

Journal of Environmental Psychology 25 (2005) 361-380



www.elsevier.com/locate/yjevp

Maintaining research traditions on place: Diversity of thought and scientific progress

Michael E. Patterson^{a,*}, Daniel R. Williams^b

^aSchool of Forestry, University of Montana, Missoula, MT 59812, USA

^bUS Forest Service, Rocky Mountain Research Station, 2150A Centre Avenue, Fort Collins, CO 80526-1891, USA

Available online 7 February 2006

Abstract

Since the 1990s, numerous authors have expressed concerns about lack of conceptual clarity in research on place. Some authors suggest that place research has failed to evolve into a systematic and coherent body of knowledge. We believe recent critiques do not adequately characterize the state of knowledge in place research, but responding to the issues raised requires investigating epistemological foundations of place research traditions. Specifically, seeing systematic coherence requires a pluralistic world view that understands place, not as a single research tradition but as a domain of research informed by many disciplinary research traditions at the research program and paradigmatic level. This paper introduces a framework for discussing epistemological foundations of research traditions then uses it to: characterize the body of place research, analyse recent critiques regarding the state of place research, make a case for the value of diversity in thought, and explore the notion of scientific progress in relation to place research. © 2005 Elsevier Ltd. All rights reserved.

1. Introduction

In a variety of disciplinary fields (including architecture, environmental psychology, human geography, and sociology among others), the concept of place (also variously referred to as sense of place, place attachment, and place identity) has emerged as a prominent focus for exploring the relationship between humans and the environment. Invigorated by the emergence in the late 1960s of a humanistic critique in geography, the concept gained prominence among phenomenological researchers in architecture and geography in the 1970s with the publication of work such as Norberg-Schulz's (1980) Genius Loci: Towards a Phenomenology of Architecture, Relph's (1976) Place and Placelessness, and Tuan's (1977) Space and Place: The Perspective of Experience. Interest in the concept of place was initially slow to spread beyond phenomenological researchers and humanistic geographers due to the dominance of quantitative and positivistic

philosophies in environment and behavior research (Low & Altman, 1992). Over the last two decades, however, place has attracted considerable attention from researchers in a variety of research traditions.

Low and Altman (1992) suggest that evolution of concepts like place within the social sciences often follows a common trajectory. In the first stage, scholars treat a new concept as if there is a consensus about its meaning. The second stage is initiated by an erosion of this presumed consensus. Scholars then debate the meaning of concepts with greater rigor, developing taxonomies to characterize different but often related phenomena encompassed within the original concept in a quest for conceptual clarity amid the diversity of interpretations. The third stage involves "development of systematic theoretical positions and clearly delineated programs of research and application of knowledge to the solution of practical problems" (p. 3).

By the 1990s, place research entered a stage where there appears to have been a substantial erosion of consensus. In the last decade, numerous authors have raised questions about lack of conceptual clarity. Various authors have noted a proliferation of specific concepts (e.g. genius loci, place, sense of place, place attachment, place identity, place dependence, rootedness, topophilia) which they perceive to

^{*}Corresponding author. Rocky Mountain Research Station 2150A Centre Avenue Fort Collins, CO 80526-1891, USA.

E-mail addresses: mike@forestry.umt.edu (M.E. Patterson), drwilliams@fs.fed.us (D.R. Williams).

have vague and fuzzy definitions (Lalli, 1992; Shamai, 1991), reflecting something more aptly described as ideas than well-defined constructs (Kaltenborn, 1998), for which distinctions and linkages among concepts have been inadequately specified (Hammitt, Backlund, & Bixler, 2004; Hammitt & Stewart, 1996; Jorgensen & Stedman, 2001; Manzo, 2003; Stedman, 2002). Hidalgo and Hernandez (2001) have suggested that the variety of disciplines from which place research is now approached has helped to create a situation in which there is little agreement regarding the name of the underlying concept, its definition, or what methodological approach is best suited to its study.

Researchers raising this concern over the last decade frequently have suggested that the resolution of this problem will come through attempts to develop constructs that can be operationalized (Jorgensen & Stedman, 2001; Kaltenborn, 1998; Lalli, 1992; Shamai, 1991; Stedman, 2002). However, this suggested solution does not appear to meet criteria laid out by other place researchers. For example, Relph (1976), one of the phenomenologically grounded pioneers in the development of the concept of place, early on expressed the view that place "is not just a formal concept awaiting a precise definition ... clarification cannot be achieved by imposing precise but arbitrary definitions" (p. 4). Similarly, Seamon (1987) suggests that attempts to operationalize place-related concepts into constructs like place identity eliminate the "phenomenological essence of place as a psycho-social-environmental whole larger than the sum of its parts" (p. 20) resulting in a superficial treatment of the underlying phenomenon. In other words, some of the recent recommendations for how to achieve conceptual clarity appear to contribute to continued erosion of consensus rather than resolve it.

In addition, various authors express different views about the status of place as a theoretical concept and different visions about what Stage III of Low and Altman's (1992) postulated progression should yield. Bonnes and Secchiaroli (1995) suggest the initial diversity that characterized environmental psychology has evolved into one of greater integration among theoretical perspectives through the introduction of new concepts one of which is place. While they describe place as "a nonunivocal theoretical perspective" (p. 161), they suggest the possibility of integration across diverse perspectives and refer to development of "the theory of place" (p. 197). Stedman (2002, 2003) interprets the current lack of consensus as a failure in the progression of place research according to the model of concept evolution outlined by Low and Altman (1992). Stedman and Jorgensen suggest that progression can be achieved by translating "place terminology into social psychological concepts with well-established measures" (Stedman, 2002, p. 561) that permit quantitative hypothesis testing; specifically an attitude framework (Jorgensen & Stedman, 2001; Stedman, 2002, 2003). Franck (1987), in contrast, suggests that differences in the goals and assumptions underlying alternative research

traditions in place are so great that integration is not a possibility. Finally, in summarizing his review of place research in sociology, Gieryn (2000) concluded that the domain of study was unbounded and could not be summed up into a neat propositional inventory of empirical findings. He suggests that ultimately, place should not be seen as a distinctive kind of explanatory model, but rather more generally as a way of doing sociology.

The recent critiques described above and the diverse visions about the appropriate path of maturation in place research raise fundamental questions about the nature of research. How does science progress? How does one evaluate progress in the development of theoretical concepts? Is diversity in perspective and approach bad (an indication of lack of conceptual clarity)? Is one epistemology arguably superior to another? Is integration across perspectives possible? Are standardization and integration desirable?

In response to these questions, we believe that the mere existence of diversity in perspective and approach does not mean the development of the systematic and rigorous Stage III body of knowledge anticipated by Low and Altman (1992) has not been achieved. In our view, recent critiques suggesting lack of conceptual clarity and lack of systematic progression results from viewing place research as if it should constitute a single research tradition. Instead, we maintain that it is more appropriate to view place as a domain of research informed by multiple research traditions. Adopting this latter vantage point puts researchers in a position to see greater coherence and conceptual clarity across the body of place research than recent critiques suggest. However, the willingness or capacity to adopt this vantage point requires embracing a normative stance on science about which there is substantial debate. The dimensions of the debate involve questions about (a) the adequacy or scientific merit of divergent epistemologies; (b) how to deal with diversity in perspectives (i.e., through opposition, integration, or reflective dialog); and (c) the requirements of Stage III research, which seeks to translate conceptual and empirical knowledge into the realm of practice. Addressing these issues requires a framework for exploring epistemological foundations of research traditions that transcends disciplinary boundaries. Below, a framework developed from literature in the philosophy of science is introduced and used as the basis for organizing the discussion to characterize the body of place research, to analyse recent critiques regarding the state and progression of place research, and to make a case for the value of diversity in thought in place research.

2. The nature of epistemological research traditions

Epistemological research traditions are complex and fluid phenomena. Characterizing their nature, therefore, has always been a difficult task, subject to pitfalls such as creating straw men caricatures (in cases where authors characterize traditions they do not subscribe to) or of reifying a set of rules that do not truly describe how a specific epistemological tradition really works. However, as social phenomena, all scientific research traditions have a structure and philosophers of science have devoted a great deal of attention to the task of how to characterize them. Since the work of Thomas Kuhn, philosophers of science have conceived of the appropriate unit of analysis for epistemological traditions to be their macrostructure (Anderson, 1986). There is no single, universally adopted framework for analysing and characterizing the macrostructure underlying epistemological traditions. However, one proposed by Patterson and Williams (1998) building on work by Laudan (1984), Anderson (1986), and Murray and Ozanne (1991) utilizes a multi-layered framework comprised of three levels (Research Programs, Paradigms, and World Views) as a basis (Fig. 1). This framework provides a useful foundation for organizing a discussion that examines and responds to the recent critiques of place research.

As an element of the macrostructure, research programs are the site of actual application of science, where theoretical concepts are developed and empirically tested and where traditional disciplinary foundations (e.g. environmental psychology, geography) are most active. Therefore, this is the level at which scientists are most familiar and comfortable. Discussions of research programs are typically organized within a discipline according to either different conceptual schools of thought or different substantive concerns within the discipline. Stephen and Rachel Kaplan's (Kaplan, 1992; Kaplan & Kaplan, 1989) evolutionary/information-based approach to environmental preference, Richard Stedman's and Brad Jorgensen's (Jorgensen & Stedman, 2001; Stedman, 2002, 2003) attitudinal approach to studying sense of place, and Randolph Hester's (1993) research on the sacred structure in relation to community planning are examples of research programs.

Research programs are linked to paradigms. As a dimension of a research tradition, paradigms are the site where normative philosophical commitments that guide an approach to research (i.e. guide the development and testing of theoretical concepts within research programs) are established. Normative commitments reflect philosophical assumptions about issues such as human nature and the nature of reality (ontology), the nature and process of knowing (epistemology), and the terminal and instrumental goals of science (axiology). Behaviorism, critical theory, ethnography, grounded theory, hermeneutics, phenomenology, and psychometrics are examples of paradigms. Paradigms often transcend disciplinary boundaries. For example, it is possible to find both general and discipline specific (e.g. anthropology, psychology, geography, etc.) discussions of phenomenology (Seamon, 2000).

