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# HANDBOOK OF ENVIRONMENTAL PSYCHOLOGY

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# WORLD VIEWS IN PSYCHOLOGY: TRAIT, INTERACTIONAL, ORGANISMIC, AND TRANSACTIONAL PERSPECTIVES

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## 1.1. INTRODUCTION

This chapter examines world views or philosophical approaches that presently and historically underlie research and theory in psychology. These world views, termed *trait*, *interactional*, *organismic*, and *transactional*, are associated with different definitions of psychology and its units of study, different assumptions about the nature of person-environment relationships, varying conceptions about the philosophy and goals of science, and potentially different theories, methods, and strategies of research. Because environmental psychology is emerging as a full-fledged discipline but has not yet fully explored its implicit and explicit philosophical underpinnings, it is crucial to engage in self-reflection and introspection regarding its basic values. In order to facilitate the process of self-examination, we will present a taxonomy of world views of person-environment re-

lationships and their associated conceptual and philosophical assumptions.

As background to the idea that present-day environmental psychology is an emergent field, it may be helpful to summarize aspects of its historical and sociological underpinnings (see also Moore, Chapter 39, Proshansky, Chapter 42, Sommer, Chapter 43, this volume). The origins of environmental psychology are rooted in a variety of social and scientific issues that came to the forefront in the 1960s and 1970s. These included a worldwide concern with the environment and the ecological movement, a call for psychology and other social sciences to contribute to the solution of social problems, increasing criticism of laboratory methods and advancement of naturalistic research, an interdisciplinary ethos (involving especially environmental design fields), a focus on modular, global units of analysis, and a plea for new theoretical approaches.

This array of values has been associated with certain tensions as environmental psychologists attempt to bridge traditional and unorthodox ways of thinking. Alongside a social problem orientation are an interest in basic theory and the discovery of knowledge for its own sake. And the call for a molar perspective coexists with the desire to explain and account for psychological processes in an analytic and dimensional fashion. Furthermore, the value of working in natural settings is accompanied by a traditional scientific requirement to conduct research in controlled situations so that one can attribute variations in psychological processes to known conditions. In addition to the goal of establishing new theories uniquely appropriate to environmental phenomena, there is a desire to translate and apply existing theories from other established fields in psychology. So environmental psychologists are and will continue to be subjected to oppositional forces deriving from their disciplinary heritage and their aspiration to find a new path appropriate to the study of person-environment issues.

These tensions and directions ultimately concern psychology's orientation to the relationship between persons and environments, the relationship of time and change to psychological processes, and issues associated with philosophy of science, theory and research methodology. These issues are not unique to environmental psychology. Indeed, they have begun to be addressed in many fields of psychology. For example, Tyler (1981) portrayed how psychology has begun to extend its boundaries in recent years by emphasizing the role of context and holistic aspects of human activity. She described mounting interest in the idea of multiple directions of causation and relations between variables, systems approaches involving complex sets of variables, appreciation of the importance of understanding single events, theoretical approaches that emphasize contextualism and that view phenomena as historical events, theories centered around ideas of interactionism, holism, and reciprocity, and cross-cultural analyses that link behavior to environments and situations. The writings of Gergen (1982), Harre and Secord (1972), Kiegel (1976), Rosnow (1981), and others also raise fundamental issues about alternative philosophical approaches to the study of psychological phenomena.

It is a prophetic time, therefore, for psychology in general and environmental psychology in particular to examine their philosophical substrates and to explore alternative assumptions and approaches to the study of psychological phenomena. By proposing a taxonomy of world views and describing their associated properties, we hope to contribute to the process of

self-reflection and choice of philosophical strategies in environmental psychology.

The following section examines the roots of our taxonomy in the writings of Dewey and Bentley (1942) and Pepper (1942, 1967). The main body of the chapter describes historical and contemporary approaches in psychology and environmental psychology in terms of our fourfold classification of world views: trait, interactional, organismic, and transactional perspectives.

## 1.2. THE PHILOSOPHICAL FRAMEWORKS OF DEWEY AND BENTLEY (1949) AND PEPPER (1942, 1967)

Dewey and Bentley (1949) and Pepper (1942, 1967) examined philosophical and metatheoretical assumptions implicit in the research and theories of the physical, biological, and social sciences. They reflected on the dramatic changes in physics associated with the Newtonian and Einsteinian perspectives, pondered the state of knowledge and epistemology of the biological and social sciences, and analyzed alternative approaches and assumptions regarding scholarly inquiry.

### 1.2.1. Dewey and Bentley (1949)

These authors distinguished three approaches to the pursuit of knowledge—self-action, interaction, and transaction—corresponding to early or pre-scientific approaches, the Newtonian perspective, and the Einsteinian view of science, respectively.

*Self-action* assumes that the functioning of physical and social phenomena is governed by internal *essences, self-powers, forces*, or intrinsic qualities that are inherent in objects, organisms, or phenomena. Aristotle's system of physics involved a self-action approach in its assumption that substances inherently possessed *being* that produced self-initiated actions. In biology, the notion of vitalism implied inner, self-directing biological forces that gave rise to and guided organismic functioning. In psychology, the early concepts of *soul, mind*, and *instinct* reflected the self-action perspective. These orientations imply that physical or psychological phenomena are defined and operate more or less independently of settings and environments. Self-action approaches do not usually emphasize temporal processes or change, except as manifestations of the essence of a phenomenon. As noted in Table 1.1, Dewey and Bentley's self-action

Table 1.1. Philosophical Approaches to Psychological Phenomena

Dewey and Bentley	Pepper	Altman and Rogoff	Definition of Psychology
Self-action	Formism	Trait	The study of the individual, mind, or mental and psychological processes
Interaction	Mechanism	Interactional	The study of the prediction and control of behavior and psychological processes
	Organicism	Organismic	The study of dynamic and holistic psychological systems in which person and environment components exhibit complex, reciprocal, and mutual relationships and influences among psychological and environmental aspects of holistic entities
Transaction	Contextualism Selectivism	Transactional	The study of the changing relations among psychological and environmental aspects of holistic entities

category overlaps with Pepper's formism and our trait perspective.

Dewey and Bentley stated that interaction and transaction approaches are more characteristic of modern science than are self-action perspectives. The interaction orientation is epitomized by Newtonian principles of classical physics, in which particles are assumed to exist as separate elements that act on and react to one another; that is, they *interact* to yield a phenomenon with causally linked and independent components. This approach assumes that physical and psychological elements exist independently of one another and possess certain intrinsic qualities, although their functioning may be affected by interaction with other elements.

According to Dewey and Bentley the interaction perspective assumes that temporal factors are not integral aspects of a phenomenon, since time and the properties of a phenomenon are defined independently of one another. Furthermore, psychological phenomena are treated as fundamentally static, although changes in states occur when elements interact. Put in another way, the interaction perspective reflects a "billiard ball" conception of phenomena. The balls—physical and psychological components—exist as separate entities with their own characteristics, and they act and react to influences from each other over time. As described in the next section, Dewey and Bentley's interactionist category shares many features with Pepper's mechanist approach and our interactional world view.

The *transaction* approach assumes an inseparability of contexts, temporal factors, and physical and psychological phenomena. Unlike interaction approaches, where phenomena interact with and are in-

fluenced by contexts, transaction orientations treat context, time, and processes as aspects of an integrated unity. Thus one is not dealing with separate elements of a system. Instead, a transaction approach defines aspects of phenomena in terms of their mutual functioning. Persons, processes, and environments are conceived of as aspects of a whole, not as independent components that combine additively to make up a whole. For example, present-day biology conceptualizes cells and genes as intrinsic aspects of a complex and unified whole, whose properties and functioning are based neither on their fundamental "essences" nor on their functioning as independent elements.

Dewey and Bentley also emphasize that transactional orientations study *processes* and *activities*, or people doing things in relation to the social and physical environment. Thus temporal qualities are inherent aspects of phenomena and embody the flow and dynamics of people's relations to social and physical settings. This treatment of time is different from that adopted in the interaction approach, where time is a separate dimension and only provides a backdrop against which to observe the phenomenon. Moreover, the emphasis on activity and process requires attention to the dynamic and often emergent qualities of phenomena. Dewey and Bentley's transactional approach is very similar to Pepper's contextual and our transactional world view.

### 1.2.2. Pepper (1942, 1967)

Pepper (1942) undertook a philosophical analysis of four major "world hypotheses" that characterize

scholarly approaches to knowledge. He termed these *formism, mechanism, organicism, and contextualism*.

*Formism* assumes that knowledge accrues from delineation of similarities and differences between phenomena, grouping together like things and distinguishing them from unlike things. Formist approaches are analytic and search for dimensional properties of phenomena as a basis for comparison and categorization.

Pepper's formist world hypothesis, Dewey and Bentley's self-action orientation, and our trait category are very similar, since all three approaches attempt to identify the "essences" of phenomena, without direct attention to their temporal aspects or to the contexts within which they are embedded. In self-action, formist, and trait orientations the intrinsic and stable properties of phenomena determine their functioning.

Pepper's second world hypothesis, *mechanism*, uses the machine, for example, a watch or dynamo, as its root metaphor, with discrete parts responding to stimulation in a static system. Mechanist orientations, like formist approaches, are analytic and attempt to identify the dimensions of phenomena. However, mechanist perspectives assume that the functioning of physical or psychological phenomena is based on the interplay of a variety of elements that interact and influence one another (like mechanical parts that work together). One understands phenomena by describing their parts or elements and by discovering the lawful relationships between elements. Pepper's mechanist perspective, Dewey and Bentley's interaction approach, and our interactional world view are similar in their common assumption that phenomena are composed of independent elements that interact according to certain laws or principles. Although context and time can be included in these approaches, they are usually treated as independent domains, not as intrinsic parts of psychological phenomena. Thus space and time are "locations" of phenomena and are external to their functioning.

*Organicism* uses the integrated organism as its root metaphor. Organist world hypotheses are holistic and synthesizing and treat a whole unit, not its parts, as the focus of understanding. According to Pepper, organicist world hypotheses consider phenomena to reflect underlying organic processes that can eventually be understood through the integration of facts. That is, the elements of a system are assumed to be bound to the unity by a limited number of underlying organic principles. The task is, therefore, to work with the whole, to search for the underlying principles that govern the system, and to treat each element in its relationship with other ele-

ments as parts contributing to the holistic unity. The whole system is the unit of study, although one approaches it through the characteristics of its elements and, most important, through the relationships between them.

A teleological predilection characterizes the organicist approach, with the system directed toward an ideal end state through the operation of underlying organic principles that link parts of the whole. In this sense time and change are intrinsic aspects of organicist approaches, although once the ideal is achieved change theoretically no longer occurs. Our organicist approach is similar to Pepper's organicist world hypothesis.

*Contextualism* is similar in many respects to the transaction orientation described by Dewey and Bentley, particularly in its assumption that contextual and temporal processes are fundamental aspects of phenomena. The root metaphor of contextualism is the historical event, which is intrinsically embedded in its surrounding context and which unfolds in time. To paraphrase Pepper, the historical event is a complex and holistic phenomenon whose parts interpenetrate and are connected in an inseparable fashion. Although one can focus on events from different angles, a full understanding requires recognition of the interpenetration of the different viewpoints. One must study the whole event as a unity; studying its elements is not sufficient to understand the whole, since the whole is not "a sort of added part, like a clamp that holds together a number of blocks" (Pepper, 1942, p. 237).

The contextualist world hypothesis assumes that temporal processes are inherent features of events. To understand phenomena from a contextualist view requires description of their changing features and temporal processes. "Change goes on continuously and never stops. It is a categorical feature of all events; and since in this [contextualist] world theory all the world is events, all the world is continually changing in this manner" (Pepper, 1942, p. 243).

Unlike organicist approaches, contextualist world hypotheses do not emphasize universal and/or teleological principles that govern the functioning of phenomena. Contextualist orientations allow for the possibility of unique events that are not necessarily progressing toward any specified ideal state. And the event may or may not function in accord with an ultimate "law" of nature. While it is assumed that examination of a particular event will be instructive for understanding nature in the general sense, it is not necessarily the aim of a contextualist world hypothesis to describe all events according to the same principles.

In a later analysis, Pepper (1967) proposed a fifth world view, *selectivism*, which he described as either an extension of contextualism or a totally new world hypothesis. The root metaphor of contextualism is the "purposive act," which Pepper considered to be a fundamental feature of human functioning. The purposive act assumes that behavior is goal directed and intentional in a pragmatic and functional way; however, no assumptions are made about teleological or ingrained purposes that govern functioning. The concept of purposiveness also emphasizes meaning, intention, and experiential processes, and an active organism that exhibits volition, agency, and control over its functioning.

Selectivism, like contextualism, adopts a holistic unit of analysis of psychological phenomena and rejects the idea of isolated and separate person and environment elements. Instead, purposive behavior consists of integrated acts associated with physical and social environments, with change and process being central features of the whole. There is, therefore, a unity of psychological processes, space, and time. As will be evident later, Pepper's contextualist and selectivist world hypotheses jointly reflect our transactional world view.

