

## THE METHOD OF NATURAL HISTORY AND EDUCATIONAL RESEARCH\*

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One of the characteristics which sets anthropology apart from other social sciences is the extensive utilization of the natural history approach as one of its research methodologies. The anthropologist who does field work has as his first obligation the objective recording of human behavior. Although he may have preference for one of the several schools of anthropological thinking, and though his research may be focused toward some theoretical problem, he remains aware that his finished report must be based upon an accurate and complete presentation of the facts. Only thus may he fulfill his obligation to others so that they may utilize his materials in theoretical or cross-cultural analysis.

These requirements dispose the anthropologist to be inductive in his method of analysis. They also demand of him that he look at the total situation. The traditional anthropological monograph includes sections on physical environment, technology, social organization, and religious behavior. Even if an anthropologist chooses to emphasize one of these aspects over the other, his training has taught him that one cannot understand food, clothing, or housing characteristics except as one knows something about the raw materials available and requirements imposed by the environment for group survival. He also knows that the kind and number of social groups is directly related to environmental and technological characteristics, and finally that religious expression is also related to these other factors.

Much of the field material on which he bases his analyses is drawn directly from observation or informant accounts of human activity in meeting the tasks of daily life. Almost any anthropological monograph could serve as illustration. The one which first comes to mind is the description by Malinowski of the Kula ring in his *Argonauts of the Western Pacific*. Many other works could serve as examples. Their universal characteristic is the description in time and place of human activities and,

\* *Editorial note:* Dr. Kimball's paper treats explicitly certain methodological problems relevant to both Dr. Siegel's and Dr. Gillin's papers and to the discussion of them and therefore is included in this section. No formal discussants were assigned to this paper.

in many instances, the derivation of the cultural and social systems which are revealed in the events described.

This method is substantially the same as that used by the biological ecologist. It has as its goal the search for meaningful relationships between the components present in any given situation. It attempts to uncover the nature of equilibrium and the process of change. It may be contrasted with the other major research methods because its emphasis is upon the natural on-going process. As an example of difference the experimental method creates a controlled situation in which the value and quantity of variables present may or may not have any similarity to a situation found in nature, and hence may have limited applicability in control of natural processes. The natural history method does not exclude use of experimental, statistical, or other techniques; it is just that these are subordinate to its main consideration.

The natural historian utilizes two different but complementary and necessary operations in his scientific procedures. He classifies the phenomena of the observable world on the basis of differences and similarities, and he may, in addition, search for the meaningful relationships that explicate the process which he observes. The latter procedure has been called functional and historically appeared with Darwin. Classification is, of course, taxonomy; it had its roots in classical times and was a necessary first step in science to give order to the apparently endless variation of the natural world.

The natural history method has also been used with considerable success in the study of certain aspects of contemporary civilization. In particular, it has been applied to the study of small groups in community and industry. The primitive counterpart of the small group is "band" organization. Anthropologists have reported upon these social groups from their work in many tribes. They did not anticipate, as Harding has pointed out, that they were pioneering in a field which has recently become so popular. As examples of research in this area I refer to the Banks Wiring Room study in the Hawthorne plant of the Western Electric Company as reported by Roethlisberger and Dickson (1939), and to the study of the street corner gang in an Italian slum in Boston described by Whyte (1943). The emphasis in both researches was the search for relationships within events and thus is illustrative of the functional approach.

Anthropologists who have engaged in the study of modern communities have also utilized the natural history method for some portion of their research activities. Their concern with formal structure, specifically stratification, has led them in the direction of seeking answers to questions which are provided by taxonomic procedures.

Although the natural history method utilizes both taxonomy and functionalism, the distinction between the two is important since the emphasis on one or the other method in any specific research leads to quite different results. Functionalism, as exemplified in the Western Electric and Boston "street corner" studies, gave us a picture of the dynamics of human behavior. There is recorded and analyzed for us the actual behavior in

sequential events. On the other hand, taxonomy gives us a classificatory scheme for cataloguing differences in behavior. Both approaches have their uses, but it is suggested that in educational research where it is desired to discover the nature of on-going systems or of the educative process utilization of functional procedures holds greater promise for answering basic questions. Let us consider one problem as an example.

The school system of any specific community is one among several institutions. Its larger habitat is the community, but its specific activities are concentrated within a clearly defined locale. Within each school one may distinguish certain types of persons, related to other persons in certain ways, and carrying out habitual activity. The characteristics alluded to above are commonly known even if they have not been precisely described.

Our central problem, however, is to determine the effect of this system on changes within the child. We are concerned not alone with cultural transmission, but also with cultural acquisition. Some portion of the equipment which the child carries into maturity comes from his experience with school systems. It is our task to determine the character and magnitude of the school influence and to relate it in meaningful ways to other nonschool educative experiences. But the effect of his family and his peers must also be learned.

