

The Ecology of Human Development: Experiments by Nature and Design

Urie Brofenbrenner

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Dr. Brofenbrenner's contributions to the field of psychology and to developmental psychology in particular have a very long and very fine history. This book seems to be the latest contribution and represents his thinking and synthesizing about the development of human beings probably over much of his professional life. The book has a tremendous appeal in reflecting some of the recent trends towards looking at humans not as entities onto themselves but as being only one part of a very large and complex system. To quote from his own introductory work, he says "The present work is motivated by my conviction that further advance in the scientific understanding of the basic intrapsychic and interpersonal processes of human development requires their investigation in the actual environments both immediate and remote in which human beings live. This task demands the construction of a theoretical schema that will permit the systematic description and analysis of these contexts, their interconnections and the processes through which these structures and linkages can affect the course of development both directly and indirectly." Brofenbrenner has taken on a very large task indeed. Overall, it seems that he has done an admirable job of attempting to develop such a system.

In the first section of the book he talks about some general underlying principles and offers some basic definitions of the concepts which he discusses in detail later. The first thing that he does is to expand the realm of the environment that has an influence on the development of a human being. He distinguishes between structures and systems, and he distinguishes between looking at subjects one at a time versus looking at subjects in dyads or groups or larger systems. It's pretty easy to follow his reasoning that the inferences one makes about a person will be different when you look at them singularly versus when you look at them in relationship to another person or as a system. He defines what he calls "ecological transitions" which represent shifts in a person's roles or a

change in the person's setting and the effects that this then has on a person's psychological life. In some respects it seems to be a restatement in new terms of an old concept which used to be called a "systems" approach. Even though some of the ideas are familiar, the reader does receive differences in emphasis.

Brofenbrenner states the principle that environmental events having the highest power on a person are the ones which occur with that person *directly*; this then minimizes the power of more remote events. An example would be if someone is sitting in the room with me and talking about hunger versus hearing about someone on the other side of the world who is hungry.

Brofenbrenner very definitely broadens the view of what affects and determines an individual's behavior. He is somewhat critical of laboratory experiments because they provide a very restrictive view of a person's behavior. It's like looking at a person through a magnifying lens. He suggests that the ecological view is less restrictive and it takes away the high powered magnification and allows you to see the person in a broader perspective or context. Only with this perspective distance can one see the range of interactions, powers and influences from within the greater system that affect a person.

The author develops a fairly clear framework for looking at the different levels of systems which will affect people. He talks about micro-systems, meso-systems, exo-systems and macro-systems. In addition, he discusses the interactions within a system and between the systems. This leads to a very wide range of possible permutations. There is a very strong emphasis on the interconnections between the systems.

He discusses the idea that development is not concerned with the process of individual growth or evolution (particularly where an investigator just looks at one person or the stages of development of an individual) but that one must also be concerned with how the *content* of development is determined by the smaller systems as well as the macro-system. In other words, development must be seen as an interaction between the individual process of biologic and psychologic development, as well as an interaction between a particular system as *product* of that same system and the individual him/herself.

The book is, in general, organized around theoretical formulations. The author states his basic definitions and theories and then does a post hoc review of previously published studies that can relate to the theories. In most cases, of course, the research that he cites supports his theories.

The theoretical formulations draw very heavily on the work of Lewin and Piaget. Like Lewin, he emphasizes an individual's unique experience of reality, not just some so-called objective reality.

Dr. Brofenbrenner criticizes most developmental research as too

restrictive and too laboratory confined. He claims that most of developmental psychology is "the science of strange behavior of children in strange situations with strange adults for the briefest possible periods of time." This is a fairly intense accusation, and if true, would lead one to infer that most of the conclusions that we now believe about development may be highly suspect.

He defines the systems as follows: the micro-system is the person's experience of a role or a setting. The meso-system consists of all of the micro-systems for a given person and the interrelations of more than one setting. The exo-system consists of one or more settings that affect a person or are affected by a given person. The macro-system consists of the larger cultural consistencies and cultural patterns to be found between the various exo-systems. There are important theoretical and developmental implications of ecological transition periods (e.g., when the person's position changes with regard to the role or setting). Brofenbrenner talks about the concept of *ecological validity*—defined as the condition when a person's experience of a situation is approximately equal to the experimenter's expectation or assumption about that same situation. He defines *developmental validity* as consisting of changes in behavior that must be shown to generalize to other settings. A developmental concept cannot be strictly limited to one's setting. It is obvious from many of these definitions that Brofenbrenner is concerned with the problem or the interaction between laboratory research and real life settings in which people function. He suggests that some research should be designed not just to assess how things are, but how the developmental systems can be changed so that the person's responses can be changed. He defines this idea as the "transforming experiment" and cites an example of such an experiment in a public school system, where the experimenters started out studying the way the system was working, and then developed interventions to change it so that it worked better.

