

ECOLOGICAL PSYCHOLOGY

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Summary

The "first" ecological psychology, developed by the school of Roger Barker and colleagues in the second half of the 1940s, is distinguished from the current "new" ecological psychology developed within environmental psychology during the 1990s.

The first school, born with the aim of studying human behavior as "naturally occurring" and thus in its everyday context, is considered preparatory to today's environmental psychology, which itself began to develop at the end of the 1960s with the aim of understanding the relationship between psychological processes and the socio-physical environment with specific emphasis on its spatial-physical feature.

The second school represents a recent further development of environmental psychology, under the push of the "full ecological revolution" of the second half of the twentieth century, within natural and environmental science and well synthesized in the United Nations mandate of sustainable development.

The main theoretical perspectives and problems areas characterizing each of these and their directions of psychology inquiry are briefly presented and discussed.

1. The Psychological Tradition and the Ecological Perspective

To speak of *ecological psychology* as part of the general field of psychology, we must distinguish between the *first ecological psychology*, developed in the second half of the 1940s and considered preparatory to today's environmental psychology, and the current or new ecological psychology that developed in environmental psychology in the 1990s. This article is intended to illustrate both of these lines of development in the field of psychology.

The term *ecological*, which originated in the field of biology, appeared systematically as a sort of common denominator in the works of various authors in the field of psychology, especially in the areas of perception and social psychology. For example, Brunswick was concerned with the problem of "ecological validity," and Gibson's "theory of ecological perception" is still very influential, and Lewin's "psychological ecology" and Bronfenbrenner's "ecological approach" were particularly important in the area of social psychology. Beyond the perspectives that each author or school intended with the term *ecological*, its systematic use can be considered primarily an indicator of a common preoccupation with considering psychological phenomena the result of a concurrence of factors of environmental and situational nature, besides individual personal factors.

This general ecological perspective became concrete in specific theoretical proposals of various authors and schools. The term ecological psychology was first used to identify a very precise psychological school begun at the end of the 1940s by a group from the University of Kansas under the guidance of the social psychologist Roger Barker. The Barker school was active for over 25 years. Its aim was to study and understand human behavior in everyday life conditions. The choice of the term "ecological" is thoroughly discussed and illustrated in the 1968 volume *Ecological Psychology: Concepts and Methods for Studying the Environment of Human Behavior*, where the expression ecological psychology appears for the first time.

1.1. Barker and Colleagues' Midwest Psychological Field Station

Barker was influenced by the "field theory" concepts of the social psychologist Kurt Lewin. These concepts gave primary importance to the environment, assigning it a role in determining individual behavior equal to that of personal factors. Roger Barker and Herbert Wright established the Midwest Psychological Field Station in the small town of Oskaloosa, Kansas, (715 inhabitants, including 100 children) in 1947. A similar experiment was carried out later in Leyburn, North Yorkshire, England. It was proposed in opposition to the psychological research carried out in those years, which Barker claimed was dominated by available laboratory and psychometric methods to the detriment of the scientific and social relevance of the problems examined. The field station was intended to be a laboratory in the field for observing behavior, and for understanding how the daily environment influences people's behavior, primarily that of children.

The research methodology was based on the systematic and non-obtrusive observation of behaviors carried out in the context where they naturally occurred. Also, the

distinction proposed by Barker between research discovery, which explores and proposes new fields of study, and research verification, which instead replicates, tests, corrects, refines, and elaborates previous developments and discoveries, corresponds to the distinction between ecological psychology and traditional laboratory psychology.

What Barker defined as ecological psychology in 20 years of conceptualizations and specific theories, including the basic one of behavior setting, is still recognized as a real psychological school. Ecological psychology, which had naturalistic observation as its exclusive method at a time when today's recording techniques were unavailable, made an enormous effort to develop detailed and laborious observation techniques. The intention was to capture the "stream of behavior," and to figure out what were called "behavioral episodes" and other more "molar" units of analysis, primarily that of "behavior setting." In order to record their observations, the group used a technique called "specimen record," which involved the most detailed description possible of what they had observed.

1.2. The Behavior Settings of the First Ecological Psychology

Behavior settings were defined as eco-behavioral phenomena, natural units of behavior that determined observable behavior. These were circumscribed and stable systems of human activities that accompanied specific spatial-temporal characteristics concomitant with the same behaviors. In particular, the physical-spatial characteristics of the context were considered synomorphic with the human activities, thus showing the correspondence between human activities and related physical forms of the environment in which these behaviors occur.

The parts of the behavior setting were considered to have a high degree of internal interdependence, thus they were discrete units or entities within the ecological environment. In this way, the setting was seen as able to provide stability and homogeneity to individual behaviors in spite of the variety of individuals participating in the same setting. Settings were self-regulating entities that orient and organize the behavior of the human components toward a state of equilibrium of the setting according to the related program of actions to be carried out, or the "setting program."

The procedure for identifying and describing the variety of settings that form a particular environmental context, whose distinctive characteristics tended to appear with clarity during the ecological observation, was called the "review of behavior settings." Examples of this include settings such as the classroom, the Presbyterian Church, the drug store, etc. Thus, a setting program was represented by the set of sequences implicitly prescribed and ordered in time for the activities and exchanges between people and spatial-physical objects within each setting.