### 1.3. TRAIT INTERACTIONAL, ORGANISMIC, AND TRANSACTIONAL WORLD VIEWS

This section of the chapter describes the fourfold taxonomy of world views that we use to describe research and theory in psychology and environmental psychology. Our framework, which integrates and extends the analyses of Pepper, Dewey, and Bentley, will examine assumptions of each world view regarding units of analysis, the role of the environment, temporal factors, philosophies of science (especially concepts of causation), and the role of observers in relation to describing psychological functioning. Table 1.2 summarizes similarities and differences in world views in respect to some of these factors.

Several caveats to the discussion are in order. First, trait approaches are described only briefly, with successively more attention given to interactional, organicist, and transactional world views, respectively. Trait world views are rarely employed in a pure form in modern psychology. Furthermore, they have minimal relevance to environmental psychology, given their deemphasis of the role of environments, contexts, and settings. Interactional orientations are prevalent in modern psychology and thus do not

require extensive elaboration. Because organismic and especially transactional world views are particularly relevant to environmental psychology, but at the same time are not widely used, more attention is devoted to them, especially to transactional approaches.

A second caveat is that no research example, theory, or theorist can be exclusively pigeonholed into one or another world view. Indeed, theories in psychology often contain ideas from more than one world view. The examples we cite, therefore, only illustrate qualities of world views and are not rigid categorizations of particular theories.

Third, no world view is intrinsically better than any other. They are different approaches to the study of psychological phenomena and they each may have unique value in different circumstances. However, our bias is to encourage greater use of organismic and especially transactional world views. Psychology and environmental psychology have thus far neglected or not wholly understood these approaches, and these orientations, especially the transactional, can enhance our understanding of psychological phenomena.

#### 1.3.1. Trait World Views

Trait approaches in psychology are very similar to Dewey and Bentley's self-action and Pepper's formist perspectives in several assumptions: (1) The fundamental units of study are psychological processes, cognitive characteristics, and personality qualities. These person-oriented characteristics are considered to be the primary determinants of psychological functioning and to operate more or less independently of physical and social contexts. (2) Temporal processes are given only a minimal role in relation to psychological functioning, since personal characteristics are presumed to be somewhat impervious to situational factors, or are treated teleologically, with a preestablished course of development and ideal end state.

#### Unit of Analysis

For trait world views, a typical definition of psychology is *the study of the individual, the mind, or mental and psychological processes*. The focus is on individual or psychological processes as self-contained phenomena, with environments and contexts playing a secondary or supplementary role. Classical instinct theories exemplify the trait orientation; however, one finds few examples of pure trait approaches in modern psychology. Present-day theories usually assume that environmental and situational factors play an im-

Table 1.2. General Comparison of Trait, Interactional, Organismic, and Transactional World Views

	Unit of Analysis	Time and Change	Selected Goals and Philosophy of Science		
			Causation	Observers	Other
Trait	Person, psychological qualities of persons.	Usually assume stability; change infrequent in present operation; change often occurs according to preestablished teleological mechanisms and developmental stages.	Emphasizes <i>material causes</i> , i.e., cause internal to phenomena.	Observers are separate, objective, and detached from phenomena; equivalent observations by different observers.	Focus on trait and seek universal laws of psychological functioning according to few principles associated with person qualities; study predictions and manifestations of trait in various psychological domains.
Interactional	Psychological qualities of person and social or physical environment treated as separate underlying entities, with interaction between parts.	Change results from interaction of separate person and environment entities; change sometimes occurs in accord with underlying regulatory mechanisms, e.g., homeostasis; time and change not intrinsic to phenomena.	Emphasizes <i>efficient causes</i> , i.e., antecedent-consequent relations, "push" ideas of causation.	Observers are separate, objective, and detached from phenomena; equivalent observations by different observers.	Focus on elements and relations between elements; seek laws of relations between variables and parts of system; understand system by prediction and control and by cumulating additive information about relations between elements.
Organismic	Holistic entities composed of separate person and environment components, elements or parts whose relations and interactions yield qualities of the whole that are "more than the sum of the parts."	Change results from interaction of person and environment entities. Change usually occurs in accord with underlying regulatory mechanisms, e.g., homeostasis and long-range directional teleological mechanisms, i.e., ideal developmental states. Change irrelevant once ideal state is reached; assumes that system stability is goal.	Emphasizes <i>final causes</i> , i.e., teleology, "pull" toward ideal state.	Observers are separate, objective, and detached from phenomena; equivalent observations by different observers.	Focus on principles that govern the whole; emphasize unity of knowledge, principles of holistic systems and hierarchy of subsystems; identify principles and laws of whole system.
Transactional	Holistic entities composed of "aspects," not separate parts or elements; aspects are mutually defining; temporal qualities are intrinsic features of wholes.	Stability/change are intrinsic and defining features of psychological phenomena; change occurs continuously; directions of change emergent and not preestablished.	Emphasizes <i>formal causes</i> , i.e., description and understanding of patterns, shapes, and form of phenomena.	Relative: Observers are aspects of phenomena; observers in different "locations" (physical and psychological) yield different information about phenomena.	Focus on event, i.e., confluence of people, space, and time; describe and understand patterning and form of events; openness to seeking general principles, but primary interest in accounting for event; pragmatic application of principles and laws as appropriate to situation; openness to emergent explanatory principles; prediction acceptable but not necessary.

portant role in human activity, often in combination with person qualities. Some contemporary personality theories, for example, authoritarianism, locus of control, and Type A-Type B characteristics, are not really trait approaches in the strict sense, because they usually consider situational factors in interaction with personal qualities as determinants of psychological functioning. Thus pure trait approaches are a rarity in contemporary psychology and have been supplanted by interactional world views.

Classic trait approaches often assumed a biological basis to personal qualities; however, that is not a requirement. One can assume a history of situational and environmental experiences, especially in childhood and early years, that results in stable personal qualities. Once formed, they govern contemporary functioning, are unchanging, and are more or less independent of present contexts and environments. It is the assumption that personal qualities are primary determinants of contemporaneous behavior that defines a trait approach, not the assumption of an underlying biological predisposition.

### Time and Change

Trait approaches handle temporal factors and change either by assuming stability of the personal characteristic or by portraying change as following an internal predetermined timetable independent of environmental influence. For example, characteristics such as authoritarianism, Type A-Type B personalities, and introversion-extroversion are usually not examined with respect to ongoing temporal variation or change. Rather, emphasis is put on their correlates and manifestations. On the other hand, some trait world views incorporate change in relation to stages of development of a personal quality. In so doing, they often emphasize predetermined patterns of development that are relatively independent of environmental factors. For example, Freudian, Eriksonian, and some other theories of social development postulate fixed and predetermined stages in which development is not emergent and does not result from the interaction of persons and environments. Such changes are analogous to the metamorphosis of caterpillars into butterflies, where change is preprogrammed and occurs in a fixed sequence. Similarly, in some trait approaches psychological functioning may be described as progressing in a predetermined way toward some ideal or ultimate end state.

Traitlike theories of change and development do not necessarily ignore the influence of environments and contexts, although they are treated as secondary considerations. Psychological development may be facilitated or retarded by unusual environmental fac-

tors, in the same way that adverse environmental conditions may interfere with the normal metamorphosis from caterpillar to butterfly. Such conditions are presumed, however, to be out of the ordinary, although they are worthy of study insofar as they reveal the nature of the underlying traits.

### Philosophy of Science

Contemporary theories that have traitlike features, for example, theories of intelligence and aptitudes, certain personality theories that adopt a psychometric orientation, and so on, usually adhere to principles of rigorous operational definition of concepts, testability, generalizability, and replicability of findings and theories. For example, assessing the predictive validity of a trait or psychological quality is crucial, since it enables the researcher to examine the manifestation of the personal quality and/or depict the "causal" influence of the trait on other aspects of psychological functioning.

In accordance with traditional values of philosophy of science, trait approaches treat observers or researchers as separate from phenomena. The trait or personal quality and its manifestations can be observed "scientifically" by an objective, detached, and independent observer whose position or personal qualities do not affect the manifestations or qualities of the phenomenon. Indeed, two or more separate observers may be employed in order to assess and correct for errors of observation and to obtain an objective judgment. The psychological quality of interest is located, therefore, in the person or group, not in the relation of the observer to the phenomenon. As a result, the phenomenon is assumed to be describable in objective terms by any trained observer or observational agent.

Trait, interactional, and organismic world views share the values of objectivity, replicability, and generalization of findings and theories, and the separateness of observers from phenomena. However, trait perspectives differ from the other world views in terms of general issues of causation. To appreciate this issue, it is useful to compare briefly the four world views in respect to cause-effect relations. Table 1.2 summarizes their differences, based in part on Rychlak's (1977) application of Aristotle's fourfold classification of causation in natural phenomena.

The first type of cause, *material causation*, is central to trait perspectives. A material cause involves the idea that there is some "underlying matter or universal palpability, which lends the essential meaning to an object or event in experience" (Rychlak, 1977, p. 5). Material cause involves "a substance [such as genes] having certain qualities that set limits

on behavior" (Rychlak, 1977, p. 245). Consistent with material causation, trait approaches assume that psychological causes are self-contained in the phenomenon itself and are ingrained qualities or material "essences."

Aristotle's concept of *efficient cause* is based on antecedent-consequent relations between variables, whereby it is presumed that an antecedent variable is a "cause" if it is systematically associated with variations in a consequent variable. This conception of causation is central to contemporary science and is associated with an interactional world view.

The third Aristotelian conception of causation, *final cause*, emphasizes predetermined directions, goals, or end states toward which phenomena gravitate. As Buss (1979) and Bates (1979) suggest, final causation is teleological, with a phenomenon operating in accordance with a preestablished end or purpose toward which it is pulled. Organismic world views emphasize this approach to causation, as do certain trait orientations that include final cause conceptions to account for growth.

The fourth Aristotelian approach to causation is *formal cause*, which focuses on the pattern, shape, or organization of a phenomenon in a given set of circumstances (Rychlak, 1977). An example of formal explanation is Bates's (1979) observation that the spherical form of a bubble is not "caused" by the material qualities of air, water, and soap, by the antecedent influence of someone blowing the bubble, or by the intentions of the bubble blower. In essence, the "cause" of the bubble's spherical form is a formal one; that is, "roundness is the only possible solution to achieving maximal volume with minimal surface" (Bates, 1979, p. 129). Formal causation can also involve analysis of the pattern or configuration of a phenomenon in a given context without use of universal explanatory principles. The concepts of formal causation are consistent with a transactional world view.

Although the four world views emphasize different Aristotelian concepts of causation, they do not do so in a categorical or exclusive way. Perhaps more important, the ideal description, understanding, and explanation of a phenomenon require that it be studied in terms of all four concepts of causation (Bates, 1969).

### 1.3.2. Interactional World Views

#### Unit of Analysis

The interactional world view builds on the mechanistic orientation described by Pepper and the interaction approach described by Dewey and Bentley (see Table

1.1, Table 1.2). It adopts a definition of psychology as a field that studies *the prediction and control of behavior and psychological processes*.

Interactional world views, which have been the dominant approaches in contemporary psychology, treat psychological processes, environmental settings, and contextual factors as interdependently defined and operating entities. Moreover, the emphasis on prediction and control in the definition implies that antecedent factors affect or produce variations in psychological processes, typically in a unidirectional fashion. Thus behavior and psychological processes are usually treated as dependent variables, whereas environmental factors (and sometimes person qualities or other psychological processes) are treated as independent variables or causal influences on psychological functioning. To use an analogy from Dewey and Bentley (1949), interactional world views treat psychological phenomena like Newtonian particles or like billiard balls. Each particle or ball exists separately from the others and has its own independent qualities. The balls or particles interact as one ball bounces into another ball, thereby altering their motions. The goal of interactional research is to study the impact of certain particles and balls (environmental and situational qualities) on other particles and balls (psychological processes and behaviors).

Although interactional approaches sometimes study reciprocal relationships between variables, they usually focus on relationships between antecedent predictor variables and consequent behavioral and psychological outcomes. Findings and theories usually involve linear theoretical models that vary from single antecedent-consequent links to lengthy chains of cause-effect relationships involving intermediate and ultimate dependent variables.

Interactional world views vary from those that emphasize singular social or physical situational determinants of psychological processes to those that incorporate combinations of situational and personal qualities as "causes" of psychological functioning. Examples that emphasize the influence of physical or social factors on psychological functioning include situational orientations to personality and leadership, radical operant approaches that focus on stimulus-situations as determinants of behavior, studies of parental effects on children's behavior, and research on the direct impact of environmental factors such as density, noise, or climate on psychological functioning. However, even the most extreme situational approaches usually take some account of the contribution of person variables (e.g., motive and drive states, personality factors, mediating psychological processes) to variations in psychological outcomes.

The dominant world view in current psychological research and theory is an interactional perspective that treats psychological functioning as a joint and interactive product of situational and personal factors. A first step in this approach is to identify separate and independent situational and person or psychological entities and describe their characteristics and properties. The next step is to study their independent and interactive effects on psychological outcomes and functioning, in much the same logic that underlies analysis of variance statistical models, with main effects and interactions. Although substantive and theoretical debates often center around the relative contributions of individual and interacting variables to behavioral and psychological outcomes, the underlying philosophical structure and assumptions of different theories are fundamentally compatible and fall within an interactional world view.

