

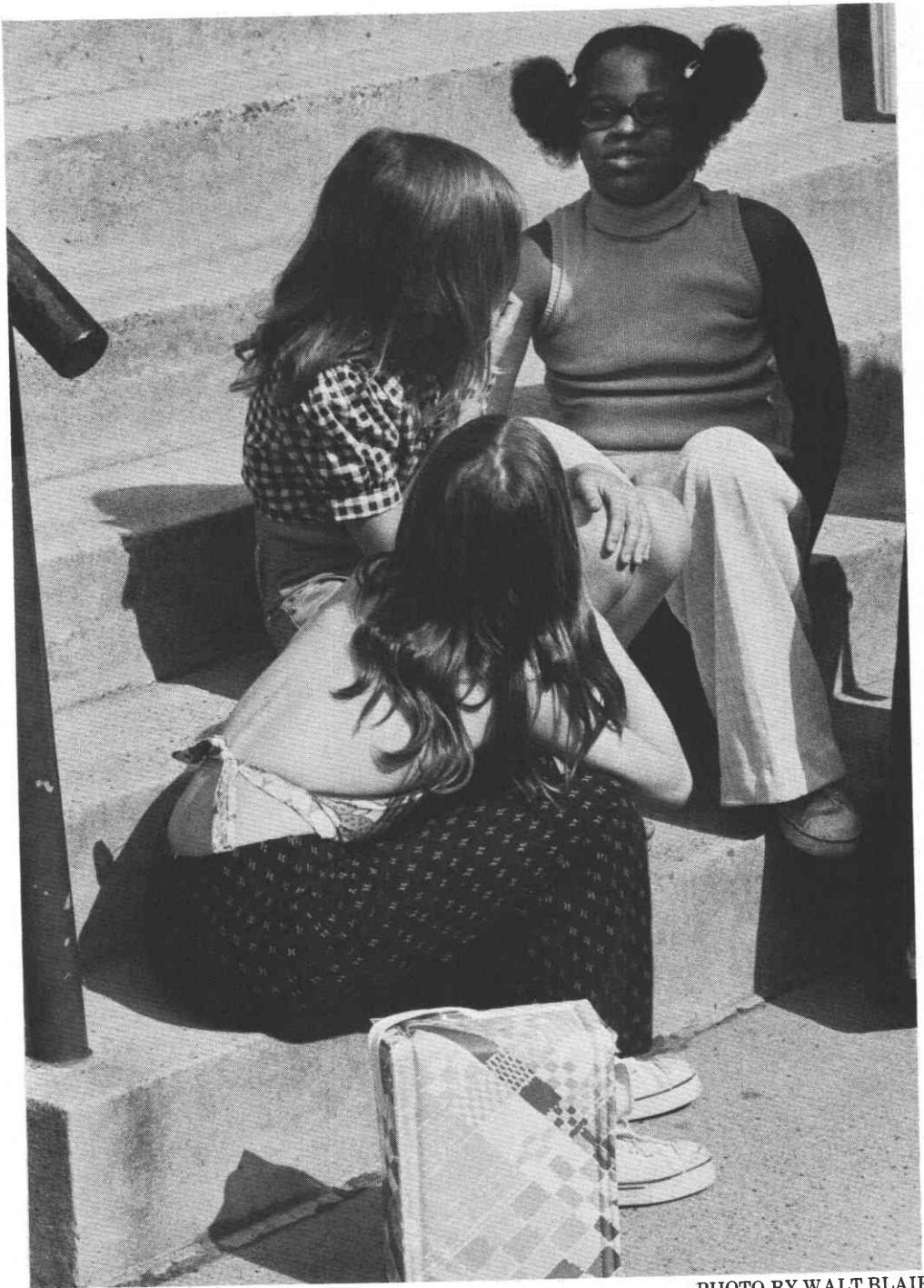


PHOTO BY WALT BLAIR

"Children almost never relate to the natural environment in a solitary fashion; they are members of social groups such as families, friends, or school classes, and relate to the environment as members of these groups" - Robert G. Lee

Observations in Public Settings

by ROBERT G. LEE, Assistant Professor, Department of Forestry and Conservation, College of Natural Resources, University of California, Berkeley.

ABSTRACT. Straightforward observation of children in their everyday environments is a more appropriate method of discovering the meaning of their relationships to nature than complex methodologies or reductionist commonsense thinking. Observational study requires an explicit conceptual framework and adherence to procedures that allow scientific inference. Error may come from those being studied, the investigator, or the sampling procedure. Systematic observation is one of the most useful ways of learning about the complex interrelationships of a child's world.

