Introductory Comments: Behaviorology and Cultural Materialism

Lawrence E. Fraley
The International Behaviorology Association

Marvin Harris developed cultural materialism by expanding cultural ecology, affording culturologists some powers already enjoyed by biologists and behaviorologists. Cultural materialism, applicable to cultural contingencies, partly matches and overlaps radical behaviorist philosophy in behaviorology. Both philosophies of science emphasize selection in the evolution of individual and group behavior.

Disciplinary relations. Behaviorologists, following Skinner, analyze cultural contingencies, so cultural materialism interests them. The following articles by behavior analysts describe relations between radical behaviorism and cultural materialism. While biology, behaviorology, and culturology together span the range of phenomena in life science, the relation between the latter two currently stimulates interest because it is not yet well-defined. While behaviorology overlaps both biology and culturology to some extent, both behaviorologists and culturologists have vigorously and effectively studied some of the same cultural phenomena and are now in the process of taking each other seriously—and, as an interesting and scientifically healthy exercise, taking the scientific measure of each other as well.

Comparative maturity of disciplines. Both biology and behaviorology demonstrate effective capacities to control independent variables. Culturology has not yet attained comparable capacities to control phenomena studied by anthropologists. One reason has been reliance on cognitive and psychoanalytic assumptions which inadequately support effective behavioral interventions and stall disciplines that they influence at the descriptive and predictive levels. Another reason is the vast and variegated array of existing cultures. The descriptive and analytical task has preoccupied most cul-

tural anthropologists throughout the history of that field. Additionally, the design of entirely new cultures has seldom been required, nor have parties with interests in making large-scale changes to existing cultures been capable of providing the necessary resources. Also, the economy is often controlled by successful parties who therefore do not commit available resources to cultural change. Nor has disciplinary evolution toward cultural engineering been helped by anthropologists endowing the practical principle of non-intervention with abstracted intrinsic virtue which must then be respected out of appropriate context—even to the extent of omitting behavioral engineering fundamentals from training programs and, by rule or practice, depriving practitioners of opportunities to acquire behavior controlling skills necessary for cultural engineering.

The future mission. These issues are important for two reasons. First, expanding population stresses the supportive capacity of the planet to its limits. Large-scale *behavioral* solutions will be necessary to solve the problems that short-term technological and political postponements now treat. Second, cultural expansions into radically new and different environments such as underwater, underground, space, and other planets, will require the design and development of cultures featuring new and nontraditional practices. Designs for new cultures consist exclusively of prescribed behavior controlling arrangements. The implicit cultural discontinuities will impose heavy demands on cultural engineers *at the level of behavioral control*. The future mission will place relatively less importance on further contributions to descriptive and taxonomic archives, but it will promote greater importance to those who can effect major cultural change either through newly developed cultures

or rapid and substantial modifications to existing ones.

Point of intervention. Anthropologists have always focused on group effects—identifying, describing, analyzing, tracing . . . and have offered some accurate predictions. Although group effects are necessarily produced by the summed behavior of individuals, a science of group effects can support intervention technologies in which the analytical repertoire of the engineers need *not* penetrate to the level of individuals: Composers and conductors can reliably produce prescribed group effects without knowing details of how any particular musician plays his or her instrument. That is because the audience-appreciated properties of group effects are characteristics of the audience members' own responses to the *combined* products or activities of the behaving performers. The contributing individual producers of a group effect are not each producing a small one-person version of the group effect appreciated by the audience. The ontological status of a group effect cannot be pursued intact back to its stimulus origins. An approach to a distant American flag generated by a card section ultimately leads to one of many persons holding up a colored card, and the flag, so clearly perceived from afar, cannot be detected. Yet, only at the level of the behavior of those card holders can interventions pertinent to the group effect be functionally effective. That is, only when interventions, directed at the properties of the perceived flag, reach down to affect the behavior of some or all card holders can those group-level interventions possibly work.

Group-level engineers can impose adjustments yielding change at the group level while treating the affected individuals who mediate it as a black-box link in the chain of functional relations. Culturologists do not *have* to be behaviorologists to operate at a scientific level of control from the perspective of their own level of analysis. But efforts to affect group

behavior are more successful when informed by descriptions of how and why individuals behave under group contingencies. If one assumes that culturologists' understanding of behavior is limited *only* to group effects and that their intervention technology is limited only to group-level controls, consider the plight of a culturologist whose plan for large-scale waste management does not work well because one waste hauler, in spite of policies, regulations, and social ethics—all manipulated at the group level—is cutting costs by dumping into a river at night. That hypothetical cultural engineer, ignorant about behavioral functioning at the individual level, would not know in a technical sense how or why such a practice occurs and so would be unable to down-focus the engineering effort to the individual level to fix the specific fault that degrades the desired group effect. A culturologist limited to group-level engineering could only continue to impose blanket contingencies and hope that errant individuals will share with others an appropriate response to at least some of those contingencies. Obviously, good cultural engineering must feature both individual and group levels of analysis, operating across the combined range of those levels as situations demand.

Disciplinary resolution. As human culture moves inexorably into an era in which cultural engineering is increasingly important, it remains unresolved whether such projects will become the responsibility of anthropologists who will have acquired sufficient behaviorological foundations to strengthen their discipline at the level of behavioral control, or whether that mission will fall to those behaviorologists who will have developed specializations in cultural phenomena. Perhaps the two disciplines will further productively merge. In the meantime, a dialogue between behaviorologists and culturologists appears worthwhile.