

do admit that John and Mary sound alike—meaning probably that they have the same dialect—but they apparently consider that sharing a language system has no deeper implications. These “language use” observations might be adequate for the vocal signaling behavior of chimpanzees, with which psychologists seem more at home. But can it be asserted that, given this “great difference” in the signaling behavior, it makes no difference how much John’s grammar resembles Mary’s or how much either resembles or differs from the grammar of the teachers they will face in school? It would not, if language system were really reducible to “topography,” as in Skinner (4); but recent linguistics has been full of demonstrations that it is not.

Gumperz and Hernández-Chavez object that “linguistic evidence on language or dialect differences” constitutes inadequate material for presentation to the educator (p. 105). The truth of this statement cannot really be doubted. But it seems even less adequate to present material on “language use” without anything on contrastive linguistic systems.

There is great practical value in an article like that of Byers and Byers on non-verbal communication (pp. 3–31). The importance of such extralinguistic signals as eye avoidance and other elements of “body language” should certainly be impressed upon educators. But the authors fall into the classic trap of suggesting that one person’s body language may be inferior to that of another rather than merely different (p. 13). And when they treat a speech event of a very simple nature (child asking to be given a drink of water) as consisting of (i) body orientation, (ii) catching the eye, and (iii) vocalization, it is not clear whether they are aware that the example is inadequate to illustrate, and does not test the limits of, the complexity of the messages which can be conveyed by even a small child. Bloomfield (5) presented a Jill who induced Jack to get her an apple by what may well be the verbal equivalent of gestures, and of the “manding” and “tacting” which Horner and Gussow catalog for their John and Mary. But such a demonstration doesn’t even begin to prove that either Jill or Mary is incapable of expressing esthetic approval or disgust at the sight of the apple without any intention of eating it—or that either is incapable of talk-

ing about topics far more abstract than an apple without intention of producing a “response.” The contributors to this collection do not begin to explain how the much more complex message-conveying properties of language are to be dealt with, educationally or otherwise.

References to “language use” are commonplace in the writings of verbal behaviorists (see “verbal techniques for dealing with life” in Horner and Gussow, above, and the term “functions of language” in the very title of the collection). The notion has not, to my knowledge, been articulated clearly enough for me to take responsibility for a fair representation of the idea. Skinnerians typically refer to language structure (or system) as “topography,” by which they apparently mean that it is largely static in nature. Such restrictions would not be acceptable today to any group of linguists. All schools now insist upon a dynamic view of language structure which involves the full range of the speaker’s knowledge and which would therefore include “language use.”

The “language use” orientation of this collection is so strong that Philips, writing about Warm Springs Indian children, while noting that the English of these children is “not the Standard English of their teachers, but one that is distinctive to the local Indian community” (p. 374), does not specify one single form of that “local” dialect. This is especially disappointing because there is reason to believe that many Indian groups have spoken in the past and perhaps still speak varieties of English that are of special structural and historical interest (2, chapter 4). It is praiseworthy that Philips, like others

in the collection, recommends that the school system adapt to the learning style of the children rather than continue attempting to impose a rigid framework upon that community. The collection as a whole, however, does not present a very convincing counter-argument to the more traditional principle that the school system be aware of interference from the language systems of its pupils and devote some of its efforts to making teachers aware, through contrastive analysis, of the possible effects of that interference. The “nonstandard” English of the Indian children may well explain some of their educational maladjustments, although of course it is not the only explanation.

There are valuable ancillary suggestions in this collection, but it does not disprove the thesis that there is value in using the “disadvantaged” child’s own language in the educational process, whether in reading instruction or (through contrastive analysis) in the teaching of the “standard” dialect. There is still no reason to believe that the “use” of a language variety may be taught in such a way that the need for internalized knowledge of a variety of wider communication is in any meaningful sense reduced or obviated.

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Archeology as Anthropology

Contemporary Archaeology. A Guide to Theory and Contributions. MARK P. LEONE, Ed. Southern Illinois University Press, Carbondale, and Feffer and Simons, London, 1972. xvi, 460 pp., illus. Cloth, \$15; paper, \$8.95.

In a recent paper in volume 1 of the *Annual Review of Anthropology* Zubrow reports that his survey of over 2000 references dealing with environment, subsistence, and society does not unequivocally demonstrate the existence either of a new paradigm in archeology

or of a set of “classics,” literature that is so frequently cited as to be particularly notable. I think that in Mark Leone’s book we have evidence that there is indeed a new paradigm emerging and that there is a set of seminal publications forming the basis for present and future work. This reader is a superb collection of articles representative of the most exciting developments in archeology in recent years. One indication of its contemporaneity is the fact that among its 28 contributors are two grad-

uate students and ten assistant professors. Twenty-four previously published and nine original or completely revised articles form the bulk of its content. In addition, the editor's introductions to each of the seven sections parsimoniously highlight essential issues and collateral literature. A unified bibliography provides a ready reference guide to the new or processual archeology. By these means Leone admirably accomplishes the purpose he set out in his preface, "to present the new paradigm as a whole with its theoretical statements and concrete accomplishments juxtaposed in one place."