There are numerous examples of complex interactional world views in modern psychology. In personality theory and research, Frederiksen (1972), Lewis (1978), Pervin (1978), and others offer separate definitions and taxonomies of person and situation units, in order to examine the "processes through which the effects of one are tied to the operations of the other" (Pervin & Lewis, 1978, p. 20). Contingency theories of leadership are based on the idea that leader effectiveness and group performance result from the interaction of separate personal qualities of leaders (task orientation vs. social orientation) and characteristics of tasks and group situations (task structure, leader power, leader-member relationships) (Fiedler & Chermers, 1974).

Other examples of interactional approaches include cognitive dissonance, social comparison, and altruism theories. For example, cognitive dissonance research has studied the separate and interactive effects of cognitive states of persons, characteristics of social situations, and other factors on the nature and extent of cognitive dissonance and modes of reducing dissonance. The traditional strategy of altruism research and theory has likewise been to examine independently defined properties of social situations, for instance, group size, presence of others, potential costs and rewards to the helper, and so on, in combination with personal characteristics of helpers and victims. Such research is addressed to the study of the separate and interacting effects of independently defined person and environment entities on psychological outcomes.

Historically, research and theory in many fields of psychology often initially adopted a trait world view that was eventually replaced by an increasingly com-

plex interactional orientation. For example, personality theorists examined personal qualities of authoritarianism in the 1940s and 1950s, locus of control in the 1960s and 1970s, and Type A and Type B personalities in the 1970s and 1980s. The pattern of research on these theories first involved a trait orientation, as investigators sought to identify behavioral and psychological manifestations of the personality quality, on the assumption that the quality was an internally based determinant of psychological functioning. These traitlike orientations usually shifted to an interactional perspective in which the *joint* contributions of separately defined situational and personality qualities were examined as determinants of behavior.

### Time and Change

Interactional world views treat temporal factors as distinct from psychological processes and describe change as a result of the interaction of variables, not as an intrinsic aspect of phenomena. That is, interactional world views in psychology refer to time in much the same way that Newtonian physics relates time to physical matter. Capra (1976) stated:

All changes in the physical world (in the Newtonian system) were described in terms of a separate dimension, called time, which again was absolute, having no connection with the material world and flowing smoothly from the past, through the present, to the future. "Absolute, true, and mathematical time," said Newton, "of itself and by its own nature, flows uniformly, without regard to anything external." (p. 43)

Although time is treated as an independent dimension, interactional world views do study change and assume temporal variations in psychological functioning. Problem solving, performance, and social interaction are charted over time; long- and short-term effects of persuasive communications are investigated; the effectiveness of anti-litter and energy conservation programs is studied at different points in history; short- and long-term effects of population density are researched; and so on. However, change in the interactional perspective has several distinguishing qualities. First, change is presumed to result from the interaction of independent person and environment entities. The properties of these entities, in combination, determine the psychological result. Change is determined, therefore, by the preestablished properties of the interacting entities. Second, in accordance with the idea that time is not an intrinsic aspect of the phenomenon, change in psychological functioning is usually marked by arbitrary chronological units, not by natural psychological

## TRAIT, INTERACTIONAL, ORGANISMIC, AND TRANSACTIONAL WORLD VIEWS

units. Thus changes in psychological functioning are described in terms of absolute chronological units of time that are imposed on phenomena—seconds, hours, and years. In a sense, time is treated as a *location*, and the phenomenon is examined as a snapshot, frozen in time, or as repeated snapshots, with time locating the phenomenon in two or more places. Change is treated, therefore, as the difference between the state and structure of the phenomenon at time 1 and the state and structure at time 2, time 3, and so forth.

The imposition of absolute chronological units may encourage treatment of psychological phenomena as states, with change viewed as the difference between the state and structure of the phenomenon at two or more times. Actual processes of change are usually inferred from changes in status from one time to the next, rather than being examined directly as the phenomenon unfolds and shifts. In contrast, "event" organized sequences described later, focus on "transient" organized sequences that unfold and describe phenomena on the basis of inherent changes in the directions, purposes, and functioning of the phenomenon, rather than through externally imposed or arbitrary chronological units.

A third feature of change in interactional approaches is that change is not teleological. Unlike trait and organismic approaches, interactional perspectives do not assume that phenomena are pulled or directed toward some ultimate or final state of being. Although interactional approaches sometimes assume underlying governing mechanisms, such as homeostasis or drive reduction, they rarely adopt teleological regulators that control the ultimate directions and goals of system change and movement. Instead, change is determined by the preestablished properties of the interacting entities.

### Philosophy of Science

The philosophy of science of interactional world views has been the cornerstone of psychological thinking for most of the present century. These values have been derived from the scientific revolution and the associated philosophies of Hume, Bacon, and others, and the culmination of these ideas in the twentieth century logical positivist perspective on scientific inquiry. For example, as described next, interactional approaches are distinguished by an analytic orientation to psychological phenomena, an emphasis on Aristotle's concept of efficient causation with a search for antecedent-consequent relationships between variables, and a belief in the importance and possibility of independent and

objective observations of psychological events. In addition, interactional world views value precise and rigorous operational definitions of variables and consider important the testability, generalizability, and replicability of findings and concepts. They also assume that it is possible and necessary to develop universal or general laws and principles of psychological functioning.

Kitchener (1982), in a comparison of holistic models (our organismic and transactional perspectives) and mechanistic models (our interactional approaches), described the latter as analytic and dimensional in orientation. According to Kitchener, mechanistic approaches, which grew out of the scientific revolution, use the *method of analysis* to investigate phenomena. This method involves three steps: (1) "the analysis of a whole into its basic, irreducible 'atomic' parts" (p. 234); (2) the specification of the properties of these elements or parts, and their interaction; and (3) the statement of so-called composition laws that describe principles according to which the elements interact.

Through an analytic strategy, therefore, separately existing elements or building blocks are determined, and the whole is constructed in an additive fashion. The whole is reducible ultimately to its separately existing elements and to the laws that relate them to one another. It is assumed that the properties of the elements (person qualities and situational qualities) and of composition laws can be precisely described, tested, and replicated. It is further assumed that these qualities and laws are generalizable and universal, and that the goal of research and theory is to search for broad principles of psychological phenomena.

As an aspect of the preceding strategy, interactional world views rely heavily on Aristotle's efficient concept of causation. In describing efficient causation, Rychlak (1977) stated:

An *efficient cause* rests on the notion that an antecedent event invariably and necessarily causes a consequent event which is called an 'effect.' Thanks to natural science, most people immediately think of *this* meaning of cause when we use the term. (p. 5)

Associated with the idea that causes and effects are different entities, interactional world views assume that observers are separable from the phenomenon of interest. Much as do trait approaches, interactional world views treat the observer as separate and detached from the phenomenon and believe that the search for knowledge can be objective, replicable, and independent of the ob-



server's biases or status with respect to the phenomenon. Whereas transactional perspectives, exemplified by relativity and quantum theories in physics, consider the position and rate of movement of observers to be part of the phenomenon, interactional perspectives (including the Newtonian approach in physics) assume that observers are separate from the phenomenon and that observation can be done without the observer's influencing or altering the phenomenon. In summary, the philosophy of science of the interactional world view, dominant in contemporary psychology, emphasizes analysis, objectivity, testability, replicability, generalizability, prediction, and universal principles and laws.

### **Interactional Approaches in Environmental Psychology**

Much as it is with the field of psychology as a whole, research and theory in environmental psychology are dominated by the interactional world view. Early research adopted an interactional perspective that focused on straightforward unidirectional effects of environments on behavior. For example, the first studies of crowding examined the direct impact of different forms of population density on psychological functioning, that is, social and spatial density, people-per-room ratios, people per acre, and so on (Epstein & Baum, 1978; Baum & Paulus, Chapter 14, this volume). Eventually, research on crowding examined the joint and interactive effects of physical density, person qualities (age, sex, psychological abnormality, etc.), and interpersonal qualities (attraction, group cohesion, social networks and support systems, etc.) on psychological outcomes. Likewise, studies of spatial proximity shifted from analyses of situational and personal factors as separate determinants of spatial behavior to examination of person and setting qualities as interacting variables (see Aiello, Chapter 12). Thus demographic factors, cultural differences, and personality dispositions were examined in interaction with situational characteristics such as formality and location of settings, nature and quality of intrusions by strangers or friends.

A great deal of the research on environmental perception and cognition of large-scale built and natural environments also reflects a complex interactional world view (see Gollwage, Chapter 5, Knopf, Chapter 20, Wohlwill & Heft, Chapter 9). Early work identified properties of the environment presumed to influence directly perceptions and cognitions, for example, environmental simplicity and complexity, environmental coherence, and physical dimensions of environments such as paths and landmarks. Very

quickly, however, research began to study the interactions of environmental, person, and group variables, such as cultural background, experience in certain types of environments, personal predispositions, social class, and a variety of demographic factors. A similar pattern of research activity occurred in studies of cognition, attitudes and perceptions toward work settings, neighborhoods and communities, institutional environments, and other places.

Another tradition of research in environmental psychology that adopts an interactional perspective involves the application of an operant learning theory perspective to environmental phenomena (see Cone & Hayes, 1980; Geller, 1982; Everett & Watson, Chapter 26; Geller, Chapter 11). This research studies techniques for changing behavior in a number of environmentally relevant areas—littering, recycling of wastes, transportation, and water and energy conservation. The basic approach involves application of environmental contingencies, reinforcement schedules, information and feedback, and other ideas from operant theories to environmental behavior. Although necessarily incorporating personal variables, for instance, motives and drives, this research emphasizes manipulation of separate environmental contingencies to produce variations in outcomes.

Another example is research on postoccupancy evaluation of housing developments, workplaces, and other settings, which examines how personal and group factors interact with physical design characteristics directly to affect attitudes, satisfaction, performance, and other outcomes. Similarly, research on certain aspects of territorial behavior and defensible space (Brown, Chapter 13, Taylor, Chapter 25) is based on the assumption that person and group factors interact with environmental variables, for example, design of exteriors and interiors of dwellings, communities, and neighborhoods, to produce different degrees of perceived and actual territorial control and spatial defensibility.

In most of this research, environmental factors, person or group qualities, and psychological processes are defined in terms of different dimensions, with each factor considered as an independent entity. While some of this research examined short-term and delayed impacts of environmental factors on psychological functioning, time was treated as independent of the phenomenon and served primarily as a locational device to mark the state of a psychological process undergoing the interactive influence of environmental and person/group variables.

In summary, interactional world views emphasize the separate existence of contexts and settings, per-

son factors, psychological processes, and temporal variables. Interactional research and theory are analytic, describe dimensions of separate entities, examine their interactions, and attempt to understand antecedent-consequent causal relationships between variables. Environments are usually treated as independent predictor variables; psychological functioning is treated as a dependent or outcome variable; and time serves as a mechanism for locating and describing changes in the state of psychological systems. For the interactional world view the goal of research and theory is to develop general principles of psychological phenomena. This is to be accomplished by means of an analytic perspective in which knowledge about antecedent-consequent relationships of person and environmental variables is accrued in a systematic, objective, and parametric fashion.

### **1.3.3. Organismic World Views**

This approach corresponds most closely with Peppert's organicist orientation and shares certain features with Dewey and Bentley's interaction and transaction approaches (see Table 1.1, Table 1.2). Organismic orientations define psychology as *the study of dynamic and holistic psychological systems in which person and environment components exhibit complex, reciprocal relationships and influences.*

#### **Unit of Analysis**

The emphasis on holistic units of study in organismic world views was concisely stated by Reese and Overton (1973):

The basic metaphor in the organismic model is the living organism, an organized whole. The whole is organic rather than mechanic, and rather than being the sum of its parts, the whole is presupposed by the parts and gives meaning to parts. (p. 69)

Unlike interactional approaches, which focus on the elements of a phenomenon, organismic approaches take as their unit of study the integrated system. And the holistic system is, to use a frequently cited phrase, "more than the sum of its parts." An exploration of this catchphrase in the writings of systems theorists (Kitchener, 1982; Laszlo, 1972; Miller, 1978; Von Bertalanffy 1968) reveals several aspects of the organismic view. Most important is the idea that the qualities of the whole cannot be understood strictly on the basis of knowledge about the qualities of the elements or parts that comprise the whole, especially if those parts are studied in iso-

lation or in simple relations with other parts. Rather, it is the complex set of relationships between elements that is important to comprehend, including the relations among subsets of the whole. As Kitchener (1982) stated, "the whole places constraints on the parts, since it is the relations among parts that determines their functioning." Thus the elements are subordinate to the purposes or relations that govern the whole. Miller (1978) pointed out that holistic systems can be described in terms of levels or hierarchies, with any system being a subsystem or part of a higher-level system and at the same time being a holistic system itself composed of subsystems and parts. Superordinate systems cannot be described solely in terms of the qualities of their subsystems or parts; understanding them requires principles of organization that apply uniquely to the configuration of subsystems and parts. As a result, the parts are subordinated to the principles and laws that govern the whole, and the parts exist in a relation of dependency to one another and to the whole (Kitchener, 1982).

