquois belief that there was an unconscious part

of the soul where unsatisfied wishes lay buried but craving satisfaction; these wishes revealed themselves, in distorted form, in dreams. If these wishes were not satisfied, they would cause physical or mental illness and even death; therefore it was important to discover the latent meaning of the dream and to gratify it, directly or symbolically. Such wishes might contravene custom, and, up to a point, public convenience; they could require the formation of friendships, and the establishment of new medicine societies. Dreams thus were a portal by which variety was constantly and legally introduced into Iroquois life.

But the Iroquois were constantly concerned that their world might come unstuck. And the principal lesion which they feared was the mentally deranging effects of bereavement. It was believed that upon the death of a kinsman, particularly a chief, the mind of the mourner might readily become unhinged. First plunged into a profound depression, in which the sights and sounds of daily life were meaningless, the mourner was apt to nourish fantasies that his beloved dead was the victim of a witch. In the paranoia of bereavement, he thus would feel required to exact revenge by killing the murderous witch or the witch's kinsmen. But this would launch a constantly spreading and escalating network of blood feuds which could destroy society. In order to preclude this bloody death of community, the Iroquois performed on the occasion of a chief's death a Condolence Ceremony, which enjoined the mourners from resorting to the blood feud. But even this, they feared, might not be enough. "The Great League which our forefathers established has become old," the people would chant as they consoled one another.

And the fear of disorder reached its peak, as the reservation period began for the Iroquois at the end of the eighteenth century, in the revelations of the prophet Handsome Lake. One of the chiefs of the League, a survivor of the war of the Revolution, he saw his village disintegrating in an orgy of drunkenness, brawling, and witchcraft. In a series of apocalyptic visions, in which he foresaw the end of the world in a holocaust of fire, he was told that mankind's only salvation lay in an abandonment of whiskey and witchcraft, a correct performance of selected traditional rituals, and a strict adherence to a somewhat more puritanical code of morality than the Iroquois were used to. But he also proposed adding some variety to life by endorsing education, farming in the white style, and changing the dominant kin relationship from the mother-daughter tie (which supported the traditional clans) to the monogamous family household. He demanded a much more orderly world; but even as he pruned away the decadent customs of the recent past, he added new customs for the future.

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### GENERALIZATIONS

Based on the study of the religions of primitive peoples like the early Iroquois, as well as those who call themselves civilized, the following general statements seem to be supportable:

1. Almost all societies have religions (combinations of ritual and belief involving supernatural forces and/or beings).

2. These religions convey the conviction that the world is both richer and more complex, and also more predictable and orderly, than it really is.

3. This conviction that the world is hyperorganized is conveyed by magic, which controls random events, and by assurances of personal salvation and immortality.

4. All societies maintain a conscious secular as well as religious awareness of, and concern about, changes in the levels of complexity (freedom and richness vs. boredom-inducing simplicity and poverty) and orderliness (the relative predictability, dependability, and efficiency) of their institutions, and constantly compare them with those in the past, or elsewhere, or in hypothetical future Utopias, both positive and negative.

5. Religions, responding to awareness of decline in organization, periodically nourish revitalization movements intended to reorganize a disorganized world.

It may be observed that in those societies without belief in supernatural beings or forces there are belief systems and rituals with similar functions, which might as well be called religion. Thus, if one includes political religions and religions of science, the generalizations given above have universal applicability. In such atheistic "religious" systems, the place of deity and of supernatural force is taken by such processes as historical necessity, evolution, and (if I may say it explicitly) the second law of thermodynamics and its obverse.

Although all societies are concerned about their level of organization, and about the organization of the universe, the dimensions in which the world is perceived are of course different. These differences are interesting and important but need not concern us here. Nor should we be diverted from the main theme by the fantastic (to us) metaphors (Good and Evil Twins and the like) in which most cultures embody their concepts of order and disorder, freedom and poverty.

### ACCURACY OF FOLK ESTIMATES OF ORDERLINESS AND RICHNESS

How accurate are these folk (and scientific) estimates of how well organized things are? It is not really possible to answer this question directly, for the systems under consideration are so enormously com-

plex, at the level of humane interest, that they probably cannot really be observed or described in their entirety. Thus one must always deal with some vastly oversimplified abstractions. It is no less a problem for the social sciences than for folk tradition; indeed, one may suspect that the social sciences may never be able to grapple as directly with their phenomena on the level at which human life is experienced as can the natural scientists. But in any case, we must start out with the assumption that the systems involved are more complex than folk or scientific observers can handle.

But beyond this, other factors conspire to affect the accuracy of the measures of organization in human affairs. One of these is simple information loss over time, as a result of aging, death, destruction of objects and records. Such loss will inevitably tend to make cultures distant in time and space seem simpler, less complex, and, at the same time, more orderly than they really are or were.

A second distorting factor is the presence of self-serving motives which, whether by conscious intent or not, influence the observer's judgment of organization levels. Thus paranoid mental processes inexorably force their victim first to perceive the world as disorganized and unreliable, and then to reconstitute a simple, barren, reality whose very simplicity makes it possible to maintain at least the illusion of rigid order. Such processes often enter into religious and political formulations and thus influence whole societies. Another kind of motive is simple ethnocentrism, which defines one's own society as orderly, free, rich, and satisfying, and ranks others below it in either or both of the relevant qualities.

More broadly, one can also see in large cultural traditions prevailing stances toward reality which provide a theory ready made, into which events can be cast. Thus, for instance, the ancient Near Eastern tradition of secular cycles, beginning with a Golden Age, and degenerating through Silver, Bronze, and Iron, and then renewing itself, is an explicit thermodynamic theory of history; and the theory of progress, which gained currency in Western Europe at the close of the Middle Ages, is an explicitly antithermodynamic view.

#### AN ORGANIZATION "INSTINCT"

What one is left with, then, is an almost universal attitude, a value, an ethic, that organization should be maximized even though it cannot readily be measured. At least some of recorded (and unrecorded) cultural progress has been deliberately accomplished by people who are motivated by an "aesthetic" ("or "ethical") urge to maximize both the

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complexity and the orderliness of the world (and of their own experience). Naïve and "primitive" people attempt this, too, although their accomplishments are less familiar to us because of the factors mentioned above. And, finally, one must ask, To what extent are nonhuman primates and other animals also motivated by what might be called 'aesthetic' urges of this kind, and to what extent may these confer survival advantages or disadvantages in an evolutionary sense?

### NOTE

1. See, for instance, Polgar's 1961 review of the literature on the subject ("Evolution and the Thermodynamic Imperative," *Human Biology* 33 [1961]: 99-109), as well as the contributions of Lindsay ("Entropy Consumption and Values in Physical Science," *American Scientist* 47 [1959]: 376-85), Bronowski ("New Concepts in the Evolution of Complexity: Stratified Stability and Unbounded Plans," *Zygon* 5 [1970]: 18-35), and Burhoe ("Potentials for Religion from the Sciences," *Zygon* 5 [1970]: 110-29).