According to this view, people enter the setting for different amounts of time, with different degrees of involvement and responsibility. The number of people who are part of a specific behavior setting may be more or less optimal. Depending on whether that number is lower or higher than the optimal one, the setting is under-staffed or over-staffed, with different implications for its functioning and degree of participant involvement. The over-staffing versus under-staffing theory was outlined in this way, in

confirmation of the super-individual role assigned by ecological psychology to the behavior setting. In fact, the under-staffed settings, with a lower than optimal number of occupants, tended to carry out the program unchanged; thus, in the case of a lower number of occupants, inhabitants were forced to be more active and involved. The under-staffed behavior settings had greater interdependence and internal cohesion. This supports the theory that setting size is able to influence the type of behaviors and social climate established inside the setting. Therefore, the same theory affirms the superiority of smaller settings with respect to larger or over-staffed settings.

Through the behavior setting construct, Barker and colleagues' ecological psychology implicitly recognized the "place specificity" of human behaviors that subsequently became central in today's environmental psychology. Behaviors always occur in a specific place, at a given moment, that is, they always have a very precise and defined spatial and temporal specificity. The behavior that occurs in one place is inadequate in other places. One can always go into a place and observe the behavior of the people in that place. The people may change, but not the behavior, which remains practically the same.

An interesting applied result of Barker's ecological psychology is the importance of the teaching about "reading the setting or the environment." This involves teaching the human components of the setting how to adapt themselves to the settings they occupy. The problem of the identification of settings in which actions have favorable effects on inhabitants' psychological systems and behaviors is of great practical significance because many social improvement programs operate through behavior settings. The assumption is that the setting conditions maintain human actions and that a substantial change in these conditions alters not only behavior but also inhabitants' psychological systems. People's ecological environment continuously changes, and its nature and related processes can be understood only by observing the relative changes. Thus, it is important to establish research field stations in the specific communities one wants to investigate, such as schools or other organizations.

In 1987, Wicker, who was part of Barker's school, proposed an elaboration and extension of the concept of behavior setting in *Behavior Settings Reconsidered: Temporal Stages, Resources, Internal Dynamics, Context*. The contents included the following points:

- A more extended temporal perspective considering the creation, growth, differentiation, decline, and depletion of the setting, just like the preexisting conditions. The four temporal stages in which resources and other aspects of the setting must be considered include the stage of pre-convergence: the future resources of the setting exist before, but in other places and perhaps in different forms. In the stage of convergence, the setting begins to function. The stage of continued existence is the mature period of the setting, as highlighted in Barker's work. In the stage of divergence or end of the setting, the resources are left to other settings.
- The "stability" of the setting. In this regard, rather than a homeostatic check, one must speak of continuous structuring and restructuring due to the addition of new people to the existing components, thus changing the operational level.
- In the early ecological psychology, the role of individual factors was hardly considered, but now greater recognition should be given to the role of particular

individuals who take on the role of key people in their motivations and cognitive schemata regarding the operations of the setting.

- If human behavior cannot be adequately understood out of the context where it takes place, behavior settings also exist only in a broader socio-physical environment. The context is represented by three main elements: a) the broadest social, legal, economic, demographic, and geographic context existing beyond the borders of the setting; b) the specific history of that setting, or particular set of events that preceded its establishment and formed its subsequent setting; and iii) the network of other settings a particular setting is linked to by resources or bonds of social influence.

The basic problem of ecological psychology was how to study human behavior on site and without influencing it. The psychologist operates as “transducer” of data gathered in their entirety. The validity of the data examined lies in the actual process of gathering it. To explain behavior settings, various completely independent sources of data are used (provided by participative observation) including information deriving from users of the setting who can describe it, public documents, newspapers, etc. The independent agreement of the various sources guarantees their validity: the researchers' observations are compared with those of the participants and unreliable data are eliminated. Since it has many data sources, the behavior setting survey uses more than one method to establish ecological validity.

Since ecological psychology emphasizes the community context in a broad temporal perspective, investigation in this area is very difficult and takes a great deal of time. Data gathering of a typical behavior setting survey can take over a year, without considering the periods of preparation and data analysis. Thus, this approach only allows considering small communities, mostly schools and churches, or small parts of a city.

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Biographical Sketches

Mirilia Bonnes is professor of social psychology since 1986 and of environmental psychology since 1995, at the Faculty of Psychology of the University of Rome “La Sapienza.” She has been a member of the Italian UNESCO Man and Biosphere (MAB) Committee, coordinator of the UNESCO-MAB Rome Project (1987-1995), and president of this committee (1995-2000). She has been the coordinator of several international research projects in the field of environmental psychology, for the European Commission, and for the ICSU (International Council of Scientific Unions) and IUPSYs (International Union of Psychological Sciences). She has been working in the field of environmental psychology since the last 1970s, and has authored more than 100 international and Italian publications in this area, including an introductory volume to environmental psychology (Sage, 1995), a chapter in the recent *Handbook of Environmental Psychology* (“Environmental Psychology: from spatial-physical environment to sustainable development”; Bonnes, Bonaiuto, 2002), a volume on “Psychological theories for environmental issues” (Ashgate, 2003). She is a member of the Board committees of the International Association of Applied Psychology (IAAP) and past member of Board of the International Association for People-Environment Studies (IAPS).

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