World views inform paradigms. This is the level at which individuals' concept of science resides; where people debate the nature of science. It deals with broad philosophical debates about the appropriate concept of validity and the nature of scientific testing logics (a logic explaining the manner in which empirical observations function as tests of theoretical concepts). Fundamental questions related to diversity, integration, and superiority of divergent epistemologies are explored at this level.

Issues at all three levels of this framework are evident in recent critiques of place research and in different visions of what the state of knowledge should look like in relation to Low and Altman's (1992) Stage III research. Specifically, examining place research at the Research Program level provides a basis for systematically characterizing distinct conceptual traditions in a manner that reveals greater conceptual clarity and coherence than recent critiques seem to acknowledge. Analysis at this level provides a means to consider possible costs of reducing the diversity in conceptual traditions through adopting one particular research program as the basis for future place research (a strategy suggested by some recent critiques). Also, viewing place research at this level provides an opportunity to make the important distinction between variation in use of terminology within a research program versus across research programs. Exploring place research traditions from the Paradigmatic level reveals how different philosophical commitments often lead to incompatible methodological directives and how this has contributed to arguments regarding lack of conceptual clarity in place research. Analysis at this level also reveals how paradigmatic commitments shape the meaning of terms. The same term can have very different meanings in different paradigms. Providing concise definitions of terms of the sort many recent critiques seek is often not possible because a full understanding of key paradigmatic concepts often requires a comprehensive understanding of the system of philosophical commitments in which they are used. Finally, exploring place research traditions at the World View level reveals how different stances on science have contributed to recent critiques of place research. It also provides a basis for considering the consequences of adopting different stances (oppositional, integrative, and reflective) to the diversity and divergence apparent at the Paradigmatic level. The relevance of these issues to recent critiques of place research is discussed more fully in the following sections.

2.1. Critiques of place research at the Research Program level

Many of the recent critiques of place research have focused on concerns with respect to inadequate theoretical development and coherence, issues typically addressed at the Research Program level. For example, Lalli (1992) describes "differing theoretical foundations and fragmented formulations" as a problem in research on place identity. Similarly, in noting the diversity of disciplines in which the concept of place has been explored, Hidalgo and Hernandez (2001) suggest that one of the problems blocking progress is that there is no agreement about the



Application of Science

Fig. 1. Framework for mapping the epistemological foundation of research traditions (adapted from Patterson & Williams, 1998).

Substantive Domain · Real world context

of Observation

Representation

• Data Collection, Measurement,

Data Interpretation, Analysis

name and definition of the concept. Stedman (2003) also states that "the theoretical relationship between (various place) concepts remains poorly articulated; concepts often cannot be differentiated by their definitions" (p. 824). Further, he argues that Stage II in Low and Altman's (1992) trajectory of concept development has not been forthcoming (Stedman, 2002, 2003). Specifically, Stedman points to the absence of a systematic analysis of relationships among concepts and the failure to develop a general theory of place.

In terms of the body of place research at the Research Program level as a whole, we argue that these critiques are overstated and do not reflect the degree of systematic theoretical development evident in the inter-disciplinary body of existing place-based research programs. At the Research Program level, we believe this overstatement arises as a result of: (a) too narrow a focus on the definition of specific concepts rather than taking a broader view examining the conceptual origins of different research programs, (b) failure to distinguish among distinct research programs arising from disparate theoretical research traditions, and (c) misconceiving of the body of place research as a single research tradition from which a single overarching theory of place could and should emerge.

Reviewers focusing on the historical development of specific research programs within the broad domain of place research have perceived a greater degree of coherence and conceptual clarity than the critiques discussed above seem to acknowledge. For example, focusing on the work of specific individuals, Gustafson (2001) develops a characterization of prior place research into which he integrates his study. Taking a broader disciplinary focus, Bonnes and Secchiaroli (1995) draw upon Saegert and Winkel's (1990) framework of research programs within environmental psychology to organize a discussion of the body of place-based research. In fact, Saegert and Winkel's organization integrates well with similar efforts in social psychology (Omodei & Wearing, 1990) as well as in more applied fields such as human dimensions of natural resource management (Williams & Patterson, 1999) and tourism (Mannell & Iso-Ahola, 1987).

In a similar effort based on a belief in the importance of placing individual studies in a larger conceptual whole, Seamon (1987, 1993, 2000) has taken a paradigmatic (defined in the sense of Fig. 1) rather than a disciplinary approach. His work seeks to organize place-based research programs originating from a cross-disciplinary, phenomenological perspective. A paradigmatic approach to organizing phenomenologically based place research is more consistent with the origins and evolution of that research tradition than is a disciplinary approach. This also reflects the diversity through which research programs can evolve.

Fig. 2 presents a framework that integrates these prior efforts to systematically organize place-related research programs on the basis of common themes and core underlying assumptions. This framework provides a useful structure for organizing a discussion of a diverse array of research programs. But, as with any attempt to organize a dynamic, interdisciplinary body of research, this framework does not represent the only way to organize different research programs, nor is it inclusive of all disciplines or all place-related research programs. Fig. 2 emphasizes research programs originating from social psychology and environmental psychology as well as the closely associated applied fields of consumer behavior and tourism and recreation research. A characterization of the body of place research emphasizing these disciplinary traditions has implications for what is and is not included. The social psychological tradition, for instance, has tended to conceive of relationship to place as a source of happiness and well-being. However, Manzo's (2003) recent review notes that relationship to place may be negative and that this aspect has been under-represented in place research. Additionally, a critical perspective in which place relationships are seen as being mediated by socially and historically constituted power relationships (Kincheloe & McLaren, 1994; Mitchell, 2003; Soja, 1989, 1996), has only recently begun to have an impact on nature-based place research (cf., Manzo, 2003; Williams, 2002). This research originates primarily from geography and sociology and is not reflected in Fig. 2.

While Fig. 2 is not all inclusive and represents only one of many possible ways of organizing place-based research programs, it does provide a basis for responding to critiques about absence of conceptual clarity and lack of systematic analysis of relationships among concepts reviewed above. At the Research Program level, place research traditions can be systematically characterized and differentiated on the basis of the deeper philosophical structure underlying research programs. This philosophical structure is comprised of assumptions about issues such as the nature of reality (e.g. single versus multiple), the nature of human experience (e.g. determinism versus situated freedom), and epistemology (e.g. multivariate versus holistic). The bottom half of Fig. 2 is an attempt to identify some of the key philosophical dimensions that distinguish among the set of place-related research programs identified.

These underlying distinctions are part of the basis for arguing that place research is not a research program in itself, but a broad domain of research informed by a multitude of interdisciplinary research programs each reflecting differing philosophical assumptions. Conceptual clarity comes from an understanding of the history of these research traditions and analysis of points of convergence and divergence. Unfortunately, these philosophical distinctions are often taken for granted and not explicitly acknowledged or recognized, particularly in second-generation research that seeks to empirically evaluate theoretical concepts (Raguraman, 1994).

Adopting a Research Program level viewpoint, rather than focusing more narrowly on the definition of specific place concepts (e.g. constructs such as place identity), makes it possible to fully consider the implications of recommendations intended to enhance conceptual clarity presented in recent critiques of place research. For example, consider Jorgensen and Stedman's suggestions that place research adopt "well established" and "relatively conventional" measures from the social psychological model (Stedman, 2002, p. 561; 2003, p. 827), that placerelated constructs be regarded as attitudes (Jorgensen & Stedman, 2001), and that place satisfaction be considered





an integral aspect of place research (Stedman, 2002). As these authors suggest, attitude and satisfaction theories do reflect well-developed research programs within social psychology. Additionally, they provide an established framework for operationalizing constructs linked to affect, cognition, and behavior. However, underlying attitude and satisfaction theories are a set of assumptions about the nature of the phenomenon being studied, the unit of analysis, and human nature (Fig. 2). Specifically, attitude and satisfaction theories are located toward the molecular end of the spectrum, typically employ multivariate analytical techniques, and reflect a view of humans as rational analytic information processors. Further, in social psychology, attitude and satisfaction theories have been characterized as end-state or telic frameworks (Omodei & Wearing, 1990).

In contrast, much place research reflects a very different set of assumptions (tending toward the molar end of the spectrum, advocating holistic methodologies, and viewing humans as actively constructing meaning rather than processing information). These assumptions are characteristic of process-oriented (autotelic) frameworks (Fig. 2). In fact, though different authors use a variety of labels to express the differences depending on disciplinary and substantive backgrounds, research programs employing end-state frameworks and those employing process frameworks are usually presented in contrast and/or opposition to one another (cf., Mannell & Iso-Ahola, 1987; McCracken, 1987; Mick & Buhl, 1992; Omodei & Wearing, 1990; Patterson, Watson, Williams, & Roggenbuck, 1998; Saegert & Winkel, 1990).

The distinctions recognized between end-state and process-oriented research programs suggest careful consideration should accompany any suggestion that end-state models should be adopted as the basis for achieving conceptual clarity in the study of place. Differences in the assumptions underlying different research programs can have significant implications, leading to development of very different theoretical mechanisms as explanations for human behavior. For example, Patterson et al. (1998) discuss how approaching place-based research on recreation experiences from a process-oriented/emergent experience model versus an end-state/satisfaction model (see Fig. 2) can lead to very different views about the types of psychological mechanisms thought to underlie behavior and very different lines of inquiry. Thus, while it is not inappropriate to try and infuse new life and insight or greater clarity into the study of place by pursuing a research program that has not been the primary foundation for place research in the past, such attempts should be approached with caution. There is particularly a danger inherent in attempts to reduce diversity by standardizing terminology, attempts to insist on a single definition for concepts as abstract as the notion of place, or suggestions that an alternative research tradition is better suited as a basis for empirical study than research traditions that led to the original germination of a set of ideas. The result may be attempts to wed philosophically incompatible ideas. Similarities may be only superficial and attempts to integrate may actually contribute to miscommunication or misunderstanding by obscuring significant conceptual distinctions.