In ordinary circumstances we would be justified in assuming that the limits of our research could be confined to examining the effect of the events in which the child participates with others. In other societies the socialization process is primarily a function of face-to-face relationships. However, the modern child is subject to a different type of habitat influence. I refer to the mass media of television, radio, and moving pictures. These experiences may be, and often are, of a solitary nature—or at least people are not in face-to-face relationships in the ordinary sense.

A great deal of effort has been devoted to the area of communication research. Attempts have been made to determine specific effects in terms of attitudes and behavior. Very little, if any, of this research has utilized the natural history method. This area of child experience must also be explored.

It is proposed here that understanding of the educative process can be gained only as we focus upon the child in his total habitat. His activities must be viewed in the context of sequential events accompanied by testing devices which measure change. The results should give us the base from which we may modify the environmental situation, if need be, to facilitate cultural transmission. The method of natural history meets the needs of problems which are dynamic in character and certainly has applicability in educational research.<sup>1</sup>

<sup>1</sup> I wish to express my appreciation to Drs. Alfred Kroeber and Conrad Arensberg for their helpful comments on the contents of this paper.

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## Discussion

*Spindler*: We have said as we were going along that Sol's (Kimball) paper did put into motion in a broad sense the methodology from which we were drawing many of our inferences. And Sol has replied, "Yes, but that is not all of it; this is only a part of it." And I think we should take the next few minutes to ask him to answer the question, What is the rest of it? What else is there now that we have not involved ourselves with in the natural history approach as we have talked about the interrelationships in Siegel's paper and how the educator can become aware of the salient characteristics of his community? Could we put that question to you?

*Kimball*: What I had in mind when I made that statement was certain differences which are a matter more of emphasis and degree than of kind. Keesing has mentioned two or three times the importance of depth and I assume he means depth in time. The natural history approach is one which uses the time factor as one of its dimensions. When one examines a given situation in terms of its actors within the locale where the action occurs, the sequence of action is always within a time span. In the case of a good many social groups, such as the family or clique groups, one may often observe a natural history process of origin, growth, and dissolution.

An aspect which I think is of equal or greater importance, however, and which I do not think has been given sufficient attention is the examination of behavior through events. I have recently had occasion to re-examine a considerable number of community studies with the purpose of determining if my recollections about them were correct. I discovered that, as is often the case, the questions posed determined in considerable measure the answer reported. I discovered that the data were organized topically around such subjects as associations, mobility, or religion, and in addition to being topical they were also taxonomic—reflecting the intense interest in and emphasis upon the question of stratification. Since types are built from similarities and differences in characteristics and it was this focus which gave the researchers the nature of the stratification picture, this meant in a good many instances, persons, per se, were left out of the picture. In particular there was left out of the description the on-going process of human beings in interaction and events. Now, this is one of the reasons why community studies do not provide some of the

answers to the problems that have been raised here: They are primarily static in their treatment of structure and do not deal with the dynamic aspects of human beings in a habitat. The taxonomic approach utilized in community studies represents only part of the natural history method, although the roots are distinctly anthropological.

It was my intention in writing this paper to inform the people in education of one of the methodologies in anthropology. Specifically I had in mind three areas of research in which this method seems to me to be particularly applicable. One area, which has already been suggested by two or three people here, was the study of the school system as an on-going institution. Utilizing the natural history method one would study it through the kinds of events which occur, their frequency, who participates, and what happens in these events to determine the kinds of patterns which emerge. One study of considerable importance to the school administrator would be a comparative examination of the natural history of school boards and the relationships of principals and superintendents to school boards. I am certain that some significant regional differences would appear, but the similarities would predominate.

A second area of very considerable importance is the study of clique groups. There is already a good deal of information now available. There is the study by Hollingshead, reported in *Elmtown's Youth*, in which he has one chapter on the clique system of a high school. This has been widely quoted in educational circles. Actually, this particular study by Hollingshead is methodologically deficient in terms of answering some of the questions which have been asked here about peer groups; nor does it give answers to questions about the varieties and kinds of peer groups, their relation to personality, and their relation to different kinds of structures. An adequate study of peer group structure in a high-school system is yet to be done.

Last spring I talked to a group of forty-five principals of schools in the vicinity of New York on this very problem. One of the questions posed was the extent to which they were aware of these groups. All of them indicated an awareness. The next question was the extent to which any of them were utilizing these groups or making any effort administratively to see to what extent the objectives of the school system could be met in some degree by use of these groups. None of them indicated positive use of clique structure, although they often had good knowledge of some of the troublemaker groups, which they watched very carefully. They did not see the relationship between those who were not in the groups and those who were; nor were factors of age, sex, or maturity considered. Thus they lacked a complete picture of the social world with which they were working. Now the natural history method is one which can give answers to the many problems which educators face in the social system of their schools.