Dr. Brofenbrenner spends considerable time reviewing "molar" activities, or those fairly complex, sustained activities in a person's life which have momentum. Certain kinds of play or professional activities are this type. He suggests that you can measure the developmental status of a person by looking at the variety and complexity of these self-initiated molar activities. The kinds of activities that are learned are mainly determined via the opportunities for learning that are provided by other persons in the micro-system or in the meso-system. If the other people in the system do not provide these opportunities then they will not be learned.

Dr. Brofenbrenner extensively examines what he calls the "different levels of interpersonal structures." He pays particular attention to dyadic interaction. Dyads can be observational. They can share joint activity.

There can be reciprocity. They can experience power dimensions and affect. The dyads reciprocally affect development where the adult and the child affect one another (i.e., the child is not the only one being affected). The idea of this reciprocally-acting dyad shifts our perspective on the process of child rearing, such that while the older, analytic view would look more at how, for example, the mother affects the child, the newer dyadic view considers how the child affects the mother. Dyads are, of course, affected by other persons. Bronfenbrenner uses the term "N plus two system" which is a way of stating that there is a system involving more than two people. A single parent family or a single parent family system will have very different impacts on a child than a duo-parent system. These impacts are very predictable when you view them as part of a system. There is much to be gained by looking at the impact on the dyad of the other systems around the dyad, either in the meso-system, exo-system or macro-system. This kind of framework of systems analysis is very helpful in looking at the mutual or reciprocal relationship between a person in various roles within various systems.

The author also spends much time examining the exo-system, which is defined as one or more settings that do not involve the developing person as an active participant, but in which events occur that affect or are affected by what happens in the setting. A good example of a child's exo-system is the television. Bronfenbrenner discusses the concept of second order effects—the TV certainly affects the child—yet, it also affects the parents who may in turn respond differently to the child. The effect of the television on the parent is a second order effect with respect to the child. Bronfenbrenner decries the fact that there are very few good studies that actually demonstrate exo-system effects. He claims that most of them *assume* the effects and do not, in fact, look at them.

The best example of the meso-system that Bronfenbrenner discusses is the school system, and he looks at this in great detail in terms of the effects on the child, the effects of the children on the school, the second order effects of social, political and broad cultural systems.

He also reviews the macro-system. As an example of an early and classic study of a macro-system, he cites A.R. Luria's studies which were done in 1931 and 1932 concerning the transition period in the U.S.S.R. from a peasant economy to a collective economy. He finds this research in general to support the idea of "individual development as occurring within a dynamic environmental system." The dynamic nature of the environmental system is a clear point that Bronfenbrenner makes. We do not develop in a static system but the system itself is undergoing its own kind of development. Because the environment itself has transitions, the developing person will have parallel transitions. The Luria studies showed that even the basic cognitive functions, such as perception and

reasoning, will show shifts to reflect the transitions in the environment. Brofenbrenner also cites other research to *disprove* the simple myth that low socioeconomic status in and of itself leads to impoverished lives. His data show a large number of complex consequences and great variability in the results of economic deprivation. There are, certainly, many personal variables that are important—yet, micro- and meso-system factors seem to alter the consequences of something even so powerful as economic deprivation.

Overall, the book reviews all levels of systems in a very complete way, and a large group of testable hypotheses are generated in very specific and clear terms. This was a primary goal of the book and I think that it is very competently achieved. Many of his hypotheses lend themselves readily to operational definitions. An example of this is "Hypothesis 39: The development potential of participation in multiple settings will vary directly with the ease and extent of the two way communication between those settings." It is apparent how easy it could be, once "developmental potential" is defined, to design a study to test the hypothesis.

Finally, on another level completely, it was quite pleasant to read "her" as the frequent pronoun referring to the neutral child or person. This did not detract from the smoothness of the reading—nor did it seem artificial.

Brofenbrenner seems to have few genuinely new ideas in this book, but he does provide a marvelous organization and systematization for a rather large and bewildering field. The orderliness and clarity of his presentation is delightful and he relegates many of our experimental complexities into thinkable and testable situations. If social scientists read the book and take it seriously, many helpful research hypotheses could be generated. In this sense, the book would serve as a definitive contribution to the science of development.