Recognizing that place is a broad domain of research in which concepts have developed across multiple disciplines and research programs has another implication relative to recent criticisms about the perceived lack of clarity that results from diversity in definition of specific place-related concepts. There will always be some degree of segregation across disciplines due both to differences in orientation and to the rapid proliferation of knowledge and information in any given discipline. Partly this arises because the generic term used to initiate discussions about the overall phenomenon evolves separately in different disciplines. For example, human geography and the design fields appear to have focused on the broad term "sense of place" to designate the general domain of research (cf., Hay, 1998; Relph, 1997; Shamai, 1991) whereas environmental psychologists have often favored "place attachment" as the covering term for the broad domain (cf., Altman & Low, 1992; Guiliani & Feldman, 1993). The latter term can be particularly confusing at times because place attachment also refers more narrowly to a specific aspect of the overall relationship to place (cf., Williams, Patterson, Roggenbuck, & Watson, 1992).

Cross-discipline variation also arises due to the fact that the more abstract and philosophical a concept such as place is, the more room there is for variable interpretation of the concept (and even of readings of the same text about that concept) (Raguraman, 1994). As Raguraman notes, the list of terms added to the vocabulary of a discipline is not only rapidly evolving, but also reflects increasingly difficult philosophical concepts and language. The opportunity for variable readings and interpretations of these ideas leads to a tendency to alter the original meaning of ideas through second-hand reinterpretations. Thus it is increasingly common to find researchers "talking past one another even though they claim to espouse the same philosophy" (p. 245). Additionally, Raguraman notes this problem may lead researchers to apply concepts inaccurately or in an inappropriate context.

However, while variation in use of terminology does increase the possibility for miscommunication and lack of clarity, when considering whether this represents a flaw in the literature that requires remediation, it is important to make a distinction between inconsistency in terminology within a paper or research program versus variation in the use of terminology across research programs and disciplines. Within an article or a particular research program, inconsistent or interchangeable use of terminology is an inherently redressable impediment to clarity in communication. And, with the exception of situations where ideas have changed, should be viewed as an undesirable situation. In contrast, some degree of variation in terminology across research traditions is an inevitable reality of scholarship. Rather than indicating a failure in the literature, for research phenomena like place with the types of interdisciplinary and conceptual characteristics described above, a greater burden of responsibility shifts to those interested in the topic to be attentive to the history of different research traditions within the domain of interest. Literature analyses and syntheses that develop organizing frameworks characterizing points of convergence and divergence across a research domain such as place are a fundamental skill of scholarship.

2.2. Critiques of place research and epistemological traditions at the paradigmatic level

As noted above, different research programs reflect different philosophical assumptions. Many of these assumptions stem, not from the research programs themselves or the disciplines in which they are situated, but from the ontological, epistemological, and axiological commitments at the paradigmatic level (Fig. 1). Thus a thorough understanding of the nature and history of a research tradition also requires an understanding of the normative philosophical commitments of the paradigm that guides its empirical development. Often these philosophical commitments are taken for granted, especially in second-generation research. However, we argue that recent critiques expressing a concern for lack of conceptual clarity in the body of place research also are driven by views at the paradigmatic level of research traditions. Thus understanding and responding to these critiques requires consideration of this level in the macrostructure of research traditions.

Relative to research programs, paradigms are less directly concerned with the development of a specific theoretical concept and are more directly concerned with normative philosophical commitments (ontology, epistemology, and axiology) that serve as guidelines for the development of theoretical concepts in general (Patterson & Williams, 1998). Many paradigms (e.g. pyschometrics, phenomenology, hermeneutics, critical theory) have been employed in place research, but only two are considered indepth here: psychometrics¹ and phenomenology. These two were selected because the recent critiques of place research noted above stem from the normative commitments underlying psychometrics and typically challenge or question the adequacy of phenomenological research. The following discussion explores how different philosophical commitments within these two paradigms lead to incompatible methodological directives. Additionally, it explores how paradigmatic commitments shape the meaning of terms, an issue that has helped stimulate recent critiques regarding lack of conceptual clarity in the domain of place research.

Many of the recent critiques of place research are directed at issues related to operationalization. For example, Lalli (1992) suggests that lack of empirical operationalization is one of two major factors contributing to what he perceives as insufficient research applications in the study of place. Stedman (2002) states there have been few attempts to build systematic theory in place research and attributes this in part to inconsistent measurement. He advocates adopting a social psychological model (attitude theory) in part due to a belief that it offers operational advantages including "clearer and more agreed upon" constructs for which "the relationships between variables are empirically specifiable" (p. 563). And Shamai (1991) states that the more accurate definitions of place concepts have been those in which "an operational definition was required for an empirical study" (p. 347). Each of these authors emphasize a need to infuse quantitative operationalization into empirical research on place to make possible the precise, rigorous, and systematic analyses demanded in science.

Though on the surface these may appear to be simply methodological critiques, they actually reflect deeper philosophical commitments underlying the psychometric paradigm. Psychometrics can be understood as a paradigm that arose in response to questions of whether it is possible to have a science that studies intangible social and psychological concepts such as preferences, emotions, and mental abilities. The psychometricians' response was that "we can study social and psychological phenomena scientifically ... (but) to do so it is necessary to measure" (Anderson, Basilevsky, & Hum, 1983, p. 233). However, their definition of measurement is limited to those empirical observations and analyses that involve quantitative representations of data. For example, Churchill (1979) defines measurement as the assignment of numerals to objects or events according to rules. While Anderson et al. (1983) define measurement as involving:

[1] a theoretical domain, ... [2] [an] area of substantive concern reflected as an empirical relational system, ... [3] a domain represented by a particular selected numerical relational system, [and 4] a mapping function that carries us from the empirical system into the numerical system (p. 233).

Around this viewpoint, a complex structure of normative philosophical commitments has been built. For example, ontological notions about "true scores" are the basis for deriving mathematical expressions of validity and reliability (cf., Anderson et al., 1983; Churchill, 1979).

¹The term "positivism" has often been used in discussions contrasting the research tradition labeled psychometrics in this paper with phenomenological research (Peet, 1999, pp. 24–25). We use the label "psychometric" because its greater specificity makes it a more apt description for a paradigm as conceived in this paper (i.e. an approach to science characterized by a mutually defining set of ontological, axiological, and epistemological commitments). Positivism is less adequate in this context because of its breadth when used in a general sense (e.g. behaviorism could be considered a positivist paradigm as well despite its epistemological differences with psychometrics). When used in a more specific, philosophy of science sense (i.e. logical positivism), this term is not adequate because contemporary quantitative approaches are strongly informed by postpositivist philosophies (e.g. Karl Popper) (cf., Chalmers, 1982).

Epistemological notions that observation is theory dependent and that it is never possible to conclusively establish that theory-based observations are true combined with a belief that it is possible to definitively demonstrate a hypothesis is false have led many adherents of this paradigm to adopt hypothesis testing in a falsificationist formulation² as the most appropriate way to test the logic linking theoretical concepts/conclusions to empirical observations. Statistical algorithms make possible prediction as a terminal axiological goal while at the same time allowing specification of instrumental goals (the basis by which the data from a specific study are judged as scientifically legitimate) such as acceptable *p*-values, r^2 , eigenvalues, and reliability coefficients. Thus, within the psychometric paradigm, the underlying normative philosophical commitments require theoretical concepts with definitions that are narrow and precise enough to allow quantitative operationalization. This requirement leads adherents of this paradigm to see a lack of conceptual clarity in the absence of concepts with theoretical definitions of this nature, as illustrated in critiques of place research described above.

However, as noted previously, phenomenologists reject the very notion that place is a concept suited to a precise definition or that conceptual clarity can be achieved via quantitative operationalization of narrowly defined constructs (Relph, 1976; Seamon, 1987). The phenomenologists' perspective stems from normative philosophical commitments at the Paradigmatic level as well. However, before an explanation of the normative commitments underlying phenomenology can be provided, the specific phenomenological research tradition being described must be identified. At a broad level, phenomenology can refer to a family of interpretive paradigms including the philosophical phenomenology associated with Edmund Husserl and the existential phenomenology associated with Martin Heidegger and Maurice Merleau-Ponty (Giorgi, 1997; Seamon, 2000; von Eckartsberg, 1998). Some authors also include the hermeneutic tradition of Paul Ricoeur and Hans Georg Gadamer as part of the phenomenological tradition (Seamon, 2000). These paradigms are overlapping and share key similarities, especially when contrasted with the psychometric paradigm. However, from the concept of paradigms as conceived in this paper (a research tradition defined by a set of inter-connected ontological, epistemological, and axiological commitments), philosophical, existential, and hermeneutic phenomenology each represents a sufficiently different set of commitments to be considered distinct paradigms.

The characterization of phenomenology presented below represents a paradigmatic research tradition stemming most directly from Husserl's philosophical phenomenology. A thorough understanding of the nature and implications of the normative commitments stemming from this paradigm requires an understanding of the phenomenological meaning of fundamental ontological concepts including phenomenon, consciousness, and intentionality. These are philosophically complex concepts, not readily explained or understood in terms of concise definitions. A brief overview of these concepts is provided below. A more thorough, and highly readable, explanation of the ontological, epistemological, and axiological aspects of this paradigm can be found in Giorgi (1997).