The first half of the text, comprising four of the sections, provides an assessment of the present state of the art, its origins, and its theoretical and methodological bases. The second half contains articles applying the ideas explicated earlier, arranged according to complexity of subsistence base of the peoples discussed—hunter-gatherers, horticulturalists, complex agriculturalists. Specifically excluded from the book are articles on statistical methods and ethnoarcheology. The latter is another new endeavor based largely on the new paradigm, one in which archeologists in increasing numbers are doing fieldwork in living societies in search of ethnographic materials that can illuminate archeological problem posing and solving.

Leone's preface not only introduces the material that follows but also discusses the development in archeology of three kinds of contributions to general anthropology. It can be argued that these have always been intrinsic to archeology, but (as I think this book demonstrates) processual archeology has greatly emphasized and expanded them. The first is a concern with precision and rigor in the description of data and with making explicit the underlying philosophy of science in terms of which the data are linked to conclusions. Another is a focus on the context in which cultures exist. Here such domains as physical environment, demography, and biology come to the fore, frequently subsumed under the head of cultural ecology. The essential issue is the relation between two classes of variables, the cultural and the noncultural. Leone points out that, although accusations of environmental determinism have been leveled at the new archeology, in fact the guiding rule is that culture is to be explained in terms of culture, the new archeology thus specifically rejecting

Steward's dictum (*Theory of Culture Change*, 1955) that this axiom is fruitless and misleading. At the same time, this relocation of causality within culture is a signal modification of earlier processual polemics. The third contribution is a concern with technology broadly conceived as a subsystem of culture which, correctly analyzed, can inform us about other subsystems such as social organization and ideology. Here the guiding question is not only how does technology reflect other subsystems but "how does it reinforce, enforce, and even determine the tasks and functions that it is involved with?" It is in pursuit of this problem that ethnoarcheology has developed.

Because of strictures of space, I shall focus the remainder of this review on the four articles that deal with "the scope of the changes in contemporary archaeology." The first, by Paul S. Martin, is the only one of these that has appeared in print before. In it Martin confesses to what many of his colleagues would claim is untrue, namely, that he has had to reject the paradigmatic base underlying 35 years of his career. Using Kuhn's model, he says that a revolution occurred in his thinking and research that by 1963 led him to adopt the new paradigm of processual archeology. The revolution was initiated by his contact with young students of Lewis R. Binford who were his assistants in the field. He was stimulated by them to intensify a reconsideration of the nature of archeology that had begun in his own mind some years earlier. On the strength of his conclusion that "most of the theories and practices of the past [are] obsolete," he defines the changes in goals, in conception of archeology, in conception of culture, and in methods which he thinks are characteristic of the new archeology. These are in clear contrast with everything attached to the old archeology's strivings after culture history, reconstruction, and chronology. The new research strategy, he continues, better justifies the continued existence of archeology in a world crying for "relevance" and value-laden research, for it facilitates the discovery of dependable relations between variables and subsystems on the basis of which we might guide present and future cultural change.

Leone's consideration of "issues in contemporary archaeology" is considerably more temperate and critical of the new archeology, even though Leone is himself one of the younger contributors to it. His article is at the same time a

thoughtful analysis of general anthropology well worth reading by non-archeologists. Instead of thinking of issues in terms of stages or periods of development, a favorite device of archeologists (and one which begs questions of causality, association, process, and so on), he utilizes Kuhn's notions of contending paradigms and protoparadigms. Archeology has usually been one paradigm behind the rest of anthropology, especially cultural anthropology. At the present time we are witnessing a scientific revolution in archeology because it has skipped the logical next step through which cultural anthropology has already passed, the functionalist paradigm. Leone argues, in contrast to much of the processual polemic, that there has been not so much a change in goals as a better job of accomplishing goals defined by previous generations of archeologists. A major component of the revolution is a change in theory. The synthesis of two old ones—evolutionary theory and cultural ecology—with general systems theory *is* new, making for a close coincidence of theory and practice, and potentially for a new definition of the relationship between archeology and other branches of anthropology. New problems are also critical components of the revolution, together with old problems that can now be better addressed. Perhaps the best illustration of the capacity of the new paradigm for generating testable hypotheses for new and old questions is in the perennial problem of domestication, one of the most profound transformations in the human career. In this regard several of the articles in the second half of the book are essential reading (notably Binford's "Post-Pleistocene adaptations" and Flannery's "The ecology of early food production in Mesopotamia"). Examples of new questions about social organization, ideology, demography, sociocultural change, and economics, questions which simply could not be sensibly raised a few years ago, are also to be found in those papers. In all of them we are presented with new hypotheses involving cultural and noncultural variables that are rigorously linked and that are measurable.

With regard to methods, Leone points out that the strident claims (as evidenced in almost every new issue of the key archeology journals) regarding new sophistication in method, supported mainly by carefully selected passages from the authors' favorite philosophers of science, are "really rhetoric." Philos-

ophy of science is often used in processual polemics "as a tool for legitimation rather than verification." I applaud Leone's feeling that reconstruction of past ways of life cannot be achieved by scientific techniques. For that matter, the descriptions of present ways of life in ethnography are frequently lacking in any sense of a lived human experience. Works that have been most successful in conveying emotional reality, for example Carlos Castaneda's phenomenological presentations of his experiences under Don Juan's tutelage, are beyond the realm of science, and depend on something other than scientific technique—Castaneda has been chastised for just this reason.