THE BEHAVIOR of children in natural settings is exceedingly complex. Researchers have responded to this complexity in two ways: One tendency has been to rely on highly technical methods of collecting and analyzing data. This approach assumes that a complex situation can be understood best by a complex methodology. The other tendency is to make reductionistic evaluations of children and their relationships, basing them on tenuous theories about human behavior. An example of reductionistic thinking is the almost exclusive emphasis placed on the individual child by educators, researchers, and the designers of children's environments. This emphasis on the individual often reflects a normative stance that abstracts the child from its milieu and treats the child as an *ideal* to be achieved rather than a *reality* to be grasped through empirical study.

Both reductionistic thinking and complex methodology overlook the advantages of systematic observation of natural behavior. Some of the most important scientific discoveries (the work of Charles Darwin, for example) have resulted from direct observation of complex phenomena. Therefore, let us follow the advice of the pragmatists and turn from the "thin abstractions" to the "thick facts".

OBSERVATION DEFINED

Observation as a research method differs from the everyday process of observing our surroundings. As part of that process, we constantly note what other people do and interpret their actions by drawing inferences as to their *meaning* for us or for others. We impute motives to others in order to explain why they act as they do. Our commonsense inclination leads many of us to impute a need for natural environments to children living in urban environments. Yet we know almost nothing about these children and the circumstances of their lives. Thus, our everyday awareness may not be the best tool for discovering the *actual* relationships between these children and their environment. Observation as a scientific data collection method requires us to suspend our tendency to impute meaning to the behavior of others; it leads us to discover meaning by systematically examining natural behavior.

What are the basic elements in the act of scientific observation? Webster's New World Dictionary defines observation as "...the act or practice of noting and recording facts and events, as for some scientific study". The practice of noting and recording events is always

structured by a theoretical or practical problem; only selected attributes or events are noted and recorded. We may be concerned with the natural objects children use in play and choose to ignore the children's social status, race, place of residence, and other characteristics that we consider irrelevant to the purpose of the study.

To be *systematic*, observation must be guided by an explicit conceptual framework and behavior must be noted and recorded in accordance with rules permitting scientific inference. The term *natural behavior* refers to behavior that can be observed as it occurs in an everyday situation or natural setting, uninfluenced by the actions of the observer. Natural behavior can be noted and recorded only if observation is unobtrusive.

Three procedural features are essential for noting and recording natural behavior (Jones et al. 1975):

- 1) behavioral events must be recorded in their natural settings at the time they occur, not retrospectively;
- 2) trained impartial observer-coders must be used; and
- 3) behaviors must require little if any inference by observers to code.

Only directly observed behavior is noted. Excluded are reports of behavior from interviewees, third parties, or self-reporting questionnaires. These methods do not record behavior at the time it occurs, nor in its natural setting. Third-party or self-reports do not use impartial observers. Trained, impartial observers are required because in this instance the observer is the research instrument, and what the observer notes and records (codes) becomes data.

A CONCEPTUAL FRAMEWORK FOR GUIDING OBSERVATIONS

It is a common misconception that an understanding of behavior will emerge if we simply view others with an "open mind". However, such "immaculate perception" is a myth. We see reality through the lens provided by our culture, subculture, and institutional affiliations; reality is filtered and structured by our language, myths, habits, and formal rules.

The importance of a conscious conceptual framework guiding the observer is obvious from Whorf's statement that "We dissect nature

along lines laid down by our native languages. The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face." As members of a culture and speech community "We cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement to organize it in this way..." (Whorf 1947:214). Knowingly or not, every observer employs some sort of conceptual framework to order the data-gathering process. Meaning is not a property of the behavior itself. Behavior acquires meaning because of its relationship to a particular context (Schefflen 1974).

To illustrate: Milton Leitenberg (1963), a biologist who was accustomed to making detailed observations of natural phenomena, was traveling in Nova Scotia when he stopped to visit a small town. The town was economically depressed, having previously been supported by coal mines that were now closed. Toward evening, as he sat watching the children play, he noticed that their game differed from any he had played as a child in the United States or had seen during 20 years as an apartment dweller in New York City. Leitenberg suggested that the unusually cooperative character of the game was related to the depressed economic situation of the townspeople.