Within this phenomenological paradigm, the term 'phenomenon' means "the presence of any given precisely as it is given or experienced" (p. 237). Giorgi explains that this means this paradigm is concerned with presences (or objects) as they appear in consciousness. That is, objects are not of interest in terms of their 'objective,' 'real,' or 'existential' sense; rather the focus is on the meaning "of the object precisely as it is given" to an individual (p. 237). Giorgi provides the following example to illustrate the notion of 'givenness' as opposed to the real, objective, and existential nature of objects:

Person A may view a painting and call it ugly, person B may view the same painting and call it beautiful. For person A, the painting will have all of the phenomenal properties of ugliness, and for person B, it will have the phenomenal properties of beauty. However, (from) a phenomenological perspective no claim is made that the painting is in itself either ugly or beautiful; only its presence for the experiencer counts, and an accurate description of the presence is the phenomenon, and it usually contains many phenomenal meanings (p. 237).

The consciousness of phenomenological ontology is conceived "not as a 'neutral' presenter of objects" but as something that "contributes to the very meaning of … objects by its varying modes, styles, forms, and so forth" (Giorgi, 1997, p. 236). Phenomenologists following Husserl view intentionality as "the essential feature of consciousness" (p. 237). It signifies the notion that consciousness always has an object-consciousness is always consciousness of something (Giorgi, 1997; Valle, King, & Halling, 1989; von Eckartsberg, 1981; Wertz, 1989). Phenomenologists see this ontological perspective as overcoming the dualistic 'subject–object' dichotomy. From an intentional conception, the person and object are indivisible (Giorgi, 1997; Seamon, 2000).

These ontological commitments are one of the bases for phenomenologists' epistemological aversion to the type of operational measures employed in psychometrics. Phenomenologists maintain that the indivisible subject-object relationship described by intentionality must be understood structurally (as inter-relationships among elements) and holistically (Giorgi, 1997). Phenomenologists maintain

²Briefly, falsificationism describes a testing logic that maintains: (1) theories can never be proven true; (2) it is hypothetically possible to prove theories false empirically through deductive logic; (3) acceptable theories, therefore, must be falsifiable (there exist observations that have the logical possibility of being inconsistent with theory), and (4) science progresses by putting theories to increasingly critical tests that attempt to falsify them (cf., Chalmers, 1982).

that this type of structural, holistic understanding cannot be accomplished through the types of concise operational definitions employed in psychometric epistemology.

Researchers associated with Duquesne University have been among the leaders in making a concerted effort to translate phenomenological normative commitments into concrete steps of a scientific method for advancing phenomenologically grounded research programs (Giorgi, 1997; Giorgi, Barton, & Maes, 1983; Seamon, 2000). For example, Giorgi (1997) states that to be genuinely considered phenomenological, research would have to be: "(1) descriptive, (2) within phenomenological reduction and (3) seek[ing] at least individuated meanings of some sort, and with the help of free imaginative variations, search[ing] for more invariant or essential meanings." As methodological guidelines for conducting phenomenological research, each of these terms can only be adequately understood in the context of phenomenology's paradigmatic normative commitments.

Giorgi (1997) provides a highly accessible explanation of the paradigmatic meaning of these terms. A descriptive approach is conceived as one that "limit(s) itself to what is given" "precisely as it appears within that act" of intentionality (p. 241). Often this description is obtained through interviews with respondents describing their experience from a natural attitude (an unreflective state where things are taken for granted). Phenomenological reduction is accomplished through analysis by the researcher. In this analysis, the researcher seeks to bracket or set aside past knowledge "in order to be fully present to the concrete instance of the phenomenon as presented by the subject's description" (p. 244). For example, Giorgi describes analysing an interview on learning during which he puts:

aside all theories of learning as well as all personal experiences of learning, and simply contemplate(s) the description before me as belonging to the subject who wrote it. In addition, I will only assert that the description refers to how the subject construed the situation, and not that it was really the way he or she took it to be (p. 244).

Imaginative variation is an analytical exercise that seeks to identify the essence or essential structure of the phenomenon. It entails the free changing of

aspects or parts of a phenomenon or object, ... (to see) if the phenomenon remains identifiable with the part changed or not. ... Whatever is given factually (in the description) becomes one example of a possible instance of the phenomenon, and by multiplying possibilities one becomes aware of those features that cannot be removed and thus what is essential for the object to be given to consciousness. (p. 243).

Though not a complete characterization of the paradigmatic commitments of psychometrics and phenomenology, the discussion presented above is hopefully sufficient to illustrate how the differing normative commitments underlying paradigms help explain why some place researchers see lack of conceptual clarity and inadequate theoretical development. It also helps to explain why some researchers see narrow and precise definitions of concepts as the route to clarity while others see this as a misguided and counterproductive venture. Beyond these operational implications, a failure to understand these underlying philosophical differences at the Paradigmatic level also contributes to the potential for confusion, miscommunication, and apparent lack of clarity in other ways.

Normative philosophical assumptions at the paradigmatic level give meaning to the very language used to express fundamental concerns within a research tradition. The phenomenological notion of "consciousness" described above is one example. Similarly, the phenomenological notion of a 'descriptive' approach discussed above represents another example. And ultimately, different paradigms may ascribe different meanings to the same term. An example relevant to place research is different interpretations of the term "particularlistic." Adherents of both psychometrics and phenomenology have criticized research grounded in the other paradigm as being too particularistic. From a psychometric perspective, Stedman (1999, 2002, 2003, p. 827) characterizes phenomenological approaches as "radically particularlistic" and attributes failure to build a systematic knowledge base or derive a general set of principles in place research in part to this aspect of phenomenological paradigms. Similarly, Gieryn (2000) suggests that apparent lack of interest in place as a theoretical construct in sociology may be due to a fear "that the particularities of discrete places might compromise the generalizing and abstracting ambitions of the discipline" (p. 464). In contrast, Peet (1999) noted that phenomenologists consider the view of scientific knowledge characteristic of the psychometric approach to be "blind ... to most forms of human experience" because of its "narrow-minded, highly particularistic" view (p. 48).

That phenomenologists characterize the psychometric tradition as overly particularistic while the psychometric tradition describes phenomenology as overly particularistic does not necessarily mean that one or the other is using the term particularistic incorrectly or is mischaracterizing the other paradigm. Within each paradigm, the particularlistic critique stems from their underlying normative commitments. The particularistic critique in the phenomenological sense stems from ontological issues. Specifically, it refers to the tendency for psychometrics to adopt a "molecular" approach which views phenomena as capable of being reduced to a set of interacting elements or variables, rather than a molar approach that conceives of phenomena more holistically as transactional dimensions whose whole is more than the sum of its parts (Altman & Rogoff, 1987; Bonnes & Secchiaroli, 1995; Seamon, 1987). Thus, attempts to reduce phenomena like place to the kind of precise, narrowly defined constructs of the sort required by the psychometric paradigm are viewed as overly particularistic. Yet this viewpoint challenges the very premises on which psychometric epistemology is based.

In contrast, the psychometric use of the term "particularistic" stems from axiological concerns. Within psychometrics, the ultimate aim of science is to produce general or universal laws. Case studies of individuals, single communities, or unique places are seen as an inadequate basis for achieving this type of knowledge. Because phenomenology employs these types of epistemological strategies, those grounded in the psychometric paradigm view the body of phenomenological research as overly particularistic. However, from the viewpoint of the phenomenological paradigm, the charge of particularism raised by those with a psychometric viewpoint is interpreted as a challenge to, or a misunderstanding of, the underlying nature of consciousness (described above). This assumption is linked to ontological assumptions about the nature of the phenomenon being studied (phenomenological meaning rather than objective information inherent to the stimulus), epistemological assumptions about the appropriate unit of analysis, etc.

The use of the term particularistic is not the only example of one for which there are dramatic paradigmatic differences. A similar analysis could be applied to the notion of "reduction" across the two paradigms. While the differential use of concepts such as particularistic, reduction, and other terms across paradigms complicates communication and can contribute to a perception of lack of conceptual clarity within the body of place research, multiple uses can reflect appropriate critiques from the perspective of their paradigm's underlying normative commitments. In such a situation, conceptual clarity cannot be attained by insisting on standardized terminology. Individual terms cannot adequately convey the complexity of the system of paradigmatic assumptions that underlie a research tradition. Clarity can only come from understanding the paradigmatic context in which the term is being used in conjunction with an understanding of the normative assumptions underlying the relevant paradigm. Thus, in the evolution and progression of a domain of research like place, once erosion of initially presumed consensus is reached, it is our belief that Low and Altman's (1992) Stage III does not mean standardization across the entire domain of research, elimination of diversity in approach, or development of a single overarching theory. Rather, progression means just what Low and Altman positions and clearly delineated programs of research" (p. 3, emphasis added). However, our perspective here reflects a position at the World View level of research traditions.

2.3. Critiques of place research and epistemological traditions at the World View level

The preceding analysis of research traditions from the paradigmatic level reveals that incompatible epistemological directives may exist across paradigms (as illustrated above for psychometrics and phenomenology). Within a paradigm, questions about validity, what counts as evidence, what represents a legitimate epistemological application, etc. can be resolved through an appeal to its underlying normative commitments. However, the question of how to resolve differences in perspective on these types of issues across paradigms is a matter of substantial debate dealt with at the World View level.

One way of characterizing world views is on the basis of the position that they reflect along a continuum that ranges from extreme rationalism to extreme relativism (Fig. 1) (Patterson & Williams, 2001). These positions are identified on the basis of ideological underpinnings that shape how researchers respond to diversity in approach at the Paradigmatic level. Extreme rationalists hold the viewpoint that there is one and only one approach to science. Often this approach is presented as a set of epistemological rules for the conduct of science referred to as "the scientific method". An extreme rationalist perspective is evident in Calder and Tybout's (1987) assertion that the body of scientific knowledge only consists of research conducted in compliance with the principles of falsificationism and that research conducted from interpretivist paradigms (such as phenomenology) is merely entertaining reading that must stand apart from science. At the other end of the continuum is extreme relativism that maintains that no rules of science can ever be specified. Representative of that extreme is Paul Feyerabend's (1975, p. 296) assertion that "(a)ll methodologies have their limitations and the only 'rule' is 'anything goes'."