It is important to note that organismic approaches, like interactional orientations, conceive of wholes or systems as composed of separate elements or parts. Although the whole cannot be completely described in terms of its parts—that is, one could not predict the nature of the whole in advance from knowledge of the properties of its parts—an eventual understanding of the whole does permit a better understanding of its parts and of the relation of the parts to the whole. For example, Laszlo (1972) stated that a hydrogen atom is more than the sum of its neutron, proton, and electron parts; the same parts in different configurations would result in different outcomes. The relations between its parts plus the qualities of the parts yield the unique configuration of the hydrogen element. Von Bertalanffy (1968) summarized these themes as follows:

The whole is more than the sum of its parts.... If, however, we know the total of the parts contained in a system and the relations between them, the behavior of the system may be derived from the behavior of the parts. (p. 55)

In summary, organismic world views consider the whole and certain part-whole relationships to be the proper unit of analysis of psychological phenomena, and they view the whole to possess distinctive properties that are not directly derived from the properties of the elements that comprise the whole. On the other hand, they view elements as independently definable and functioning, as do interactional

approaches. However, in contrast to interactional perspectives, organismic approaches require an appreciation of how elements fit together in terms of system-wide principles of organization. Organismic perspectives also examine system parts within the context of the whole, not solely as separate entities, whereas interactional approaches view the whole from the vantage of its parts and treat the whole as an additive outcome of the relations of its parts.

The relationships between elements in organismic wholes and between elements and the whole can be quite complex. Unlike interactional perspectives, which tend to emphasize unidirectional relations between independent and dependent variables, organismic orientations focus on reciprocal and complex patterns of relationships between variables. Any variable in the system can, theoretically, function either as an independent or dependent variable, and causality can operate in multiple paths and directions. Furthermore, changes in one part of the organismic whole may reverberate in complex ways throughout the system, and the direction and nature of reverberations may vary with circumstances. Thus organismic world views emphasize dynamic, reciprocal, and complex relationships between the elements of holistic systems.

Most organismic approaches assume that system functioning is governed by a limited set of laws or principles. In Pepper's (1942) terms, the goal of research and theory in the organismic world view is to discover underlying "organic" principles that regulate the operation of the system and that are universal for a class of phenomena. Homeostasis and its offshoots of balance and consistency, need reduction and reinforcement, and progression through fixed stages toward adult cognitive functioning are examples of underlying organismic principles. In the organismic world view the goal of the science of psychology is to discover general and universal principles of human behavior and to achieve a unity of knowledge. Organismic approaches assume, therefore, the potential for attaining a "grand synthesis" or general theory of psychological functioning.

### Time and Change

The nature of change and the role of temporal factors in organismic perspectives are closely linked with assumptions about underlying organismic principles that control system operation and with assumptions about concepts of causation. Systems are often conceived of as striving to maintain or move toward ideal states, with organic processes directing the system in the direction of the ideal. Theories based on con-

cepts of homeostasis, balance, and consistency fit this model, as do those that postulate stages of cognitive and personality development through which the person inevitably progresses. Miller (1978) stated:

All living systems tend to maintain steady states (or homeostasis) of many variables, keeping an orderly balance among subsystems which process matter-energy or information. Not only are subsystems usually kept in equilibrium, but systems also ordinarily maintain steady states with their environments and suprasystems, which have outputs to the systems and inputs from them.... (p. 34)

Organismic systems that seek stability are posited to use deviation-countering mechanisms or negative feedback processes. These processes involve adaptive and compensatory responses by the whole system and/or some of its parts and subsystems, and they serve to ensure stability and keep the system on an even keel. Biological mechanisms of temperature control, oxygen maintenance, hormonal balances, and so forth exemplify negative feedback processes (Cannon, 1932). Thus system change and temporal factors are conceived of in terms of maintenance processes that operate under the governance of integrative organismic principles.

System change away from stability or toward new levels of stability can result from positive feedback or deviation-amplifying processes as, for example, in permanent ecological, internal, or externally imposed events that impinge on a stable system (Laszlo, 1972; Miller 1978). In such cases the organismic whole may undergo a radical transformation of its organization as it establishes a new level of stable functioning or, if a new equilibrium cannot be achieved, the system may undergo irreversible entropic processes.

As noted previously, system change can also be linked to teleological processes (Laszlo, 1972), whereby a person progresses through preestablished stages of development or maturation toward some ideal end state. Some processes of physical, moral, and cognitive development reflect these change dynamics, which function in accordance with teleological principles that "pull" the system toward an ideal state, often through specified stages of development.

Although change and temporal processes are central to organismic perspectives, as systems strive to maintain stability and/or move toward an ideal end state, the endpoint of organismic functioning involves total stability and the absence of change. Thus Pepper (1942) noted that if and when an organismic system achieved its teleological ideal, admittedly a

hypothetical event, it would no longer change, but would function in a totally smooth and harmonious fashion. So temporal change operates in the service of system maintenance or a teleological goal but would cease if the system achieved its ideal condition. In this respect, change and temporal factors are markers that reflect the state and location of systems in relation to present stability-instability and/or an ultimate end state.

Since change in organismic wholes can result from the influence and interaction of system components on one another as well as from external factors that impinge on the system or on its parts, organismic and interactional perspectives are similar. However, organismic approaches are concerned with changes at the level of the whole system, as well as with changes in subsystems and parts, whereas interactional approaches emphasize changes in separate parts of phenomena.

### Philosophy of Science

Organismic and interactional perspectives share many of the same values of philosophy of science, although they differ in some respects. These world views uphold principles of objectivity, replicability, and testability and argue for the importance of uncovering universal and general laws of psychological functioning. Some organismic theorists are more expansive than most interactional approaches, however, and argue for the unity of scientific principles and laws throughout the entire range of physical and psychological phenomena—from small-scale subatomic physical phenomena through biological processes and psychological phenomena to larger-scale social and geopolitical systems (Miller, 1978).

Organismic world views also overlap with interactional perspectives in their use of concepts of efficient causation. They accept the idea of efficient causation in that changes in one part of a system can affect other parts of the system, and external factors can be antecedents of change in system functioning. However, the complexity of organismic wholes makes it difficult to pinpoint singular antecedent-consequent relations. Furthermore, the fact that any part of the system can be an antecedent or consequent variable mitigates against an approach based primarily on simple notions of efficient causation and requires consideration of the complex relations between variables. Perhaps more important, the focus on teleological changes in the system as a whole deemphasizes the search for specific antecedent-consequent relations between variables as sufficient explanation of phenomena.

As indicated in Table 1-2, organismic approaches seem to rely heavily on Aristotle's concept of *final causation*. Rychlak (1977) defined final causation as that, for the sake of which something happens or comes about. Is there a reason, purpose, intention or preming meaning that acts as that for the sake of which a substance is formed into some recognizable shape...? The emphasis on the direction, goal or end of events is why theories that employ final cause meanings are called "teleic" or "teleological" descriptive accounts. (p. 6)

The emphasis on organismic principles that underlie phenomena, for example, homeostasis, or movement through predetermined stages, reflects teleological concepts that "pull" organismic systems toward some ideal state of functioning.

### Organismic Approaches in Psychology

Exemplars of organismic world views include general systems theory, discussed previously (Laszlo, 1972; Miller, 1978; Von Bertalanffy, 1968; and others), Heider's balance theory (1958), Bandura's model of reciprocal determinism (1977, 1978), research and theory on reciprocity of self-disclosure and interpersonal exchange (Altman, 1973; Altman & Taylor, 1973), family systems theory (Haley, 1966; Watzlawick, Beavin, & Jackson, 1967), aspects of Piaget's (1952) theory of cognitive development, and research on parent-child interaction (Lewis & Lee-Painter, 1974).

Heider's (1958) social-psychological balance theory reflects an organismic orientation in its analysis of the relationship between elements of a cognitive system—an attitude or opinion held by a person about an object, issue, or other person, and corresponding attitudes or opinions actually or presumed to be held by another individual. The cognitive system is assumed to strive toward a balanced state of the positive and negative valences between elements in the system. Imbalances that result from inconsistencies among system elements are presumed to cause stress, leading to a readjustment of relations between elements. The elements in the system, although interrelated to form a unified and distinctive whole, exist as separate entities that have their own properties. Heider's theory does not explicitly postulate a long-range teleological direction of system functioning, but it focuses on the maintenance of momentary psychological balance or consistency.

Bandura (1977, 1978) recently proposed an organismic model of *reciprocal determinism*, with the parts of the holistic system composed of person factors, such as beliefs and perceptions, overt behavioral

acts, and physical and social environmental factors. Bandura postulated that these variables function as a unified system, with changes potentially initiated from any component, and with reciprocal influences between system components. Although Bandura articulated the independence of the components of the holistic system, the whole involves a unique pattern of relationships of its parts. Although he is not precise with respect to organismist principles that regulate the operation of the system, ideas of balance and reinforcement are implicit in Bandura's writings. In addition, Bandura's model does not contain any specific statement regarding teleological end states, although he hypothesizes that reciprocally deterministic systems move toward increased efficiency and efficacy.

Certain aspects of Piaget's (1952) theory of development also illustrate an organismic world view. Although the concepts of assimilation and accommodation seem to fit best in a transactional orientation, as discussed later, his description of children's progress through stages of cognitive development has organismic qualities. Mental structures are hypothesized to fit together in an integrated system in which the organism strives for equilibrium between the mental structures and reality. The equilibrium is not static because the organism transforms in successive attempts to adapt cognitive structures and information from the environment into a unified organization. Development of cognitive processes is described by Piaget as progressing through a fixed sequence of stages, culminating in the ideal state corresponding to adult cognition (formal operations). Thus cognitive development acts in accordance with an underlying teleological principle that directs its movement toward a predetermined, increasingly well adapted structure of cognitive functioning.

Some research on parent-child interaction reflects a transition from an interactionist to an organismic perspective (Lewis & Lee-Panier, 1974). Early research focused on the unidirectional impact of situational and parental influences on child behavior, with parents serving as social environments independent of the child, and with temporal processes handled in a static "snapshot" fashion rather than as ongoing, or flowing. However, recent work reflects an organismic perspective, with an emphasis on the reciprocal relationships and holistic quality of parent-child interaction. For example, Lewis and Lee-Panier (1974) demonstrated reciprocal patterns of smiling and vocalization between parents and children and instances where children's behavior tripped off parental behavior and vice versa. However, in this and related re-

search, child and parent behaviors are still defined independently of each other, although a unique holistic parent-child system emerges from the distinctive pattern of the participants' actions and reactions to one another. Lewis and Lee-Panier noted the organismic quality of such research and suggested the need for incorporating a transactional approach:

In all the models we have presented there have been "elements" [individual parents and infants]... What we need to develop are models dealing... with interaction independent of elements. This is by no means an easy task. Although many investigators have attempted this... the elements rather than the relationship consistently reappear. This... also requires that we not consider the static quality of these interactions. Rather, it is necessary to study their flow with time. While proponents of static theory state that their models can approximate flow through a series of still photographs, it is not at all obvious that such a technique is valid and does not seriously distort that which is being studied. Thus, relationship and flow must somehow find a way into our models independent of the elements. (p. 47)

Aspects of some family systems approaches to psychotherapy also illustrate an organismic world view (Haley, 1966; Minuchin, 1974; Watzlawick et al., 1967). These approaches take many different forms and often have both organismic and transactional properties; however, they consistently treat families as holistic units. Family systems are composed of components (family members) who influence and interact with one another in complex ways. The pattern of their interactions and relationships yields a system with emergent and unique properties that transcends the characteristics of the family members considered singly or in their separate relationships with one another. Problems and solutions to family system imbalances are based on reciprocal patterns of influence and communication, with reverberating effects throughout the system. Thus marital conflict and parent-child difficulties are treated as family system problems, not as problems of individuals. These approaches also assume underlying systems principles that govern families, for example, homeostasis, negative and positive feedback, and equifinality. The goal of therapy is to help families achieve a mode of operation that involves stable and balanced relationships between family members.

### **Organismic Approaches in Environmental Psychology**

Organismic perspectives have also begun to be developed in environmental psychology. Moos applied a

general systems framework to hospitals, schools, dormitories, and other settings (see, e.g., Moos & Lennie, 1984). Each of these settings contains a number of subsystems: an environmental subsystem that includes characteristics of the natural and designed physical environment, and organizational factors such as size, management control, social climate; a personal subsystem that includes demographic variables and personal characteristics such as expectations, personality, and coping skills of participants. Environmental and personal subsystems interact and influence one another and together set in motion an array of psychological processes, including efforts to cope with and adapt to the setting. These mutual influences result in a degree of adjustment, stability, and change that can also feed back and produce alterations in the environmental and personal subsystems. Thus Moos envisions holistic systems to be composed of interacting but separate elements whose influence on one another is multifaceted and multidirectional.

Several models of crowding also illustrate an organismic perspective (Altman, 1975; Bell, Fisher, & Loomis, 1978; Sundstrom, 1978). These models treat crowding as a complex system composed of separate antecedent elements, including personal and interpersonal variables, and physical factors, especially density. These factors affect intervening processes such as psychological appraisal of the situation and stress, which, in turn, result in coping responses and short- and long-term psychological, physical, and physiological consequences of crowding. Included in these models are complex feedback loops involving many combinations of system components. These models are classic examples of organismic perspectives in several ways. They are holistic frameworks, and they treat crowding as a complex and organized system composed of components that exhibit reciprocal influences on one another, with a change in one part of the system capable of reverberating in complex ways throughout the system. Although differing in the exact linkages of variables, these models all contain feedback loops that reflect reciprocal influences and a system in dynamic motion. In accordance with organismic perspectives, they also portray crowding as governed by an underlying organismic principle of homeostasis, such that system balance that is disrupted by density in interaction with other factors leads to coping responses designed to restore or establish an acceptable equilibrium.