Perhaps the play sequence indicates some relationship between the degree of social cooperation, simultaneous lack of aggressiveness and other competitive or fearful components in children's games, and the economic situation of the parents. (p. 5)

In Western society our cultural bias leads us to think of children as *individuals* and treat their relationships to other people, culture, place, and time as constraints or opportunities for individual development. There is an underlying assumption that the individual child is inherently "close to nature" and that this inclination has been inhibited by artificial environments, abstract institutional symbols, and authoritarian social relationships.

It is entirely possible that our everyday attitudes toward children are not the best framework for guiding systematic observations. A logic that focuses our attention on the *relationships* between behavior and its context may be more appropriate for discovering the meanings of the natural environment to children.

The framework I propose interprets the

meaning of a child's behavior in terms of social, cultural, physical, and temporal contexts. Every child is *socially located*, beginning with the immediate family and extending to relatives, school, church, neighbors, community authorities, and many more individuals and groups. Children are also *culturally informed* about how they should behave toward other people and objects in their environment. Learning about the natural environment is part of the acculturation process. The social definition of *place* is always an important context for a child's behavior. Children learn to associate particular forms of behavior with places, such as sidewalks, parks, schools, and churches. Finally, the *sequence of events* also constitutes a context for behavior. The life of a child is punctuated by temporally prescribed activities, such as the school year, summer vacation, recess, and "after school". So when we ask what it means for a child to explore nature, we must specify the context within which we wish to examine meaning. The subjectively perceived meaning of nature to the individual is only one of many contexts in which behavior may be studied.

An illustration of how this conceptual framework may be used to guide naturalistic observation is my observation of a park in San Francisco's Chinatown (Lee 1973). The park was in the center of Chinatown, surrounded by Chinese restaurants, shops, and apartment houses. It was built on a hill and had two levels of approximately equal size. The primary users of the park were propertyless low-income residents, who used it as a place to join others for conversation, games of chance, or to observe local social life. Chinese residents of higher status used the park only as a pathway or for local ceremonies.

From daylight until 7:30 a.m. the park was used as a training ground for the Chinese martial arts. From 8 to 11 a.m. elderly men slowly gathered on the upper level to play traditional Chinese games and visit. Activity was greatest between 11 a.m. and the late afternoon. Between midmorning and late afternoon mothers brought small children to play in the children's playground, at the northeast corner of the lower level. When the weather was favorable they were joined in the late morning by elderly women who came to sit in the sun and visit. Adult women seldom used other sections of the park except as a pathway. At noon,

Caucasian white-collar and construction workers sat on benches throughout the park to eat their lunch. Tourists used the park both as a pathway and as an attraction from midmorning until evening. In the afternoon and early evening younger Chinese men who had been working during the day came to visit and play games of chance. Throughout the day black and white Skid Row indigents wandered about the park, begging from tourists, sleeping, and drinking. Older children, ranging in age from 10 to 15, used the park as a place to gather and play after other people had left for the day.

These observations showed that the relationship between children and the park was imbedded in a complex network of cultural, social, temporal, and spatial relationships. This made it very difficult to talk abstractly about the meaning of a child's behavior toward the environment, because a child's behavior toward the environment was a result of the interaction of many different contexts. I observed that children spent very little time in the park itself. Instead they made extensive use of playgrounds, streets, sidewalks, alleys, and shops. Community workers and children expressed a need for more developed recreation facilities, such as playing fields, basketball courts, swimming pools, and playgrounds. Contact with nature, by itself, was not an experience that was valued highly by adults or children. The meaning of recreation was closely linked to the intensely social character of behavior in outdoor spaces.

PROCEDURES FOR GATHERING UNBIASED DESCRIPTIONS

There are advantages and disadvantages to every method of gathering data. Direct observation may be a better method than interviews for discovering relationships between children and their environments because people, particularly children, are unaware of how most of their behavior is related to various contexts (Hall 1966, Scheflen 1974). Even if people are able and willing to tell the researcher how they feel about particular objects in their environment, they may not be conscious of the degree to which their behavior depends on what happens in their surroundings. Many of these relationships can be discovered when observation is structured by

a logical framework and conducted in a way that reduces the introduction of error.

In studies of people there are three usual sources of error (Webb et al. 1966:12):

- 1) Error may be traced to those being studied;
- 2) Error may come from the investigator; and
- 3) Error may be associated with sampling imperfections. Error produced by those studied is far less when observation is used instead of interviews or questionnaires. Webb et al (1966:1) warned that:

Interviews and questionnaires intrude as foreign elements into the social setting they would describe; they create as well as measure attitudes; they elicit atypical roles and responses. . .