The third area in which I think this method is useful is that of the relation of the school system to the community. This problem is related to the models which we discussed this afternoon. There the focus was on the kinds of interrelationships which obtain among persons who participate in school systems and between them and other institutions in the community in terms of time, in terms of status, and in terms of the specific situations in which the relation between natural history and tangent

relationship occurs. Since this area has already been discussed there is no need for further elaboration.

The question has been raised in discussion between Mr. Coladarci and myself concerning experimental methods.\* I should like to make one comment about this. The natural history method provides the basis for comparative analysis and the opportunity to see a variety of types of groups and group behavior in terms of the variety of situations in which one observes them. Even though you experimentally introduce no specific stimulus into a situation, inevitably such external stimuli arise outside the group at various times. For example, the stabilized relations and behavior of co-eds become suddenly disturbed by the issuance of an order by the Dean of Women. Thus, you have in the on-going process of the relationships of groups in their habitat all kinds of internal and external stimuli arising which provide "natural" experimental situations that may be used to study variability. This doesn't give one all the answers by any means, because a controlled experimental method can, as I think Mr. Coladarci has pointed out, give us answers to problems which are more suited to that approach.

## Procedural Problems

*DuBois, Spindler, Coladarci*

*DuBois:* I've been bothered by what we're doing or not doing this evening. I detect two main themes between which we've been oscillating. One is, What is the anthropological method? Now we're interested here not in discussing anthropological method per se, I assume, but in discovering what methods used by anthropologists can be usefully transmitted to educators for their own purposes and their own awareness. This is one area of inquiry to which we have returned time and time again. The other general area which has seemed to occupy us this evening has been really, What kinds of research problems can we help phrase which educators can pursue, either by themselves or by hiring teams of social scientists? Now, is this really what we want to do? Are we concerned with the methodology of anthropology that can be transmitted to teachers and with a series of research problems which might be investigated at some other time if the funds, resources, and personnel are available? If this is what we're trying to do, then I think there is a better way of going at it than sitting around and discussing the papers one by one, or having general bull sessions. That is, we sit down in a series of groups and to a degree we effect a draft, let's say.

*Spindler:* I don't think I can answer Cora DuBois's question, because I find that as the discussion goes along I keep changing my own concept of what we're doing. And that I think in a sense defines the intentions of this whole affair. That is, it is so exploratory that we must shift rather continuously. Now, for instance, Hal Cowley has pointed out that he wants to know what anthropologists have to offer educators. If they haven't anything to offer, he wants to know that. He also said, "Let

\* In private discussion.

everybody forget whether he is an anthropologist or an educator and let's talk about problems."

These two statements appear to be somewhat contradictory, but that doesn't bother me. That is, I like this contradiction because it means that we can both address ourselves to such kinds of questions and at the same time stand aside and say, "What did we contribute? Where did we put our weight, if any?" Now when we get through, we have two main trends: First, we have a series of problems that we have addressed ourselves to as intelligent laymen, if nothing else; second, we have a set of rather self-conscious formulations which are semiexperimental in nature that say, "Here is what a discipline has to offer another discipline in an operational field." Now, this still leaves Cora DuBois's question hanging in the air, and I rather guess that it has to be left just there until we get to Sunday morning. We will leave it to Margaret Mead to tie this up and put it into an educational package for our consumption.

*Coladarci*: I would like to react to George's (Spindler) statement. The ambiguity that Cora (DuBois) sensed doesn't trouble me and I share your orientation. As a matter of fact, I have built myself a very convenient frame of reference, for the moment, which has largely been due to your remarks, Solon (Kimball). It strikes me, as I look forward to the next few days (although this probably will shift completely before we leave tonight) that in the first place there's no such thing as anthropology with the implication that this is some kind of homogeneous mass; it's more of a heterogeneous mass, in terms of interests. If we just sat around talking about problems I'm afraid it would focus on whatever the important anthropologists here—and I suppose there is some hierarchy of importance—think are the important problems. And the same for the educators. I'd rather see it structured in terms of the papers, which represent presumably the heterogeneity of interests among anthropologists. Then my frame of reference is this: Here are various methodologies, one of which happens to be the one Solon (Kimball) has just described; the particular people reading papers have structured, in light of their methodologies and concepts, views that purport to have meaning for education. And, as I read those papers, I am of the thought that they indeed do have such meaning, although we might want to debate them. They do raise issues as anthropologists see them. Whether or not I go home with a nice bag of concepts and models doesn't bother me at all; I don't think that I will and, as a matter of fact, I will be disappointed if I do because there's not that much truth anywhere—for me, at any rate. Again, I'm not troubled by the ambiguities; as a matter of fact, I find the present structure quite convenient; I'm not looking for one-to-one relationships between questions and answers.