In an ecological analysis of the relation between transportation and human well-being, Stokols and

Novaco (1981) developed a holistic model that also fits an organismic perspective. They described psychological aspects of transportation as involving a variety of components, including mode of travel, travel aims or goals, and travel stressors (congestion, vehicle characteristics, distance, travel time), and psychological well-being based on perceptions of the situation, affect and stress, physiological arousal, cognitive and behavioral functioning, attitudes, adaptations, and coping responses. These component factors are assumed to have reciprocal and multidirectional causal relationships with one another, are described and defined independently, and are linked together in terms of person-environment "fit" or "congruence." Well-being or psychological adjustment is considered to be associated with the degree to which personal and interpersonal goals and activities are congruent with qualities of the physical environment. As well as describing holistic, multidirectional causal connections between variables, this approach adopts an organismic notion of homeostasis or balance in the form of person-environment congruence.

In summary, organismic perspectives focus on holistic, molar systems as the proper unit of study in psychology. Although they emphasize holistic units of analysis, organismic approaches treat systems as made up of elements, components, or parts that are interrelated in complex ways. Thus organismic, interactional, and trait approaches are similar in their assumption that components or elements make up the whole. On the other hand, organismic perspectives emphasize the idea that the system components are related to one another in complex ways and that it is the overall pattern of relationships between elements that is crucial, not the characteristics of the elements considered in isolation or in specific relationships with other elements. System relationships are mutual and reciprocal, such that any component can potentially influence and serve as a cause of variation in other components.

Organismic approaches are sensitive to the role of temporal factors, as they postulate a dynamic quality to holistic systems and describe feedback loops and ongoing reciprocal and mutual influences within the system. However, change is linked to underlying regulatory principles such as homeostasis, and/or teleological principles, that is, final causes that direct the system toward some ultimate, ideal, and stable state of functioning. As a result, change is usually associated with system movement toward an ideal state and reflects the "location" of a system in respect to an ideal stable condition.

Organismic world views also emphasize the goal of achieving a "grand synthesis" or unity of knowledge whereby many levels and forms of psychological functioning can be understood in terms of a limited number of causal factors, laws, or principles. Finally, organismic world views share with trait and interactional perspectives an emphasis on traditional scientific approaches to the study of psychological phenomena, including detached and objective observations of events.

### 1.3.4. Transactional World Views

The transactional approach is a synthesis of Pepper's (1942, 1967) contextualist and selectivist orientations and Dewey and Bentley's (1949) transactional perspective. A prototype definition of psychology for transactional approaches is *the study of the changing relations among psychological and environmental aspects of holistic entities*. According to this definition, the unit of psychological analysis is holistic entities such as events involving persons, psychological processes, and environments. The transactional whole is not composed of separate elements but is a *confluence* of inseparable factors that depend on one another for their very definition and meaning. Furthermore, transactional approaches focus on the *changing* relationships among aspects of the whole, both as a tool for understanding a phenomenon and because temporal processes are an integral feature of the person-environment whole.

#### Unit of Analysis

Although both transactional and organismic orientations emphasize the study of holistic person-environment units of analysis, they differ in their conceptions of how holistic systems are composed and operate. Organismic orientations view the system as made up of separate elements whose patterns of relationships comprise the whole. The relations between elements are constituents of the whole; in fact, they constitute a form of element that contributes to the nature of the whole system. In the transactional view there are no separate elements or sets of discrete relationships into which the system is ultimately divisible. Instead, the whole is composed of inseparable aspects that simultaneously and conjointly define the whole.<sup>1</sup>

As Pepper (1942) stated, the root metaphor of contextualism is the historical event—a spatial and temporal confluence of people, settings, and activities that constitutes a complex organized unity. There are no separate actors in an event; instead,

there are acting relationships, such that the actions of one person can only be described and understood in relation to the actions of other persons, and in relation to the situational and temporal circumstances in which the actors are involved. Furthermore, the aspects of an event are mutually defining and lending meaning to one another, since the same actor in a different setting (or the same setting with different actors) would yield a different confluence of people and contexts. The aspects of an event are so intermeshed that the definition or understanding of one aspect requires simultaneous inclusion of other aspects in the analysis. To put this in another way, the transactional world view does not deal with the relationship *between elements*, in the sense that one independent element may cause changes in, affect, or influence another element. Instead, a transactional approach assumes that the *aspects* of a system, that is, person and context, coexist and jointly define one another and contribute to the meaning and nature of a holistic event.

An example of relations among aspects of transactional unites appears in sociological and psychological concepts of norms, rules, and roles. These qualities define and govern the functioning of actors in physical and social contexts in relation to one another and in changing circumstances. It is these relational qualities that are of interest to a transactional approach, not the characteristics of elements considered one at a time, as independent entities, or in subsets. For example, a transactional world view would focus on the actions and context involved in orchestrating a symphony, rather than the separate characteristics of the conductor, the string section, the score, or the concert hall. The actions of the participants, the rules and norms that bind them together, their relationship to the physical setting and to the qualities of the audience, and the temporal flow of the event are of interest in a transactional orientation.

The inseparability and holistic nature of aspects of psychological phenomena were expressed by a number of early writers in the field of personality:

We cannot define the situation operationally except in reference to the specific organism which is involved. We cannot define the organism operationally, in such a way as to obtain predictive power for behavior, except in reference to the situation. Each serves to define the other; they are definable operationally while in the organism/situation field. (Murphy, 1947, p. 891)

The organism is entirely permeated by the environment which insinuates itself in every part of it. On the other hand, the organism does not end at

the body surface but penetrates into its environment. (Angell, 1958, p. 97).

Although transactional and organismic world views both focus on holistic units of psychological phenomena, they differ in how they approach wholes. Whereas organismic approaches consider wholes to be composed of separate components and relations between components, transactional perspectives assume that wholes are composed of inseparably existing actors engaged in dynamic psychological processes (actions and intrapsychic processes) in social and physical contexts. Transactional approaches reject the use of separate components or parts; instead, the preceding features are necessary and intrinsic definitional qualities of all psychological phenomena and collectively constitute an event, whole, or unity. Whereas organismic world views define each component of a system separately and examine their relationships in order to understand the whole system, transactional world views define every aspect of psychological wholes in terms of one another, not as separate elements. The relations among aspects of the whole exist, therefore, in their very definition, not in the influences of separate variables on one another. Relations among the aspects of a whole are not conceived of as involving mutual influences or antecedent-consequent causation. Instead, the different aspects of wholes coexist as intrinsic and inseparable qualities of the whole.

#### Time and Change

In addition to its focus on intertwined aspects of an event, the transactional world view incorporates temporal processes in the very definition of events. The transactional view shifts from analysis of the causes of change to the idea that change is inherent in the system and the study of its transformations is necessary to understand the phenomenon. In the transactional perspective the changing configuration itself is the focus of analysis. Regularities and predictive patterns of change may be found, but not by separating elements of an event from each other in order to viewed what exactly "caused" the change. Change is viewed more as an ongoing, intrinsic aspect of an event than as the outcome of the influence of separate elements on each other.

These views of temporal processes and change contrast with interactional and organismic perspectives, where time is treated as a separate dimension and is used to "mark" or "locate" the state of a phenomenon at a given instance or series of instances. Interactional approaches assume that change results from the interaction of separate en-

ties, with some entities treated as independent variables that cause change in dependent variable entities. Organismic approaches consider change to result from complex reciprocal interactions between elements of the system, with a given element potentially being an independent or dependent variable on different occasions. While time and change in organismic perspectives are associated with deviations from an ideal state or attempts to achieve some long-range predetermined teleological goal, transactional approaches do not assume that change is associated with a predetermined ideal state. Rather, change is treated as an intrinsic property of holistic unites, without regard to movement toward some ideal that, if achieved, involves no further change.

Crude parallels may be drawn between the transactional view in psychology and quantum and relativity theory in physics. In contrast with a Newtonian interactional view, which examines the qualities of particles as sources of change, modern theories in physics focus on the "field" or changing configurations of energy. Modern studies of subatomic and high-velocity phenomena suggest that mass and energy are interchangeable, and that many things called particles can be viewed as momentary and changing nexuses of energy and activity. In this view, there are no "real" particles. Instead, patterns of energy are distributed and redistributed in different configurations. In a similar way, the transactional view in psychology focuses on changing configurations of persons, psychological processes, and contexts. Rather than focusing on the static qualities of psychological entities or "particles," the transactional view emphasizes changing processes in different person-environment configurations. To use Dewey and Bentley's (1949) analogy, transactional world views use action verbs in describing psychological phenomena—acting, doing, talking, thinking—in contrast to studying states, structures, and static entities.

Change in the transactional model may result in psychological outcomes that are variable, emergent, and novel. That is, configurations of people, psychological processes, and contexts can be temporarily and spatially distinctive and not always wholly predictable from knowledge of the separate aspects of the system. Transactional approaches differ markedly in this respect from the other world views. In the trait approach, the variety of psychological outcomes is limited by the predetermined qualities of the person. The interactional world view assumes that psychological outcomes are predictable from the interaction of elements with known qualities. In the or-

ganismic world view teleological principles guide or pull the system toward a predetermined ideal state, with the nature and outcomes of change highly predictable. The fact that transactional views permit variability and novelty in the pattern and direction of change does not mean that these approaches eschew prediction and general principles of psychological functioning. The dynamics of psychological function, while variable, may form general patterns across similar events. Although phenomena are intrinsically changing, the change is not necessarily random or idiosyncratic. Thus consistencies and patterns in the flow of similar events may or may not allow for general statements and theories. In summary, both unique events and patterns across similar events are of interest in transactional perspective.

Transactional approaches, in contrast with organismic orientations, deemphasize the operation of universal regulatory principles that predetermine the course of development of a phenomenon, although they accept the idea that psychological events are purposive, intentional, and goal directed. Goals and purposes are based on short- and long-term motives, social norms, emergent qualities of phenomena, and other factors. However, goals are flexible and are not assumed to be undergirded by a limited number of all-encompassing organismic principles. They may shift as the confluence of people, places, and processes changes, as outside events impinge on the configuration, and as people and cultures change in their day-to-day lives and over longer-term historical periods. And there often are multiple goals at work in the same transactional configuration.

### Philosophy of Science

The philosophy of science of transactional world views differs in several respects from the philosophies of trait, interactional, and organismic approaches. Transactional world views rely heavily on Aristotle's fourth conception of causation, *formal cause*, which Rychlak (1977) described as

a pattern, shape, outline, or recognizable organization in the flow of events or in the way that objects are constituted.... Natural objects and behavioral sequences are clearly patterned outlines, recognizable styles of this or that significance to the viewer, who comes to know them as much by these features as by their substantial nature (material cause) or the fact that they are assembled (efficient cause). (Rychlak, 1977, p. 6)

The focus of formal causation on patterns, forms, and flow is compatible with the transactional approach, in which one attempts to discern the nature

of the whole without emphasis on antecedent and consequent relationships among variables, without analysis of the whole into its elements, and without identification of monolithic teleological or other mechanisms that inevitably govern the phenomenon.

Formal causation and transactional approaches do not rule out the value of applying existing general principles or laws to understand an event. Thus to account for the physical basis of an event such as a rock breaking a window one might draw on a combination of laws of materials, trajectories, forces, tensions, and so on (Bates, 1969). In such instances the goal is to understand a specific event, and general principles or laws are applied, as appropriate, in order to explain the event. Transactional approaches are also open to the possibility that new or emergent principles might be necessary to account for an event, or that some combination of existing and new principles may be needed.

In summary, transactional approaches begin with the phenomenon—a confluence of psychological processes, environmental qualities, and temporal features—and employ all necessary principles and combinations of principles, including emergent ones, to account for it. Instead of only invoking specific preestablished explanatory principles to account for phenomena, transactional approaches include hypothesis-generating as well as hypothesis-testing strategies and eclectic rather than monolithic applications of explanatory principles.

The other world views seek to discover the few key underlying principles that govern the functioning of all psychological phenomena and, in so doing, proceed toward an ultimate synthesis and unity of knowledge. In contrast, transactional world views, although interested in principles and laws that may apply broadly, set their sights on accounting for specific events in terms of whatever theoretical principles may apply. The focus is, therefore, on the event, with acceptance of the possibility that different configurations of principles may be necessary to understand different events. Transactionalism adopts, therefore, a pragmatic, eclectic, and relativistic approach to studying psychological phenomena.

Transactional world views also stress the value of studying unique events. As Pepper noted, the contextualist approach allows for the possibility that the workings of an event are not predictable or repeatable (in addition to the possibility that they are). Although the development of broad-ranging principles is a possibility, transactional approaches also appreciate and give attention to unique, nonrecurring, novel events. Understanding idiosyncratic events is

valuable because it allows for examination of an event from several perspectives and facilitates an appreciation of the variety of factors that contribute to the fabric of a phenomenon. In addition, the study of single events may lead to new ideas, principles, and approaches or confirm the operation of principles and theory developed in other research.