From many years of experience in the use of observation for studying children, techniques have been developed that minimize the influence of the observer on the behavior of the child (Willems 1965).

Error from the investigator is far more likely to threaten validity when observations are used instead of questionnaires. The human observer is the data-gathering instrument, and is subject to boredom, fatigue, or distraction. Lack of reliability (interobserver agreement) also threatens the quality of observational data; different observers may vary in the kinds of behavior they note and code. These sources of error can be reduced substantially by careful training of the observers and use of standardized observation schedules. Mechanical recording instruments such as photographs, film, and tape recordings also reduce error from the observer. Multiple observers not only reduce the error in aggregated data but also make it possible to measure reliability (Reiss 1971).

Sampling errors may be introduced when access to populations of interest is restricted, or where populations vary over time or geographical area. Access to children interacting with their everyday environments is particularly difficult. Most studies have relied on samples structured by time, place, or institutional organization, such as school classes. Barker and Wright (1951) avoided sampling error by censusing the behavior of a child. They noted and recorded the minute-by-minute behavior of a boy for an entire day, using eight observers in succession. This yielded a complete description of a child in his natural situation, from home and school to places of play. Even though the external validity of such naturalistic

observations is limited, the data enable the researcher to connect particular acts to specific social, physical, and temporal contexts. Barker and Wright's studies are convincing evidence that it is difficult, if not impossible, to generalize about the behavior of children without specifying the immediate milieu.

CONCLUSION

Many significant relationships are below the level of our everyday awareness. Commonsense thinking has resulted in so much emphasis on the dyadic relationship between an individual and the natural environment that the importance of other objects in a child's life has been ignored. Children almost never relate to the natural environment in a solitary fashion; they are members of social groups such as families, friends, or school classes and relate to the environment as members of these groups. The meaning of the environment also changes with time, place, and cultural context. Membership in a culture informs children how to behave toward nature in general and toward specific natural environments.

Many teachers, environment designers, and recreation specialists are concerned with enhancing children's awareness of and feeling for the natural environment. A great deal of idealism and emotion is associated with this objective. However, it is my observation that commitment, no matter how strong, will be insufficient for achieving even a small part of this ideal without factual information on the complex of relationships in a child's life. Systematic observation of children in public settings is one of the most useful ways of getting this information.

LITERATURE CITED

- Barker, Roger G., and H. F. Wright.
1951. *One boy's day: A specimen record of behavior.* Harper and Bros., New York.
- Burch, William R., Jr.
1964. *Observation as a technique in recreation research.* In *Land and leisure: concepts and methods in outdoor recreation.* (D. W. Fischer, J. E. Lewis, and G. B. Priddle, eds.) Maaroufa Press, Chicago.
- Jones, Richard R., J. B. Reid, and G. R. Patterson.
1975. *Naturalistic observation in clinical assessment.* In *Advances in psychological assessment* Vol. 3. (P. Reynolds, ed.) Jossey-Bass, San Francisco.
- Hall, Edward T.
1966. *The hidden dimension.* Doubleday, Garden City, N.Y.

- Lee, Robert G.
1973. **Social organization and spatial behavior in outdoor recreation.** Unpub. Ph.D. diss., Univ. Calif., Berkeley.
- Leitenberg, Milton.
1963. **The natural birth of a hypothesis.** *Am. Behav. Sci.* 17(Oct.):3-5,9.
- Reiss, Albert J., Jr.
1971. **Systematic observation of natural social phenomena.** *In Sociological methodology 1971.* (H. L. Costner, ed.). Jossey-Bass, San Francisco.
- Schefflen, Albert E.
1974. **How behavior means.** Anchor Books, Garden City, N.Y.
- Webb, Eugene J., D.T. Campbell, R. D. Schwartz, and L. Sechrest.
1966. **Unobtrusive measures: nonreactive research in the social sciences.** Rand McNally, Chicago.
- Willems, Edwin P.
1965. **An ecological orientation in psychology.** *Merrill Palmer Q.* 11 (Winter):317-343.
- Whorf, Benjamin L.
1947. **Science and linguistics.** *In Readings in social psychology.* (T. M. Newcomb and E. L. Hartley, eds.). Henry Holt and Co., New York.
-