Thomas Kuhn's (1970) position represents a point between extreme rationalism and extreme relativism. Kuhn's belief that there are periods of normal science in which the conduct of science adheres to a single paradigm that sets the standards of legitimacy for scientific research reflects a rationalist dimension. However, according to Kuhn, crises in the accepted paradigm eventually lead to the emergence of a new paradigm during a period of revolution. Adoption of the new paradigm in Kuhn's model requires something akin to a religious conversion because no purely logical argument demonstrating the superiority of one scientific paradigm over another can be made (Chalmers, 1982). This reflects a relativist dimension to his world view.

A second way of characterizing world views is according to the type of dialog they generate when confronted with paradigmatic differences in normative commitments of the sort illustrated in the preceding section. These dialogs describe the form and nature of response different world view positions adopt in regard to questions of legitimacy, validity and diversity arising from across-paradigm ideological differences. Franck (1987) suggested that responses to paradigmatic diversity can broadly be thought of as falling into three classes of dialog: oppositional, integrative, and reflective. Though this grouping does not include a Kuhnian dialog centered around incommensurability or the nature of dialog under extreme relativism, the three forms of dialog identified by Franck appear to encompass the range of dialogs evident in body of place research. The discussion below describes the nature of different world view positions (rationalism, pluralism, and critical pluralism), the types of dialogs they generate about paradigmatic diversity (oppositional, integrative, and reflective), and their relevance to understanding and responding to recent critiques about clarity and progression in the body of place research.

2.3.1. Rationalist positions and oppositional dialogs in place research

Many recent critiques questioning the conceptual clarity, coherence, and adequacy of the existing body of place research reflect a strong rationalist viewpoint. Stedman (2003, p. 824), for example, attributes "lack of construct clarity, and the dearth of attempts to better systematize relationships between constructs [to the historical prominence of] phenomenological approaches ... [which] use qualitative methods and reject the language of conventional positivistic science that [in contrast to phenomenology] emphasizes hypothesis testing and prediction via general laws of human behavior." Jorgensen and Stedman (2001) further critique earlier place theorists such as Relph and Tuan for "either explicitly identify[ing] place research as a phenomenological endeavor or otherwise ... not us[ing] empirical methods to 'test hypotheses' in any formal sense" (p. 234). Similarly, responding to Lewis's (1979, p. 40) statement that it is "quite useless" to try and measure sense of place, Shamai (1991) responds that "it is impossible to measure only if one holds a specific philosophical point of view (i.e. phenomenology) that regards it as impossible to quantify any phenomenon" (pp. 354-355). While Shamai does express the view that "the process of sense of place" cannot be quantitatively measured, consistent with a rationalist psychometric World View, he also expresses the view that "the process of sense of place" (and other phenomena that cannot be quantified) "is beyond the scope of ... empirical study" (p. 354).

Though not a mandatory requisite of the psychometric paradigm, its adherents often come to hold a rationalistic world view like those just presented, largely for epistemological reasons (the normative commitments related to the nature, methods, and limits of knowledge). Specifically they come to believe it is not possible to study relationships scientifically in the absence of numerical measurement and quantitative analyses. For example, Anderson et al. (1983, p. 233) state that "the problem of establishing functional relationships involving many variables probably cannot even be stated clearly, much less solved, without the tools of traditional mathematical analysis." This underlying world view may help explain Stedman's (2002) equating attitude theory, not with a research program within social psychology, but as the social psychological model. Thus Stedman and Jorgensen's suggestion that this model be adopted as the basis for achieving conceptual clarity and building systematic knowledge in place research (Jorgensen

& Stedman, 2001; Stedman, 2002, 2003) appears to reflect more than just a commitment to a research program (attitude theories within social psychology) or a paradigm (psychometrics). It also reflects a commitment to a rationalist world view that conceives of psychometrics as the scientific model and hypothesis testing as the only scientifically meaningful testing logic.

Rationalist world views give rise to oppositional dialog as reflected in Stedman's (Jorgensen & Stedman, 2001; Stedman, 2002, 2003) suggestion that lack of conceptual clarity and progression in place research stems from its phenomenological foundations. At times, the rationalist view may be expressed in a milder form as reflected in the following statements about phenomenological research:

[Phenomenologists] take a particularistic view of sense of place and eschew deriving generalizations from hypothesis testing. This approach has much to recommend; it provides details and intimate knowledge about how place works in a given setting for a given group of actors. Such an approach may impede the development of general principles that can be examined across settings. Also, this approach may be a barrier to integrating place variables with traditional forest management, which has relied more heavily on conventional positivistic science and its hypothesis testing approach (Stedman, 2003, p. 824).

However, rather than embracing the legitimacy or recognizing the contribution of phenomenology, the manner in which this statement is presented suggests more of a grudging acknowledgement that an alternative, though empirically inadequate, paradigmatic tradition exists.

Rationalist world views are not limited to adherents of the psychometric paradigm, advocates of phenomenology can hold a rationalist perspective as well. In place research, phenomenologists have tended to express the milder forms of rationalism. For example, Relph (1970, p. 190) states that "from the basis of ... phenomenological assumptions, attempts to develop mathematical models and theories of ... behavior ... are seen not as a contribution to the understanding of some real geography of man's activities, but as the reflection of the limited intentions of those geographers presenting the explanations." As noted by Peet (1999), Relph further suggests that if geography is concerned with developing objective laws and theories, phenomenological critiques can be ignored but that if geography is concerned with understanding people on the human level, the concepts of phenomenology have much to offer. Peet (1999, p. 48) also notes a tendency among phenomenological geographers to characterize research conducted in line with the psychometric tradition as yielding a "pale, insipid understanding (that) is blind to many, if not most forms of human experience."

The type of oppositional dialogs rationalistic world views tend to generate across paradigms often are counterproductive because they entail the use of straw man tactics where misleading caricatures imminently suited for demolishing are built. For example Calder and Tybout's (1987) caricature of interpretivist research (such as phenomenology) describes it as entailing the selective use of data to show how a conceptualization fits the data with no intention of comparing interpretations. This implies the complete absence of a testing logic (a logic by which the theoretical concepts are evaluated in light of empirical observations) and is a straw man portrayal of phenomenological research (see, e.g. Giorgi's (1997) description of the standard for critical evaluation underlying a phenomenological logic of analysis).

Another, more subtle, example of oppositional caricatures is reflected in Stedman and Jorgensen's statements that phenomenological place researchers "eschew deriving generalizations from hypothesis testing ... imped[ing] the development of general principles" (Stedman, 2003, p. 824), that phenomenologists make "strong" general statements about sense of place despite the absence of "empirical methods to test hypotheses in any formal sense" (Jorgensen & Stedman, 2001, p. 234), and similar assertions (Stedman, 1999, 2002). These statements are readily misleading. They are easily interpreted as implying that phenomenology does not seek to make general statements about phenomena or that it does not have an underlying testing logic. However, as Seamon (2000, p. 160) states, one of the ultimate aims of phenomenology is to "use ... specific instance[s] for identifying deeper, more generalizable patterns, structures, and meanings." Similarly, in defining a scientific phenomenological method, Giorgi (1997) identified the ability to produce general knowledge (application beyond just the situation studied) as a necessary scientific standard.

Oppositional assertions of the sort just illustrated divert the discussion away from the real issues. As Peet (1999) notes, all research involves generalization. And all research involves an underlying testing logic that links empirical observations to interpretations (Patterson & Williams, 2001). What differs, then, across paradigms is the underlying logic of generalization and the nature of the testing logic. It is the nature and implications of these latter differences, rather than oppositional caricatures, that merit consideration in a discussion of diversity among research traditions in a multi-tradition domain of research like place.

Further, a rationalistic insistence that one research tradition represents the only acceptable logic of analysis in the study of phenomena as complex as place seems to be an untenable position. As Peet (1999) notes, all paradigms entail abstraction from empirical particulars, employing processes of simplification, generalization, and essentializing that divorce an empirical phenomenon from its real-world counter-part. In other words, empirical analyses are simplified models of reality rather than reality itself. Research designs generating these simplifications are guided by philosophical assumptions that lead to defensible but not indisputable judgments regarding tradeoffs among competing threats to validity.

While the perspective that research designs simplify reality through decisions involving tradeoffs about competing threats to validity for which there are not indisputably correct choices may at first appear to be a radically relativist conception of science, it is not inconsistent with contemporary views underlying quantitative and hypothesis testing logics of analysis. Even the most advanced and widely endorsed hypothesis testing logic, falsificationism, takes the position that it is never possible to conclusively show something is true in science and that observation is theory dependent (thus there are no neutral facts) (Anderson et al., 1983; Chalmers, 1982). And in a recent discussion of structural equation modeling, Mac-Callum and Austin (2000, p. 218) state:

With respect to model fit, researchers do not seem adequately sensitive to the fundamental reality that there is no true model ..., that all models are wrong to some degree, even in the population, ... Given this perspective, it is clear that a finding of good fit does not imply that a model is correct or true, but only plausible.

Phenomenologists recognize parallel issues. For example, Giorgi (1997) characterizes phenomenology's goal as being one of phenomenological reduction to identify the essential structure of human experience. In describing bracketing, Giorgi acknowledges that despite the practice of "bracketing" knowledge, scientific phenomenological analyses are influenced by different disciplinary sensitivities. Additionally he characterizes phenomenology as a specific approach to research that falls within the broader umbrella of science.

The discussion above illustrates that a more pluralistic (as opposed to strictly rationalistic) world view position is not inherently inconsistent with either a psychometric or phenomenological paradigmatic orientation. Contemporary understandings of science from both perspectives acknowledge a degree of empirical indeterminancy in individual studies. Thus, as Raguraman (1994, p. 246) notes, in such cases:

the question of philosophical adequacy [of a given paradigm] cannot be answered a priori. Only with considerable amount of experience will one know if a path followed is a worthwhile one. Until that point it would be a good idea to 'exercise a degree of humility in the quest for truth' (Wallace, 1989, p. 3).