The role of observers and the nature of observation in transactional world views are also distinct from those of the other perspectives. Trait, interactional, and organismic orientations adopt a classic Newtonian perspective with respect to the role of observers. That is, the phenomenon is treated as "out there," independent of the physical location and movement of the observer. On the other hand, relativity and quantum theory in physics consider the position and rate of movement of the observer to be literally an aspect of the phenomenon itself. Two observers at different locations and moving at different velocities will provide different but accurate descriptions of the same phenomenon. As such, a phenomenon is partly defined by the qualities of the observer, making the observer an aspect of the event. In the same way, a transactional approach calls for the study of how observers in different "locations" with differing characteristics and perspectives view and interpret the same event. Observers are, therefore, inseparable from phenomena, and their role, perspective, and "location" must be understood as an aspect of an event. The methodological implications of this approach to observation are discussed in a later section of the chapter.

In summary, transactional world views emphasize the study of holistic units of analysis, with phenomena defined in terms of inseparable psychological, contextual, and temporal facets. Unlike other orientations, transactional approaches include temporal qualities and change as intrinsic aspects of psychological phenomena. Furthermore, origins and directions of change are presumed not to be governed by singular or monolithic organismic or determinist principles, but to occur as a result of shifting goals, purposes, and motives that are part of the psychological and contextual properties of specific events. Moreover, the goal of transactional approaches is to understand the pattern and flow of particular events, by means of existing and emergent principles that apply to the event.

### Transactional Approaches in Psychology

Theories and research in several areas of psychology incorporate transactional ideas. In experimental psy-

chology, Gibson's theory of perception (Gibson, 1979; Michaels & Carello, 1981) uses the event as a basic unit of psychological analysis and focuses on the animal-environment system of adaptation, with change assumed to be inherent in events. Transformation and change are not regarded as following a fixed, unidimensional course toward a predetermined end point. Rather, the organism and environment uniquely differentiate to fit one another, thereby forming a distinctive ecological niche. Furthermore, the animal and the environment are defined and change in a wholly mutual way.

An animal's wings, gills, snout, or hands describe that animal's environment. Likewise, a complete description of a niche describes the animal that occupies it. For example, if we specify in detail the niche of a fish (its medium, its predators and prey, its nest, etc.), we have in a way described the fish. Thus, just as the structure and functioning of an animal implies the environment, the particulars of the niche imply the structure and activities of its animal. (Michaels & Carello, 1981, p. 14)

Thus Gibson and his associates reject the separateness of contexts and psychological processes and treat them as aspects of a holistic unity. This theme is further elaborated in the concept of environmental affordances, which reflects the psychological and behavioral utility of the environment for the organism. People do not perceive chairs and pencils in physical terms; rather, they see them in functional, utilitarian ways. They perceive places to sit, things to write with, or aspects of the environment that relate to actions, process, flow, and activity. The environment is conceived of, therefore, as an aspect of ongoing behavior and psychological functioning. Psychological processes, context, and time are inseparably fused.

In some respects, Piaget's (1952) theory of development fits with a transactional world view. Although his description of progression through stages of development relates to an organismic perspective, Piaget expresses the mutuality of organism and environment in his discussion of assimilation and accommodation:

The organism and the environment form an indissoluble entity, that is to say... there are adaptational variations simultaneously involving a structuring of the organism and an action of the environment, the two being inseparable from one another. (Piaget, 1952, p. 16)

Soviet activity theory, as originally stated in Vygotsky's developmental theory (1962, 1978), focuses on the concept of activity to reflect the mutual in-

volvement of the individual and the social context. According to Leontiev (1981) an activity is

[n]ot an aggregate of reactions, but a system with its own structure, its own internal transformations, and its own development.... If we removed human activity from the system of social relationships and social life, it would not exist and would have no structure. With all its varied forms, the human individual's activity is a system in the system of social relations. (pp. 46-47)

Soviet activity theory also emphasizes analysis of change in order to understand developmental phenomena, as illustrated in studies of long-term individual development (ontogenesis), analyses of transformations occurring over short periods of learning (microgenesis), phylogenetic studies, and analyses of the development of cultural history. Vygotsky (1978) argued for the value of developmental or "genetic" explanations of psychological phenomena, since the goals of theory and research are to examine processes as opposed to object and to study dynamic relations rather than "fossilized" behavior. An emphasis on holistic units of analysis, the study of process and change, and the inseparability of aspects of psychological systems are firm transactional underpinnings of this approach.

Certain features of Riegel's dialectical approach to social and cognitive development, particularly his analysis of developmental change, are congruent with a transactional orientation (Riegel, 1976, 1979). He described human development as a continual and lifelong interplay of biological, psychological, social-cultural, and physical processes. A central feature of this approach is its emphasis on change as an intrinsic feature of development:

As soon as a developmental task is completed... new questions, doubts and contradictions arise within the individual and within the society. A dialectic theory places less emphasis on stable plateaus of balance and more emphasis on the contradictions and questions raised by each achievement because it is... profoundly concerned with the process of change and the conditions that keep it moving. (Riegel, 1976, p. 389)

In social psychology, Lewin's theorizing (1936, 1964) exemplifies many aspects of a transactional perspective. Lewin considered psychological processes to be embedded in physical and social situations, forming a "life space" or psychological "field." That is, the life space is a momentary confluence of person qualities and properties of the psychological environment. The psychological environment involves those features of situations that are relevant to the

present motives, needs, and characteristics of the person, thereby fusing persons and environments. As well as emphasizing holistic units of analysis, Lewin described the life space as a dynamic field made up of continually changing person-environment regions and relationships. In the same way that fields in modern physics represent changing energy configurations, the life space exhibits continual activity and flow.

Lewin departed from a strict transactional perspective by assuming quasi-stationary equilibrium states toward which life spaces gravitate. However, he also noted that an ultimate state of perfect equilibrium is unattainable. Furthermore, except for the concept of quasi-stationary equilibrium processes, Lewin explicitly rejected teleology as an explanation of the dynamics of the life space since it implies that the "future causes the present" (Lewin, 1964, pp. 26-27). He also deemphasized the concept of efficient causation, that is, antecedent-consequent relationships between variables. Instead, he focused on the understanding of patterns and dynamics of current life spaces. In this respect, Lewin adhered to Aristotle's "formal" causation approach to psychological phenomena.

Another exemplar of a transactional approach is the ethogenic or situated-action approach to social psychological phenomena (Ginsberg, 1980; Harre, 1978; Harre & Secord, 1972), which examines the rules or norms of social events. Emphasis is placed on ongoing and active relations among participants and settings, not on actors or settings as separate entities. Actors and settings are linked by rules or norms that permit considerable latitude for variation and novelty in how events are played out. Because social actions occur in the context of prior actions and have implications for future actions, the understanding of events requires attention to dynamic and emergent processes that are not wholly predictable from separate knowledge of the setting or its participants.

The purpose of an ethogenic orientation is to understand the structure and pattern of a flowing event and treat it as a unique occurrence. The capstone to Ginsberg's (1980) approach to understanding lies in his essentially articulating Aristotle's concept of formal cause:

[One tries] to identify relationships among component parts and processes—but none of the components is "caused" by the prior occurrence of another component; and even more important, none of the components "causes" the action or act of which they are components. The identity of the components is a functional identity which derives from the larger

unit of which they are components, such as the act which the component actions are in a process of producing. (p. 307)

The ethogenic perspective is similar to several other transactional orientations, including Sarbin's (1976) contextualist approach, the ethnomethodological tradition (Cicourel, 1974; Garfinkel, 1967), and Goffman's dramaturgical analyses of social situations (1959, 1963, 1971). All of these approaches are holistic, focus on unfolding and changing facets of events, and seek to describe and account for the oftentimes unique patterns and qualities of events.

Gergen (1982) also called for a transactional approach, emphasizing the need to treat psychological phenomena as dynamic processes, not as stable, enduring entities. And, in accordance with a transactional perspective, he portrayed change as an *aleatory* process, that is, exhibiting emergence and spontaneity, and not following a fixed teleological or preestablished path and direction. Moreover, Gergen emphasized the holistic quality of psychological phenomena and how they are embedded in historical, situational, and physical contexts. He proposed that psychology adopt a formal cause orientation, not bound by efficient, final, or material conceptions of causation. To support this proposal, Gergen drew on Wilhelm Wundt's nineteenth century treatise on *Volkspsychologie* (folk psychology or social psychology):

For Wundt, the guiding metaphor for social psychology was not that of natural science, but rather that of historical analysis.... Rather than searching for general laws of psychological functioning, the task of a social psychologist was to render an account of contemporary behavior patterns as developed from the culture's history.... The method for social psychology was to lie in the documentation and explanation of historical patterns as they emerged over time. The function of social psychology was not that of making predictions.... Rather than prediction, the goal of the social psychologist was to render the world of human affairs intelligible. And, like Darwin, this task was to be carried out by examining the etymology of contemporary patterns. (p. 174)

### The Transactional Approach in Environmental Psychology

The transactional world view might be expected to have broad appeal to environmental psychologists, given that field's emphasis on the molar physical environment in relation to human behavior. Transactional thinking was salient in the writings of the pioneers in the field:

[There is] absolute integrity of person/physical setting events.... Understanding the mutual relationship

between human behavior and experience and the dimensions of physical settings is necessarily rooted in the methodology which preserves the integrity of these events. (Proshansky, 1976, p. 63)

Man is never concretely encountered independent of the situation through which he acts, nor is the environment ever encountered independent of the encountering individual. It is meaningless to speak of either as existing apart from the situation in which it is encountered. (Heisen, 1973, p. 19)

Although readily accepted in principle, these ideas have not always been translated into theoretical and empirical work. An exception, however, is the ecological research of Barker and his associates (Barker, 1968, 1978; see also Barker, Chapter 40, Wicker, Chapter 16). For several decades, Barker has examined psychological processes in a variety of environmental settings—small towns, schools, churches, grocery stores—in accordance with the thesis that behavior is inextricably linked with the physical and social environment in a continuous flow. For Barker, the tasks of the ecological psychologist are to understand the stream of behavior and to describe the natural units of psychological functioning in physical settings, as they unfold and change directly.

A central concept for understanding the dynamic quality of person-environment relationships is the *behavior setting*: "A bounded, self-regulated and ordered system composed of replaceable human and non-human components that interact in a synchronized fashion to carry out an ordered sequence of events called the *setting program*" (Wicker, 1979, p. 12). Thus a behavior setting is a confluence of actions in relation to places and things; these actions are organized in systematic temporal sequences and patterns. Behavior, places, and temporal dynamics are mutually interlocked such that behavior gains meaning by virtue of its location in a particular spatial and temporal context, and the context gains meaning by virtue of the actors and actions that exist within it. Thus aspects of the behavior setting are defined by and define one another and lend a collective unity to the stream of behavior within the setting. Barker used the game of baseball as an analogy, where understanding the game requires that instead of focusing on elements or attributes taken out of context, for example, one player's skill or the speed of the pitched ball, one must study the game as a behavior setting or series of behavior settings, in which patterns of behavior become understandable only when viewed in the context of the places, things, and times that constitute the whole setting. Although transactional in most respects, Barker

does assume the operation of generic homeostatic mechanisms that regulate behavior settings, maintain the program of the setting, and smooth their functioning. Thus deviation-countering mechanisms redirect the system or bring it in line with its ideal functioning, and vetoing mechanisms sometimes reject the source of disruption and eliminate it from the setting. For example, small schools are often undermanned and require students to take on many jobs and assignments so that they can maintain their programs. An overmanned system with too many participants exhibits the opposite qualities, screening out certain participants to maintain its program with an optimum number of individuals. Although these mechanisms reflect homeostatic principles that regulate ongoing behavior, there is no indication of a longer-range teleological conception in Barker's framework. On the contrary, behavior settings seem to be capable of changing in many ways, rather than being directed toward some predetermined long-term ideal condition. Finally, in accord with a transactional orientation, Barker's framework does not emphasize prediction and forecasting, but it attempts to describe and understand behavior settings as complex patterns of psychological functioning, without isolation of specific cause-effect relationships.

In a recent statement, Wicker (Chapter 16) added a substantial transactional quality to the ecological psychology approach by describing the *life history* of behavior settings. His analysis emphasizes the dynamic and changing quality of settings as they proceed from formative or convergence phases through operating phases to dissolution or divergent phases. Behavior settings are conceived of, therefore, as configurations of actors, activities, and physical and social contexts that change in emergent and contextually linked ways. Although Barker's theorizing over the decades has illustrated many transactional themes, Wicker's analysis of the changing qualities of behavior settings places this theory even more squarely within a transactional world view.

The writings of Wapner (Wapner, 1981; Wapner, Kaplan, & Cohen, 1973; Wapner, Chapter 41) reflect aspects of both organismic and transactional orientations. On the one hand, Wapner explicitly adopts Peppers' organismic world hypothesis, and he specifies his own key principles as follows:

- 1) The person-in-environment is the unit to be analyzed.
- 2) The person-in-environment system operates in dynamic equilibrium directed toward long- and short-term goals.

- 3) Disturbance in one part of the person-in-environment system affects other parts in the transactional system as a whole. (Wapner, 1981, p. 224)

Wapner's approach makes several other assumptions, for example, that aspects of the person-environment system include cognitive, affective, and behavioral domains, that humans are active and vigorous initiators of events, and that the environment is a complex part of systems and includes physical features, sociocultural rules and norms, and other people. These principles contain or imply the organismic emphasis on holism, equilibrium, and multiple influences among separately existing components of the system.