Another goal of archeology, that of providing an outline of world prehistory, has been largely achieved. Reconstruction and chronological outline, then, no longer offer fresh challenges, Leone suggests. This contributes to the paradigm crisis. In addition, there is in the new archeology a vision of archeology as an active participant in that enterprise which is science, aiming at "a generalized, cross-temporal set of observations drawn from plural cultures." This is joined with a realization that for the first time in the history of archeology there is no single major paradigm in general anthropology that can be borrowed. Instead, there are contending alternative and incomplete paradigms such as structuralism, materialism, and cognitive anthropology, some of which seem irrelevant or at least are beyond the capacity of archeology to cope with at present. The new or "cultural process" paradigm, based on the synthesis of evolutionary theory, cultural ecology, and general systems theory, provides both a means of resolution of the crisis and a scientific revolution in archeology.

What alternatives, then, are available, given the new paradigm? The description and analysis of processes of socio-cultural change demand that archeology "choose a course which involves it directly with data from the present," Leone seems to imply. This will require radically different interpretations of what archeology is all about. Three "marginally affiliated types of archaeology" are extant which may enable progress in new directions: historical archeology, ethnoarcheology, and an incipient one based on a new conception of archeology as a science of technology or material culture. Work illustrative of the first and third types is presented in the reader.

The third especially will enable the systematic exploration of relations between technology and other cultural subsystems. This will put archeologists in a position to respond to "relevant" questions in a different (and more informed, I'd suggest) way from those of such pundits as Marshall McLuhan, Alvin Toffler, Jacques Ellul, *et al.* The point is, as Leone puts it, that archeology need not concern itself solely with "the exotic and long dead."

Leone's programmatic article is a blueprint for a role for archeology as anthropology in the modern world. His colleagues will, I suspect, have to think through its implications carefully in years to come.

Walter W. Taylor offers "a contemporary parable" in which he quite rightly calls attention to his *A Study of Archaeology*, first published in 1948, as one of the significant forerunners of the new paradigm. He accuses some individual scholars, and by implication many more, of not fully appreciating what he said over 20 years ago. This collection of articles will allow his peers and juniors to test Taylor's claim that much of the current research is no more than "a practical application of a basic conceptual scheme" which he introduced. A measure of Leone's evenhanded editing is that a portion of Taylor's article is devoted to what I view as an unwarranted attack on Leone's (and others') remarks about the various difficulties of cultural reconstruction. In addition, Taylor suggests that a conception of culture focusing on its adaptive quality is not sufficient for all descriptive and explanatory purposes.

In a statesmanlike fashion Raymond H. Thompson tries to find a means of making peace between the new and the old by utilizing the notion of a linear model or continuum, proposing that the new paradigm can be profitably viewed as an instance of cumulative change. It is the result, he suggests, not of a revolution but rather of an incremental series of developmental changes. In this way the ends of the continuum may be seen not as opposed but as complementary.

The articles in this reader are highly recommended, both those previously published and the original or completely revised. The latter are uniformly excellent and nicely illustrate the various differences between processual and other modes of archeology. For example, Frederick Gorman's analysis of the Clovis hunters presents an alternative view of their environment and

ecology and in so doing tests new hypotheses in new ways. John M. Fritz's original contribution on archeological systems is an elegant demonstration of what can be done given the view of the field expounded by Leone. William L. Rathje's effort may indeed be viewed, as Leone suggests, as "the first substantive breath of fresh air in Maya studies" in years. Rathje offers a new hypothesis ingeniously linking noncultural and cultural variables in the context of a cultural ecological position in order to explain the evolution of the Olmec and Maya civilizations.

A careful reading of this book should finally put to an end mistaken claims by archeologists that they have been doing the new archeology all along. It should also put to rest the assertion that the new archeology is merely "computer archeology." And criticisms noting environmental determinism and the use of adaptation as an explanatory catchall have obviously had their effect. Finally, it is quite apparent that processual archeology has evolved from its beginnings in the early 1960's to a new level of maturity and moderation.

Other anthropologists, tempted to put this book down thinking that all is calm and sweet reasonableness outside of archeology, might ask themselves what is going on in their own bailiwicks. It could well be that the new synthesis of evolutionism, cultural ecology, and general systems theory should be making more of an impact on the rest of us. Surely the same basic issues addressed in this book cry out for resolution in cultural anthropology, physical anthropology, and linguistics.

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Autobiography

Blackberry Winter. My Earliest Years. MARGARET MEAD. Morrow, New York, 1972. xiv, 306 pp., illus. \$8.95.

Every life provides clues from which others can learn. The appearance, in 1935, of Dollard's *Criteria for the Life History* (1) was an indication that interest in the scholarly analysis of autobiography was developing. A decade later the use of personal documents in history, anthropology, and sociology became a concern of the Social Science Research Council (2). Anthropologists interested in the interplay between personality and culture had begun collect-