2.3.2. Pluralist positions and integrative dialogs in place research

A rationalistic world view/oppositional dialog is not the only world view position/dialog reflected in place research. A different world view position underlies Bonnes and Secchiaroli's (1995) discussion of place. While noting differences in paradigms and research programs underlying place research, Bonnes and Secchiaroli view them as illustrating "several directions environmental psychology is taking in order to construct a theory of place [that is] able to give greater homogeneity and theoretical consistency to the field" (p. 193). They acknowledge the coexistence of different research traditions (both at the Paradigmatic and Research Program levels) yet make frequent references to the idea of integration and "development of a theory of place." Thus, these authors appear to reflect a pluralist world view engaged in an integrative dialog (Fig. 1). A similar notion seems to underlie Kaltenborn's (1998) critique of place research. Specifically, he states that while "(c)onstructing an empirical scale measuring sense of place using quantitative methods may appear to violate the nature of the concept[, the problem may be more philosophical than methodological" (p. 187). The perspective that philosophical differences may not have methodological or practical consequences, helps promote an integrative rather than oppositional stance toward different paradigmatic traditions.

A pluralist position/integrative dialog may be founded in part on a recognition that all paradigmatic traditions entail a similar broad logic of analysis in that "empirical particulars" are used to construct "general abstractions" (Peet, 1999, p. 3). In the case of place research, this viewpoint may also be combined with the tendency for ontologically appealing concepts from one paradigmatic tradition to be incorporated into other paradigmatic traditions without accompanying changes in epistemology. For example, Bonnes and Secchiaroli (1995) note that while it has been popular in environmental psychology to affirm a transactional-contextual perspective, "in reality this agreement ... [has been] followed more in programmatic intentions than in research practice" (p. 152). Such tendencies may give rise to the perspective that differences across research traditions are more philosophical than methodological or practical as expressed by Kaltenborn's statement above.

A world-view dialog that seeks integration rather than opposition among divergent paradigmatic traditions has the desirable quality of not seeking to undermine the relevance of whole bodies of research. However, it has problematic aspects as well. First, it is based on the assumption, reflected in the statements above, that philosophical differences do not have practical implications. In contrast, we maintain that Harvey (1969, p. 482) was correct when he stated that "philosophy provides the steering mechanism" for the use and application of methods within a research tradition. In other words, properly understood, philosophy does have ramifications for empirical practice.

For example, consider interviewing as a data collection method. One way to approach interviewing is from a stimulus response model (Mishler, 1986). This model treats the interviewer's questions "as a standard research stimulus ... [that is] expected to remain constant so that any variance in the response can be attributed to factors in the interview population" (Polkinghorne, 1988, pp. 176–177). Underlying this model is an objectivist ontology that maintains there is a "free-standing reality" (Howard, 1989, p. 187) and that knowledge is "a substance located in the minds, bodies, or personal experiences of others" (Nespor & Barylske, 1991, p. 806). In contrast, interviews may be conducted as directed conversations in which the researcher and respondent participate in an emergent discourse utilizing an interview guide and spontaneous probes (Patterson & Williams, 2001). This approach conflicts with several key aspects of the "stimulus-response" model (e.g. that each respondent must be asked the same questions in the same way) and reflects a very different set of ontological and epistemological assumptions (Charmaz, 1991; Patterson & Williams, 2001). It also requires a different analytic strategy-analysis of interviews collected under the "directed conversation" strategy cannot begin at the aggregate level (as is the case with statistical analyses such as *t*-tests, regression, etc.). Rather, if an aggregatelevel analysis is to be conducted, an idiographic phase of analysis must occur first to structure the data in a way that permits an aggregate analysis.

On a broader scale, another difficulty with an integrative world-view dialog is that failing to integrate methodological practice with philosophical commitments can lead to failure to achieve the desired goals within a field of study. For example Malm (1993) discusses a perceived dilemma within cognitive psychology stemming from the failure to critically examine and change epistemological commitments related to methodological practice when ontological commitments within the discipline changed. As a consequence, with respect to the possibility of an integrative world-view dialog in the domain of place research, we believe that Franck (1987) was correct in asserting that the underlying assumptions and respective goals of research traditions as distinct as phenomenology and psychometrics are "so different ... that what one would achieve from some integration would be a strategy still based primarily in one perspective or the other" (p. 60) rather than a true integration.

A final problem with integration and standardization at the expense of diversity in paradigmatic approach across a domain of study like place logically stems from many of the same concerns associated with extreme rationalism/oppositional dialog. Research design requires tradeoffs among fundamental tensions as discussed earlier, and there is no definitively correct choice due to the fact that research goals may conflict with one another and threats to validity may be weighted differently (Kuhn, 1977; Mishler, 1990). Additionally it is possible for two researchers to see different (and not necessarily contradictory) general structures in the same set of facts (Peet, 1999) or for different structural models to fit the observed data equally well (MacCallum & Austin, 2000). In such circumstances, diversity in approach and perspective is a strength. If different approaches triangulate on the same conclusion, then we have reason for greater conviction. However, triangulation is only one of the possible outcomes of employing different research traditions. Other possible outcomes include: synergistically complementary findings,

entirely distinct but compatible insights, and competing or contradictory understandings. Thus the pursuit of integration carries substantial risk for the prospect of scientific progress.

2.3.3. Critical pluralist positions and reflective dialogs in place research

Accepting pluralism does not necessarily imply an integrative dialog. For example, Lalli's (1992) suggestion that some dimensions of place concepts can be quantitatively operationalized while others (e.g. the content of urban related identity) are more suitably explored through qualitative approaches seems to embrace a commitment to a pluralism without requiring integration. However, Lalli does not develop this perspective in more detail. In contrast, Franck (1987) goes into more depth in her call for adopting a reflective dialog in the face of incompatible paradigms. Her concept of reflective dialog entails a conversation where the goal is not supremacy of one research tradition or the synthesis of different traditions into a single tradition, but clarification and enrichment through an increased understanding and appreciation for the nature, benefits, and limitations of different traditions. Essentially, this reflects the critical pluralist world view (Patterson & Williams, 2001).

A critical pluralist world view differs from a pluralist position in that it does not strive for integration. At the same time, it does not equate with extreme relativism due to two stances underlying this view of science. First, this world view maintains there are criteria that distinguish science from other forms of knowing. For example, Patterson and Williams (2001) suggest there are three defining characteristics of science. The first is that science is empirical. This standard is meant to convey the ideas that science is grounded in observation, observations function as a test of theoretical concepts, and a testing logic explaining principles linking empirical observations to theoretical concepts is evident. The second defining characteristic is that the adequacy of the empirical test is subject to external criticism. This standard is meant to convey the notion that the presentation of the underlying conceptual framework, research logic, methods, and data must be sufficiently transparent to allow a relatively independent assessment of the warrants for a researcher's interpretations. The third defining characteristic of science is that it is systematic and rigorous. This means that scientific analysis does not entail selective use of data for the purpose of supporting preconceived ideas and that scientific analysis entails more than a cursory look at preconceived ideas; research is guided by a well-developed theoretical framework, set of research principles, and a detailed and defensible research design. As Patterson and Williams note, these defining characteristics of science are not incompatible with the nature of paradigmatic commitments in paradigms as diverse as psychometrics and phenomenology. For example, Giorgi (1997, p. 249) presents four characteristics that phenomenological research must meet in order to be considered "genuinely scientific" (systematic, methodological, general, and critical). Collectively, Giorgi's explanation of these four criteria yield a characterization of science highly parallel to characterization of science in Patterson and Williams (2001).

The second-stance critical pluralists adopt that distinguishes it from extreme relativism is its position that "nonevaluational, nonjudgmental, noncritical, or mindless pluralism" is an unreasonable stance (Hunt, 1991, p. 41). Critical pluralists argue that a logical choice among paradigms can be made on several bases including: the internal consistency of a paradigm's normative commitments; the attainability of a paradigm's goals given current methodological capability (Anderson, 1986); the fit between the paradigmatic assumptions (as expressed in the paradigm's normative commitments) and the researcher's assumptions about the phenomenon being studied; and the nature of research questions being asked. Additionally, critical pluralism also recognizes that scientific research is guided by normative commitments which differ across paradigms (Patterson & Williams, 2001). Research conducted within a paradigm is expected to adhere to, and be evaluated on the basis of, those normative commitments. For example, in addition to identifying criteria research must meet to be considered science, Giorgi (1997, p. 249) also identifies criteria scientific research must meet to be recognized as "genuinely phenomenological." And Pickles (1985) debates whether some research applications in geography that claim to be phenomenology actually is phenomenological in nature. Thus, critical pluralism reflects a more rationalist position than Kuhn's characterization of choice among paradigms as requiring a religious conversion or leap of faith.

However, critical pluralism does recognize a certain degree of indeterminacy in choice of paradigms with regard to a particular phenomenon. This indeterminacy stems from the perspective that a single set of methodological procedures cannot assure validity because validity assessments are based on judgments of the importance of different research goals and threats to validity. Critical pluralists believe that because research goals may conflict with one another and threats to validity may be weighted differently, different judgments about the acceptability of the necessary tradeoffs are possible and no single algorithm or set of standardized rules for assuring the best interpretation can be defined (Kuhn, 1977; Mishler, 1990). Research design, then, is thought of as an exercise requiring tradeoffs regarding competing threats to validity (fundamental tensions). For example, Brinberg and Hirschman (1986) refer to a tension between rigor (precision and control of variables and treatments) versus relevance (studying a phenomenon as it really exists-in a real-world context with all the elements present). And any research design reflects decisions across a multitude of fundamental tensions rather than on a single issue (Patterson & Williams, 2001). This stance, along with the view that

multiple paradigms legitimately co-exist within the broad realm of science, reflect the relativist aspect of critical pluralism as a world view.