In order to understand systems under conditions of disruption and adjustment, Wapner has recently studied various life transitions, such as retirement, graduation from college, or changing schools (Wapner, 1981; Wapner, Chapter 41). This newer work has a decided transactional quality in that temporal features are part and parcel of psychological phenomena, with person-environment systems as holistic unities that contain environmental, psychological, and temporal features. Other aspects of his writings are also transactional. For example, although Wapner sometimes acknowledges the possibility of examining the components or parts of systems, he also sometimes rejects the idea that components can be treated as isolated entities with fixed or separate characteristics. Rather, as called for by a transactional approach, components or parts are mutually defined in terms of one another, and their meaning and operation are closely linked with other aspects of the whole. Moreover, although Wapner explicitly accepts intentions, goals, and purposes, he does not adopt monolithic organismic principles that inevitably direct or pull behavior in specific directions. Like many transactional theorists, Wapner seems to use a pragmatic, functional, and eclectic approach to goals and purposes. (Indeed, he uses the term *multiple intentionality* to describe goal-oriented functioning; see Chapter 41.) On the other hand, he does explicate the assumption that person-environment systems generally gravitate toward states of equilibrium. In short, although Wapner adopts an organismic world view in some facets of his theorizing, there are other parts of his thinking that reflect a transactional perspective. Indeed, Wapner's theorizing and research represent an interesting bridge between organismic and transactional world views.

Transactional concepts are also evident in an-

thropologically oriented environmental research and theory. Rapoport (1977, 1982) defined *environment* as a complex and systematic organization of *space, time, meaning, and communication*. These four facets of environments occur simultaneously in a variety of configurations. For example, various physical settings in different cultures, such as a street corner, water well, or coffee house, may involve different patterns of use by different types of people, different flows of communication and meanings to participants, variations in events at different times of day, and so forth. Understanding the places and their events requires a holistic perspective that recognizes the inseparability of their different aspects. In all such cases there is a unity of temporal flow, types of participants, rules of communication, and psychological meanings of the interaction.

Transactional perspectives are salient in cross-cultural studies in which homes are conceptualized as inseparable unities of people, places, and psychological and social processes that exhibit different qualities of change. For example, Sallie (1977, 1985) found that rituals associated with the building and restoration of homes of the Pueblo cultures of the southwestern United States embed the home in an array of cultural and religious beliefs, link the home with the past, present, and future, and renew ties between members of the community and their ancestral values.

In another analysis, Altman and Gauvain (1981) described homes in a variety of cultures in terms of two dimensions that involve inseparable linkages of psychological processes and physical features of homes: identity/community and openness/closedness. The first dimension indicates that homes reflect unique and distinctive qualities of occupants through their design, decorations, and use of sitting, front facades, entrances, thresholds and interior spaces and objects. At the same time, people display social bonds to their community and culture through the physical features of homes. Altman and Gauvain also described how homes are used to regulate openness/closedness to others, permitting control over privacy. This analysis is transactional in that openness/closedness and identity/community contribute, in part, to the definition and meaning of homes, and these psychological processes are themselves defined in part by the physical qualities of homes. In a subsequent analysis, Gauvain, Altman, and Faimin (1983a, 1983b) introduced a temporal dimension to the analysis of homes by examining how rapid and gradual changes in cultures were manifested in the design and use of homes. Certain forms of rapid and pervasive social change altered an established confi-

uration of psychological processes and places, and Gauvain et al. (1983a, 1983b) described how cultures attempted to restore the prior harmony or develop new integrations of psychological processes and homes.

Phenomenological approaches to person-environment relationships are transactional in many respects (Dovey, 1985; Korosec-Serfaty, 1985; Norberg-Shulz, 1972; Relph, 1976; Seamon, 1979, 1982; Tuan, 1973, 1977, 1980). The phenomenological approach focuses on subjective and experiential aspects of person-environment relationships and is concerned with meanings, feelings of attachment, and affective orientations of people to places: "People are their place and the place is its people, and however readily these may be separated in conceptual terms, in experience they are not easily differentiated" (Relph, 1976, p. 34).

An example of this approach is Tuan's (1973, 1977, 1980) description of homes, buildings, cities, and regions as inseparable confluences of environmental and psychological experiences. Thus a physical environment or space becomes a place when psychological experiences involving meanings, actions, and feelings become attached to it. In our terms, spaces become places when they are attached to people, gain psychological meaning, and involve ongoing activities.

Furthermore, time and change are inseparable aspects of places, as they reflect the past, present, and future and involve the lives and activities of residents. Werner, Altman, and Oxley (1985) described the ways in which temporal features of homes are intrinsically linked with psychological, social, cultural, and physical qualities of homes. They proposed a temporal framework that included linear and cyclical (past, present, and future) dimensions and associated properties of temporal salience, temporal scale, pace, and rhythm. These features of time and change were applied to psychological processes, objects, and places in the homes of many cultures.

Another application of the phenomenological perspective appears in research on "environmental autobiography" and residential histories (Cooper-Marcus, 1973; Korosec-Serfaty, 1982; Rowles, 1980, 1981a, 1981b, 1984). This research reflects a transactional perspective in that people, psychological processes, places, and temporal flow form intrinsic aspects of a whole and do not exist as separate elements. For example, Rowles (1980, 1981) interviewed elderly residents of a small Appalachian town about their present and long-term attitudes, feelings, perceptions, and attachments to their homes and

town, he examined how people interacted with one another on a regular basis, at certain times, and in specific places; he studied how specific places were linked with social relationships and activities in different stages of their lives.

Altman's dialectic analysis of privacy regulation also illustrates the transactional approach (Altman, 1975, 1977; Altman & Chemers, 1980; Altman, Vinsel, & Brown, 1981). Change is a central feature of this theory, with social interaction treated as a dynamic interplay of openness/closedness to others, and with the particular level of openness/closedness varying from circumstance to circumstance. Furthermore, Altman described privacy regulation as a holistic, multimechanism process in which verbal, nonverbal, and environmental (personal space and territorial behavior) mechanisms are brought into play in a unified fashion. Altman's theory also explicitly discounts teleological views of privacy, arguing that privacy does not function in accordance with fixed short- or long-range ideal levels of openness/closedness but is linked to contexts and social circumstances. Although privacy regulation is hypothesized to be a culturally pervasive process, unique mixes of verbal, nonverbal, and environmental privacy mechanisms are often associated with particular individual and cultural contexts.

The recent research and theorizing of Stokols and his associates also illustrates the transactional world view (Jacobi & Stokols, 1983; Stokols, 1981; Stokols & Shumaker, 1981; see also Stokols, Chapter 2). For example, Stokols and Shumaker (1982) developed a holistic taxonomy of places that weaves together their geographical and physical properties with participants, psychological processes, and sociocultural meanings. This analysis was complemented by Stokols's (1981) use of the concept of *subjective life stage* of settings (spatially and temporally bounded periods associated with particular goals, activities, and processes), thereby highlighting temporal qualities of person-environment functioning. Complex relationships within and between temporal stages yield a dynamic, flowing, holistic orientation to person-environment relationships.

In another analysis, Jacobi and Stokols (1983) emphasized some broad-ranging temporal qualities of group functioning in relation to physical settings. For example, present-focused orientations involve situations where individuals and groups relate to the physical environment in terms of its functional significance for achieving certain immediate goals and plans; traditional orientations involve configurations of people, objects, and places, and affective feelings

that link them to the past; futuristic temporal perspectives focus on people, places, things, and events yet to come; a coordinated temporal perspective involves a balanced person-environment orientation to past, present, and future.

Congruent with other transactional world views, Stokols and his associates do not hypothesize organicist and teleological principles that regulate the operation of person-environment unities or direct them toward a particular end state. Instead, they imply self-initiated, qualitative transformations of settings, the possibility of different phases in their history, and variations in temporal processes from circumstance to circumstance. Furthermore, Stokols does not emphasize identification of antecedent-consequent causal mechanisms between isolated sets of variables. Rather, he and other transactionally oriented environmental psychologists attempt to understand and describe holistic networks of person-environment configurations in terms of a formal causation perspective. Although seeking broad-ranging principles of person-environment relationships, transactional researchers such as Stokols seem to accept the idea that psychological functioning may involve unique configurations of actions, settings, and cultures.

In summary, transactional orientations are unique approaches to the study of psychological phenomena in several respects. They are holistic and treat the confluence of psychological processes and environmental contexts as the fundamental unit of analysis. Persons, processes, and contexts mutually define one another and serve as aspects of the whole, not as separate elements. These aspects do not combine to yield the whole; they *are* the whole and are defined by and define one another. In addition, temporal factors are intrinsic aspects of the transactional unity, with degrees of stability and change being fundamental properties of phenomena. Also, although they may attempt to establish general principles of psychological functioning, transactional world views do not necessarily seek universal principles that are presumed to govern all facets of a phenomenon. Different explanatory principles may emerge in different circumstances; change may evolve from unique confluences of psychological processes and environments; long-range directional and teleological principles are not assumed; and variability of psychological functioning is expected. And transactional views emphasize a formal cause approach to understanding, wherein the goal of research and theory is to account for, describe, and understand the pattern of relationships among people, places, and psychological processes.

#### 14. IMPLICATIONS, ISSUES, AND PROSPECTS

The discussion in this chapter has been based on the theme that psychology in general, and environmental psychology in particular, can profit from an examination of underlying philosophical assumptions regarding *units of analysis* and *temporal aspects* of psychological phenomena. Our analysis suggested that contemporary psychology stresses interactional world views, wherein psychological functioning is assumed to result from the interaction of separate person and environment entities. We have advocated greater attention to transactional approaches because their unique philosophical perspective has promise for enhancing research and theory and has been undervalued to date. Although many psychologists have advocated a transactional world view, implementation has usually occurred only at a very general, theoretical level, and only occasionally in empirical research. In order to facilitate empirical application, the next section of the chapter outlines some broad methodological principles associated with a transactional world view.

##### 14.1. Principles of Methodology

Beliefs about research methodology and approaches to science share much in common with social stereotypes. They contain an element of truth, they are convenient descriptors, and they lend a sense of order to the stereotypic's life. However, social and methodological stereotypes can distort, do not apply to all cases, and may involve inappropriate value judgments. For example, trait world views are easy to stereotype as necessarily adopting correlational methods, such that traits are correlated with other traits and behaviors in a nonexperimental study design. And interactional approaches are prone to be characterized as relying almost solely on experimental laboratory methods, because these methods are useful in working with analytic dimensions of phenomena and because they permit clear delineation of antecedent-consequent relationships between variables. Furthermore, those who adopt an interactional orientation often avoid nonexperimental methods, believing that they are inherently flawed, primitive, and inconclusive. If nonexperimental methods are used, interactional researchers tend to be apologetic and tentative regarding their value. Organismic and transactional approaches, given their holistic emphasis, are prone to be portrayed as relying solely on "descriptive" methods, naturalistic observations, and other nonexperimental procedures.

Although there is, in fact, a general fit between world views and methodological approaches along the lines just stated, overly absolutistic stereotypes distort the fact that a range of methodologies can be employed with any of these orientations. We next illustrate this thesis by considering some methodological principles that apply to the transactional world view.

##### *Transactional Research Takes Settings and Contexts into Account*

Transactional approaches treat "events" as the fundamental unit of study. Events are composed of psychological, temporal, and environmental aspects and therefore require methodologies that tap these facets of the unity. Because it is important to study how psychological processes are embedded in physical and social contexts, transactional researchers are inclined to work in natural settings of homes, schools, workplaces, playgrounds, and so on. However, laboratories, observation rooms, and other less "natural" situations are also real settings and contexts. Any situation, laboratory or otherwise, is a context, and any psychological process always occurs in some context. A psychological process exhibited in the laboratory is not context free, and neither is psychological functioning in any other setting, however familiar or unfamiliar it may be. Therefore, the researcher must always treat the process as embedded in a context, and no context can be assumed to be widely generalizable. So denying the laboratory experiment as a relevant method for transactional approaches is fallacious. In the same way, arguing for sole reliance on laboratory experiments as the only appropriate way to study psychological functioning is equally fallacious. Instead, investigators must keep the context in mind in interpreting data. And the field benefits from attempts to sample settings broadly, a point emphasized by Brunswick (1947).

What do we mean by context? Contexts and settings include the qualities of the physical and social environment that may be psychologically relevant, the nature of tasks and instructions, the flow of events, how the setting relates to other aspects of a person's life, the "meaning" and interpretation of the situation by participants, and the familiarity of the participants with the setting. Such factors apply to the laboratory experiment and naturalistic setting alike, and transactional researchers attend to these and related issues when using any specific method. In summary, all research settings, including laboratories, have value to a transactional approach, as long as psychological phenomena are treated as



occurring within, being defined by, and linked with temporal and contextual aspects of a setting.

### **Transactional Research Seeks to Understand the Perspective of the Participants in an Event**

People come to familiar settings with knowledge, expectations, norms, and behavioral styles. In any setting they attempt to discern its demands and figure out how to behave. For a transactional orientation to succeed, the researcher should attempt to discover the "meanings" of the events to participants. Too often, investigators have preconceptions of the meaning of an event and determine only whether or not the results of a study are in accord with those preconceptions. Although such a strategy is appropriate for some purposes, it is also useful to incorporate the perspective of participants in the interpretation and analysis of an event. For example, the presence of a mother in an experiment or observational setting may be essential to ensure involvement of an infant, while her presence may be a distraction for an older child. Thus the mother's presence may not be equivalent in meaning from the perspective of the infant versus the perspective of the child. However, given cultural uniformities in experience and interpretation of events, there are regularities in the meanings with which people approach certain situations, so that descriptions of events may often rely on normative situational definitions and expectations rather than requiring individualistic and unique descriptions. This methodological requirement is not inconsistent with use of objective measures but instead stresses that one must attend to aspects of the context that are often overlooked.

### **Transactional Research Attempts to Understand the Observer as an Aspect of Events**

In trait, interactional, and organismic orientations observers are treated as independent of the phenomenon. In contrast, transactional approaches consider the position and role of the observer to be an aspect of the phenomenon. Different observers may provide varying but equally accurate descriptions of the same phenomenon, depending on their locations, roles, and perspectives, as the observer plays a part in the event.

The so-called experimenter bias effect studied in the 1960s and 1970s demonstrated that different qualities of experimenters affected behavior in otherwise standardized situations, often resulting in non-replicability of findings (Rosnow, 1981). This was interpreted as a serious methodological "problem" on

the grounds that psychological phenomena were assumed to operate and be capable of observation independent of the investigator studying them. In contrast, the transactional researcher interprets such findings as evidence that the location, attitudes, and behavior of the observer are aspects of the phenomenon, and that the very process of observation affects and alters the event. Obviously, one can standardize observations, ensure that observers always adopt a certain perspective, and develop rigid rules for instructions and data collection procedures. Although appropriate, this does not eliminate the observer as part of the phenomenon, but merely fixes the location of the observer and restricts the findings to a particular configuration of observer, participant, and setting.

A transactional approach advocates study of how observers interpret events. Rather than assuming that reliability across observers indicates closeness to the "truth," transactional approaches require more explicit attention to the evidence used by observers to make inferences about the phenomenon. This requires that the investigator include knowledge about the characteristics and orientations of observers.

A transactional perspective calls for use of a variety of research methods, including those that emphasize careful analysis of the context and of understandings shown by participants, for example, ethnographic or ethnomethodological techniques (Cicourel, 1974). In such methods observers attempt to understand psychological processes in relation to the context and norms of the setting and its participants. Transactional approaches may, therefore, require use of traditional and nontraditional psychological research methods to analyze the structure and pattern of events. In so doing, the stereotype that "true" explanation and understanding of psychological functioning comes about only through particular methods is rejected.

### **Transactional Research Emphasizes the Study of Process and Change**

Transactional orientations treat the event as a confluence of temporal, contextual, and psychological processes. This necessitates development of procedures to describe the flow and dynamics of events, that is, people's ongoing actions in relation to one another and the environment. Thus the personal qualities or cognitive structure of actors taken alone is of less interest than are the dynamic transactions of people with one another and with the environment.

Methods are required to study process and change and to examine what Dewey and Bentley (1949) described as active verb indicators of

psychological functioning—doing, thinking, behaving, feeling—rather than methods that only emphasize structure, static structures, and fixed conditions. We hasten to add that this methodological principle does not rule out the use of measures of states, but one is required to link these qualities to activities, processes, and changes.

An emphasis on transformation and change also requires identification of "natural" beginnings and endings of events. Traditional psychological research usually employs temporal indicators that are independent of the phenomenon, in accord with conceptions of time as a separate dimension that "marches on" by itself. Seconds, minutes, and stimulus time intervals are typical temporal units that are imposed on psychological processes to mark their course. Transactional approaches attempt to bound events by means of temporal qualities that are intrinsic to phenomena. Thus Barker (1968) circumscribes events in terms of changes in configurations of actors, consistent behavior patterns, and foci of attention. In this way, an event is defined in psychological and functional terms, not in chronological clock terms.

Finally, a transactional orientation attempts to track simultaneously a variety of ongoing psychological processes that are relevant to a question, and it does not focus on only a single facet of psychological functioning. Within a theme of inquiry, it is important to understand how aspects of a question are woven together. That is, the multitude of associated goals of participants in an event can be examined as they relate to each other. For example, in instructional communication between a parent and child, an adult often simultaneously maintains a child's attention, evaluates the pace of instruction, ensures appropriate social status relative to the child, and provides information on a specific component of a task. The child may also engage in a variety of actions, including seeking approval from the parent, attempting to shift the focus of attention, and working on the task. Ideally, a transactional perspective attempts to track the array of ongoing interactions related to the theme of the inquiry without being restricted to a particular isolated bit of behavior. In so doing, one can generate a sense of the whole and how subordinate activities fit into the total event.

### **Transactional Approaches Accept the Relativity of Indicators and Measures of Psychological Functioning.**

Much of the research conducted according to trait, interactional, and organismic orientations attempts to develop measures of psychological phenomena that can be used over a range of situations and particu-

pants, in order to achieve standardization and generality of indicators of psychological processes. Thus performance tasks and measures of performance, personality and attitude instruments, and so on are used from situation to situation and as universally as possible.

For the transactional researcher, rigid standardization of measures across settings may result in an artificial fragmentation of the phenomenon or an imposition of psychological indicators that are not appropriate to the social, physical, and temporal qualities of the setting. Ideally, a transactional approach would first analyze the situation or event of interest, including characteristics of participants, the environment, and norms and rules that link people and context together. Then one might use standard measures that are suited to aspects of the event. However, indicators and measures unique to the event may also be required—and perhaps not used again in other situations. This does not rule out the use of standardized procedures, but it emphasizes the importance of not being rigidly bound to them and makes salient the need for sensitivity to idiosyncratic indicators of a phenomenon. For example, the study of stress in high-density transportation systems may profitably use standard measures such as blood pressure or self-reports as well as measures of stress that do not readily apply elsewhere, for example, patterns of accelerator pressing in automobiles or nonverbal indicators of agitation.

This is a challenging methodological task because it requires sensitivity to each situation and to each case, a strong linkage between theoretical constructs and measures, and an "artist's" ability to identify indicators that are embedded in situations. It also requires consideration of the function of any particular act in the setting in which it is observed, as well as the goal(s) that the participants are attempting to meet. Ideally, therefore, a transactional approach does not unilaterally impose measures on an event, but it derives them from the event. What generalizes from study to study is not the measure, procedure, or technique but the construct and theory that underlies the research.

### **Transactional Approaches Emphasize Methodological Eclecticism**

A transactional perspective calls for research designs and procedures that are tailored to the problem and questions investigated, and to the state of knowledge about a phenomenon. Sole reliance on a single method at all stages of knowledge, or the belief that certain methods are inherently better than others, is incompatible with a transactional perspective. Qual-

itative descriptions may yield the best information in some circumstances; laboratory experiments may be fruitful in other circumstances; systematic interview and questionnaire analyses may be most appropriate elsewhere. When, how, and where to adopt a particular research strategy depend on one's conception of the particular confluence of psychological processes, contextual factors, and temporal dynamics for a given question and the state of knowledge about a phenomenon. Therefore, those who adopt a transactional approach should be receptive to using a wide range of research methods.

Furthermore, a particular methodological strategy or a particular study may not satisfy all the ideals of a transactional orientation. For example, it may not be feasible to examine temporal processes in a particular study even though time and change are intrinsic features of psychological phenomena. What is important is that such an omission be recognized, and that the larger program of research and theory eventually encompass the full transactional perspective.

## 1.5. SOME FINAL WORDS

Before concluding it is necessary to address the question: Which of the four world views is the "best," "correct," or "most fruitful" approach to the study of psychological phenomena? Although we have advocated more attention to a transactional approach, our answer to this question is nevertheless unequivocal: *None* of these world views provides the "best" or "correct" approach. They simply result in different forms of inquiry, understanding, and theory. We have called for more use of a transactional perspective because it has been neglected in psychology and because it provides a different and potentially fruitful vantage point from which to understand psychological processes. We also advocate complementary use of alternative world views, that is, adding the transactional to the other more traditional approaches in psychology, in order to avoid a doctrinaire, often ideological stance that there is an ultimately true, best, and correct way to study psychological functioning.

This position has been stated in clear terms by Dewey and Bentley (1949) and Pepper (1942):

Our assertion is the right to see in union what becomes important to see in union; together with a right to see in separation what is important to see in separation—each in its own time and place; and it is this right, when we judge that we require it for our own needs, for which we find strong support in the

recent history of physics. (Dewey & Bentley, 1949, p. 112)

We believe that at the present time there are four world hypotheses of about equal adequacy.... Now, the very statement that these are relatively adequate hypotheses means that they are capable of presenting credible interpretations of any facts, whatever, in terms of their several sets of categories. (Pepper, 1942, p. 99)

These statements endorse the notion that different world views are acceptable and serve different purposes. Furthermore, the proof of a theory associated with one world view does not necessarily disprove one derived from another world view. For example, Newtonian mechanics accounts for phenomena involving large numbers of atoms operating at relatively low velocities, with objects or atoms conceptualized as stable and indestructible material entities. At the subatomic level, however, quantum theory is more appropriate. In lieu of stable entities or objects, quantum theory conceives of dynamic, changing concentrations of energy that appear as particles or mass. When dealing with speeds approaching that of light, the Newtonian model is best replaced by relativity theory, in which a phenomenon is described in terms of the relative positions and movements of observers, and where time is an intrinsic aspect of the phenomenon. Although major steps have been taken toward unification of these theories in physics, the theme stated by Pepper and by Dewey and Bentley remains valid, namely, that there can be value in using alternative world views to understand different aspects of psychological phenomena.

The central theme of this chapter has been that psychology is presently engaged in a process of self-inquiry concerning its philosophical underpinnings, particularly with respect to its units of analysis and approaches to temporal factors and change. Our discussion of trait, interactional, organismic, and transactional world views emphasized the idea that assumptions about units of analysis and temporal factors relate to the nature of concepts regarding contexts and settings, philosophy of science, and methodological strategies.

We described how earlier periods in the history of psychology emphasized a trait world view, how present-day psychology adheres to an interactional perspective, and how there is a mounting interest in organismic and transactional perspectives. The last two approaches have strong appeal for many psychologists who deal with complex, molar phenomena. Transactional approaches are particularly relevant to environ-

mental psychology, given that field's intrinsic interest in holistic, changing aspects of person-environment relationships.

The lure of the transactional approach is simultaneously coupled with a sense of uncertainty. How does one build a theory of holistic, changing phenomena? What methods can be used to study phenomena at a holistic level? How do we incorporate change and temporal factors as part of psychological phenomena? For the most part, psychology is comfortable with an interactional perspective; indeed, it is an automatic and ingrained aspect of the thinking of many contemporary researchers and theorists, so it is difficult to conceive of working out of a different framework. Furthermore, the mechanics of working with the transactional approach are not as well articulated in psychology as are those of the more traditional approaches; we do not yet quite know "how to do it." Yet there has been a significant beginning, as exemplified by the writings of theorists and researchers cited in this chapter, and numerous others, who have incorporated aspects of the transactional world view in psychology.

We have written this essay with the hope that a description of the properties and assumptions of different world views may enhance our perspective on psychological phenomena. Enhancement of perspective means expansion, not restriction or rejection; psychology can simultaneously view its phenomena from different perspectives without sacrificing inquiry according to one world view for that of another. We hope that this chapter encourages scholars in the field to broaden their approach and begin to examine psychological phenomena from different perspectives, especially the transactional world view.

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## NOTE

1. We use the term *aspects* to mean features of a system that may be focused on separately but that require con-

- sideration of other features of a system for their definition and for an understanding of their functioning. In contrast, we use the terms *parts, elements, and components* to refer to independently existing entities that may contribute to a whole, as in the organismic world view.
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## CONCEPTUAL STRATEGIES OF ENVIRONMENTAL PSYCHOLOGY

### Chapter 2

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rate change and temporal factors as part of psychological phenomena? (p. 37)

### 2.1 INTRODUCTION

In Chapter 1, Altman and Rogoff traced the historical development of four philosophical world views within psychology: trait, interactionist, organismic, and transactional perspectives. They suggest that, while trait and interactionist analyses have received most attention to date, recent work reflects an emerging trend toward the development of organismic and, particularly, transactional models of behavior. Altman and Rogoff conclude their chapter with the following cautionary note:

The lure of the transactional approach is simultaneously coupled with a sense of uncertainty. How does one build a theory of holistic, changing phenomena? What methods can we use to study phenomena at a holistic level? How do we incorpo-

These questions pose an ambitious but promising agenda for future work in environmental psychology: namely, *the translation of a transactional world view into operational strategies for theory development and research*. Whereas some researchers have characterized environmental psychology as a "problem-centered rather than theory-centered set of activities" organized around the solution of community problems (Darley & Gilbert, 1985, p. 949), it is clear that much of the work in this field has focused on more basic theoretical tasks such as the development of new concepts and methods for understanding the ecological context of behavior and the transactions between people and places (cf. Barker, 1968; Holsahan, 1986; Itelson, 1973; Stokols, 1983; Winkel,