Because of its pluralist/relativist and critical/rationalist dimensions, critical pluralism promotes a reflective dialog which seeks to explore and understand the differences in approach and insights across divergent paradigms rather than exclusion or integration. The concept of reflective dialog, is not, in fact a radical suggestion within science. It is one of the fundamental premises on which peer review is built. In science, academic practices such as presenting papers, entering debates, and peer review of research are "not an incidental condition of inquiry; ... [but] the very life of inquiry, discovery, and truth itself" (Wachterhauser, 1986, p. 33). This type of reflective dialog represents a living conversation characterized by an openness to the phenomena being researched (Bernstein, 1986; Wachterhauser, 1986). Ideally, peer reviewers see themselves as being engaged in a dialog devoted to helping develop an understanding of the issue, rather than as defending a position or serving merely as gate keepers for scientific accreditation (Wachterhauser, 1986). Such dialog can "bring the subject to life" yielding new insights and frameworks "that may suggest new ways of seeing the subject matter or new conceptual vocabularies ... [that can] help move a discussion onto new ground" (Wachterhauser, 1986, p. 33).

3. Conclusions

Numerous critiques of place research over the last decade have raised questions about the adequacy of past place research, focusing specifically on issues such as conceptual clarity, coherence, and theoretical progress. More generally, these critiques raise fundamental epistemological questions. How does science progress? How does one evaluate progress in the development of theoretical concepts? Is diversity in perspective and approach an indication of lack of conceptual clarity? Is one epistemology arguably superior to another? Is integration across perspectives possible? Are standardization and integration desirable?

Low and Altman's (1992) summary of the evolutionary trajectory of social science concepts emphasizing three stages provides a useful basis for considering the question of whether place research has progressed. By the late 1990s, erosion of consensus was clearly evident in numerous articles citing concerns about conceptual clarity and empirical adequacy, a situation that initiates Stage II in Low and Altman's proposed trajectory. On the basis of these critiques, Stedman (2002, 2003) suggests that place research has failed thus far to show much progress through Low and Altman's Stage II. In contrast, we believe this assessment is the result of viewing place research as if it represents a single research program. We argue that the body of place research is more appropriately viewed as a domain of research informed by multiple research traditions.

This distinction is an important one. How one should view the concepts of coherence and clarity differs whether one is looking within or across research traditions. Within a research tradition, the type of consistency and coherence called for in recent critiques is a precondition for progress. However, coherence in a domain of research entailing multiple traditions requires a fundamentally different viewpoint. Social science cannot be, or at least to this point has not been, reduced down to a common set assumptions as the research programs illustrated in Fig. 2 and the existence of paradigms as diverse as psychometrics and phenomenology illustrate. When comparing research programs, some philosophical assumptions are so incompatible that they cannot be wedded into a single operational approach. Thus, attempts to integrate across divergent assumptions may actually contribute to miscommunication or misunderstanding by obscuring significant conceptual distinctions in a way that ultimately leads to adverse consequences in the ability to achieve the goals of a research initiative (for an in-depth illustration, see Malm, 1993).

A rationalist-like oppositional dialog arguing for the superiority of one research program or paradigm is also problematic. First, a point of agreement among all contemporary philosophies of science is that science never provides absolute certainty that research has revealed the truth. In fact, one of the hallmarks of science is its capacity to evolve in the face of new empirical evidence. Divergent paradigmatic traditions play an important role in the progress of science understood from this perspective. If different approaches triangulate on the same conclusion, then we have reason for greater conviction. However, there are other possible outcomes including synergistically complementary findings, entirely distinct but compatible insights, and competing or contradictory understandings. Scientific progress thus benefits from paradigmatic diversity.

Understanding coherence and achieving conceptual clarity in Stage III place research ultimately requires frameworks and language that transcend research program, disciplinary, and even paradigmatic boundaries. We believe this is what Low and Altman (1992) had in mind when they stated that explicit attention is paid to definitions and to characterizing overtly the nature of different research traditions following erosion of consensus. And contemporary analyses from the philosophy of science seeking to describe the "macrostructure" of research traditions provide the basis for developing a transdisciplinary framework to organize this type of dialog.

Any such framework risks reifying what are, in fact, dynamic and evolving ways of thinking. And no single discussion is likely to be wholly comprehensive for a domain of research like place given the diverse set of research traditions and disciplines from which it has been explored. However, with these limitations in mind, a framework is useful if it helps to reveal greater coherence in the body of literature, organize discussions about controversies and the state of knowledge, and guide practice. The framework presented in Fig. 1, which conceives of research traditions as being comprised of different levels of practice (Research Programs, Paradigms, and World Views), contributes to these goals. It creates a basis for understanding the historical coherence and systematic development of place research as well as provides a basis for analysing the origins and implications of recent critiques.

However, in this paper we have gone beyond merely introducing a framework to guide discussion. We have also advocated a specific normative position at the World View level, calling for researchers to adopt a critical pluralist perspective and a reflective dialog. But we see critical pluralism as only minimally prescriptive. It does not require researchers to abandon or change their normal (preferred) paradigm (a revolution in the Kuhnian sense of the term). It does require, however, an attitude of openness to, and appreciation for, other paradigms. It is possible for a researcher to adopt a particular paradigm and even to concentrate on it over the course of a career based on her/ his belief that alternative paradigms are not as relevant/ well suited without also having to characterize other paradigmatic approaches as inherently defective. An attitude of openness to alternative paradigms simply requires a researcher to recognize that the world is undisciplined and multifaceted; that all abstractions and models of it are, to some extent, limited and imperfect representations; and that, at some level of abstraction, it is always the case that relevance is in the eye of the beholder. This does not require the suspension of critical thinking, though it does require that once a research logic is adopted, critiques about its implementation be made in manner consistent with the assumptions underlying the adopted logic. As noted previously, this view of the relationship between the world and its representation through research is consistent with contemporary adherents of paradigms as diverse as phenomenology and psychometrics (cf., Giorgi, 2002; MacCallum & Austin, 2000).

We recognize that this call for critical pluralism runs counter to the time-honored preference in scientific institutions that promotes specialization and thus a narrowing of focus to a particular area and approach to research. Without disaffirming the benefits and necessity of specialization, in view of the relationship between the world and its representation just described, critical pluralism requires a broadening of focus to some degree. Further, we argue that merely appreciating or tolerating diversity is not sufficient. If all representations are limited and imperfect, if one is interested in helping construct as comprehensive an understanding of social phenomena as possible, and if coherence within a domain of research is to be achieved and maintained, then it is important for individual researchers to maintain some understanding of how their work fits into the larger domain of research on a particular topic rather than becoming isolated in a particular research tradition. Such an understanding does not require achieving a mastery of all the possible alternatives—something we believe would be impossible given the existing complexity and diversity of research traditions—but it does require an awareness of core distinctions and contributions from alternative approaches. Without such an understanding, generated through reflective dialog, diversity contributes to lack of clarity and is counter-productive rather than healthy.

Having argued for the value of diversity in paradigmatic approaches, the question of where synthesis should occur still remains. Despite our arguments against integrating distinct and diverse research traditions within science, there is a context where it is appropriate and commonplace to pursue the practical synthesis and integration in Stage III of Low and Altman's trajectory. Practioners, planners, and managers have to make decisions to implement specific courses of action. As a consequence of the need to take action in specific situations, the sort of pluralism that can exist unproblematically in scientific realms is not an option in the world of action.

It is not uncommon for place researchers to suggest that decisions involving relevance, superiority, or synthesis of divergent paradigmatic approaches with respect to the realm of application and practice should be made by researchers. For example, Stedman (2003) argues that a phenomenological approach may present a barrier to forest managers because "traditional forest management ... has relied more heavily on conventional positivistic (psychometric) science and its hypothesis testing approach" (p. 824). Ironically, Franck (1987) suggests just the opposite: "[phenomenology] presents more of an opportunity for [finding] a common meeting ground for architects and social scientists than positivism [psychometric tradition] can because of (phenomenology's) close attention to the essence of human experience" (pp. 66–67). Speaking from the perspective of administrative practice, however, Hummel (1991, 1994) argues that even "after the best scientific studies" administrators are faced with the question of integration and relevance and that in such judgments "science itself is not helpful" (p. 314). As he says:

[S]ome analytic scientists confuse two operations: the analytic operation of taking reality apart and the synthesizing operation of putting reality together ... The manager's world seems to be founded on synthesis not analysis (Hummel, 1991, p. 33).

In other words, he views practice (planning, management, and design) as a synthetic act that must sift, weigh, and incorporate the findings from divergent approaches to science and other forms of knowledge. We agree with Hummel's perspective as well as with his view that "how to integrate the kind of knowledge that science can give with the practical judgment about what the [managerial] situation requires" remains one of the "great unresolved questions" (Hummel, 1994, p. 314).

Because attempts to resolve this question require an exploration of the realm of practice, a thorough treatment of this issue is beyond the scope of this paper, which has focused on the realm of science. However, this issue does signal the need for a broadening of focus and discourse that includes the realm of practice as concepts progress from Stage II to Stage III. An important distinction here is one between the evolution of scientists and the evolution of concepts within social science. Some researchers may remain committed to a particular paradigmatic tradition. maintaining primarily an internal focus their entire career, and seeking chiefly to contribute to paradigmatic advancement. However, Stage III moves into the realm of practice and creates a need for researchers who adopt more of an external, multiple paradigm focus and dialog. At a minimum, Stage III requires that researchers translate their work with sufficient clarity and transparency so that practitioners can meaningfully engage in their own synthetic endeavors, just as Halling (2002) seeks to do with respect to phenomenology. In Stage III, researchers can facilitate the demands of practice by becoming more informed themselves about alternative research traditions and by presenting their research in a way that enhances practitioners' ability to achieve synthesis and integration.

Acknowledgement

The authors wish to acknowledge Julie Ozanne whose course in the philosophy of science served as an important starting point and three anonymous reviewers whose recommendations helped shape and improve the paper.

References

- Altman, I., & Low, S. M. (1992). Place attachment. New York: Plenum Press.
- Altman, I., & Rogoff, B. (1987). World views in pscyhology: Trait, interactional, organismic, and transactional perspectives. In D. Stokols, & I. Altman (Eds.). *Handbook of environmental psychology* (Vol. 1, pp. 7–40). New York: John Wiley & Sons.
- Anderson, A. B., Basilevsky, A., & Hum, D. P. J. (1983). Measurement: Theory and techniques. In P. H. Rossi, J. D. Wright, & A. B. Anderson (Eds.), *Handbook of survey research* (pp. 231–287). San Diego, CA: Academic Press.
- Anderson, P. F. (1986). On method in consumer research: A critical relativist perspective. *Journal of Consumer Research*, 13, 155–173.
- Bernstein, R. J. (1986). From hermeneutics to praxis. In B. R. Wachterhauser (Ed.), *Hermeneutics and modern philosophy* (pp. 87–110). Albany, NY: State University of New York Press.
- Bonnes, M., & Secchiaroli, G. (1995). Environmental psychology: A psycho-social introduction. Thousand Oaks, CA: Sage.
- Brinberg, D., & Hirschman, E. C. (1986). Multiple orientations for the conduct of marketing research: An analysis of the academic/practitioner distinction. *Journal of Marketing*, 50, 161–173.
- Calder, B. J., & Tybout, A. M. (1987). What consumer research is. *Journal* of Consumer Research, 14, 136–140.
- Chalmers, A. F. (1982). *What is this thing called science*?. St. Lucia, Queensland: University of Queensland Press.
- Charmaz, K. (1991). Translating graduate qualitative methods into undergraduate teaching: Intensive interviewing as a case example. *Teaching Sociology*, 19, 384–395.

- Churchill, G. A., Jr. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16, 64–73.
- Feyerabend, P. F. (1975). Against method: Outline of an anarchistic theory of knowledge. London: New Left Books.
- Franck, K. A. (1987). Phenomenology, positivism, and empiricism as research strategies in environment-behavior research and design. In E. H. Zube, & G. T. Moore (Eds.). Advances in envir onment and behavior design (Vol. 1, pp. 59–67). New York: Plenum Press.
- Gieryn, T. F. (2000). A space for place in sociology. Annual Review of Sociology, 26, 463–496.
- Giorgi, A. (1997). The theory, practice, and evaluation of the phenomenological method as a qualitative research procedures. *Journal of Phenomenological Psychology*, 28(2), 235–260.
- Giorgi, A. (2002). The question of validity in qualitative research. *Journal* of *Phenomenological Psychology*, 33(1), 1–18.
- Giorgi, A., Barton, A., & Maes, C. (1983). Duquesne studies in phenomenological psychology, Vol. 4. Pittsburgh, PA: Duquesne University Press.
- Guiliani, M. V., & Feldman, R. (1993). Place attachment in a developmental and cultural context. *Journal of Environmental Psychol*ogy, 13, 267–274.
- Gustafson, P. (2001). Meanings of place: Everyday experience and theoretical conceptualizations. *Journal of Environmental Psychology*, 21, 5–16.
- Halling, S. (2002). Making phenomenology accessible to a wider audience. Journal of Phenomenological Psychology, 33(1), 19–38.
- Hammitt, W. E., Backlund, E. A., & Bixler, R. D. (2004). Experience use history, place bonding and resource substitution of trout anglers during recreation engagements. *Journal of Leisure Research*, 36, 356–378.
- Hammitt, W. E., & Stewart, W. P. (1996). Resource sense of place: A call for construct clarity and measurement. In *Paper presented at the book* of abstracts, The sixth international symposium on society and resource management, University Park, PA.
- Harvey, D. (1969). Explanation in geography. London: Arnold.
- Hay, R. B. (1998). A rooted sense of place in cross-cultural perspective. *The Canadian Geographer*, 42(3), 245–266.
- Hester, R. T., Jr. (1993). Sacred structures and everyday life: A return to Manteo, North Carolina. In D. Seamon (Ed.), *Dwelling, seeing, and designing: Toward a phenomenological ecology*. Albany, NY: State University of New York.
- Hidalgo, M. C., & Hernandez, B. (2001). Place attachment: Conceptual and empirical questions. *Journal of Environmental Psychology*, 21, 273–281.
- Howard, G. S. (1989). Culture tales: A narrative approach to thinking, cross cultural psychology, and psychotherapy. *American Psychologist*, 46, 187–197.
- Hummel, R. P. (1991). Stories managers tell: Why they are as valid as science. *Public Administration Review*, 51(1), 31–41.
- Hummel, R. P. (1994). Commentary. *Public Administration Review*, 54(3), 314.
- Hunt, S. D. (1991). Positivism and paradigm dominance in consumer research: Toward critical pluralism and rapprochement. *Journal of Consumer Research*, 18, 32–44.
- Jorgensen, B. S., & Stedman, R. C. (2001). Sense of place as an attitude: Lakeshore owners attitudes toward their properties. *Journal of Environmental Psychology*, 21, 233–248.
- Kaltenborn, B. P. (1998). Effects of sense of place on responses to environmental impacts: A study among residents in Svalbard in Norwegian high arctic. *Applied Geography*, 18(2), 169–189.
- Kaplan, R., & Kaplan, S. (1989). The experience of nature. Cambridge: Cambridge University Press.
- Kaplan, S. (1992). Environmental preference in a knowledge-seeking, knowledge-using organism. In J. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind* (pp. 581–598). New York: Oxford.
- Kincheloe, J. L., & McLaren, P. L. (1994). Rethinking critical theory and qualitative research. In N. K. Denzin, & Y. S. Lincoln

(Eds.), *Handbook of qualitative research*. Thousand Oaks, CA: Sage Publications.

- Kuhn, T. S. (1970). The structure of scientific revolutions. Chicago: University of Chicago Press.
- Kuhn, T. S. (1977). The essential tension: Selected studies in scientific tradition and change. Chicago: University of Chicago Press.
- Lalli, M. (1992). Urban-related identity: Theory, measurement, and empirical findings. *Journal of Environmental Psychology*, 12, 285–303.
- Laudan, L. (1984). *Science and values*. Berkeley, CA: University of California Press.
- Lewis, P. (1979). Defining sense of place. In W. P. Prenshaw, & J. O. McKee (Eds.), Sense of place: Mississippi. Jackson, MS: University of Mississippi.
- Low, S. M., & Altman, I. (1992). Place attachment: A conceptual inquiry. In I. Altman, & S. M. Low (Eds.), *Place attachment*. New York: Plenum Press.
- MacCallum, R. C., & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual Review of Psychology*, 51, 201–226.
- Malm, L. (1993). The eclipse of meaning in cognitive psychology: Implications for humanistic psychology. *Journal of Humanistic Psychology*, 33, 67–87.
- Mannell, R. C., & Iso-Ahola, S. E. (1987). Psychological nature of leisure and tourism experience. *Annals of Tourism Research*, 14, 314–331.
- Manzo, L. C. (2003). Beyond house and haven: Toward a revisioning of emotional relationships with places. *Journal of Environmental Psychology*, 23, 47–61.
- McCracken, G. (1987). Advertising: Meaning or information? Advances in Consumer Research, 14, 121–124.
- McIntyre, N., & Roggenbuck, J. W. (1998). Nature/person transactions during an outdoor adventure experience: A multiphasic analysis. *Journal of Leisure Research*, 30(4), 401–422.
- Mick, D. G., & Buhl, C. (1992). A meaning-based model of advertising experiences. Journal of Consumer Research, 19(3), 317–338.
- Mishler, E. G. (1986). Research interviewing: Context and narrative. Cambridge, MA: Harvard University Press.
- Mishler, E. G. (1990). Validation in inquiry-guided research: The role of exemplars in narrative studies. *Harvard Educational Review*, 60, 415–442.
- Mitchell, D. (2003). The right to the city: Social justice and the right for public space. New York: Guilford Press.
- Murray, J. B., & Ozanne, J. L. (1991). The critical imagination: Emancipatory interests in consumer research. *Journal of Consumer Research*, 18, 129–144.
- Nespor, J., & Barylske, J. (1991). Narrative discourse and teacher knowledge. American Educational Research Journal, 28, 805–823.
- Nogue i Font, J. (1993). Toward a phenomenology of landscape and landscape experience: An example from Catalonia. In D. Seamon (Ed.), *Dwelling seeing, and designing: Toward a phenomenological* ecology (pp. 159–180). Albany, NY: State University of New York Press.
- Norberg-Schulz, C. (1980). Genius loci: Towards a phenomenology of architecture. New York: Rizzoli International Publications, Inc.
- Omodei, M. M., & Wearing, A. J. (1990). Need satisfaction and involvement inn personal projects: Toward an integrative model of subjective well-being. *Journal of Personality and Social Psychology*, 59, 762–769.
- Patterson, M. E., Watson, A. H., Williams, D. R., & Roggenbuck, J. W. (1998). An hermeneutic approach to studying the nature of wilderness experiences. *Journal of Leisure Research*, 30(4), 423–452.
- Patterson, M. E., & Williams, D. R. (1998). Paradigms and problems: The practice of social science in natural resource management. *Society and Natural Resources*, 11, 279–295.
- Patterson, M. E., & Williams, D. R. (2001). Collecting and analyzing qualitative data: Hermeneutic principles, methods, and case examples. Champaign, IL: Sagamore Publishing.
- Peet, R. (1999). *Modern geographical thought*. Malden, MA: Blackwell Publishers.

- Pickles, J. (1985). *Phenomenology, science, and geography: Spatiality and the human sciences.* Cambridge: Cambridge University Press.
- Polkinghorne, D. E. (1988). Narrative knowing and the human sciences. Albany, NY: State University of New York.
- Raguraman, K. (1994). Philosophical debates in human geography and their impact on graduate students. *Professional Geographer*, 46, 242–249.
- Relph, E. (1970). An inquiry into the relations between phenomenology and geography. *Canadian Geographer*, 14, 193–201.
- Relph, E. (1976). Place and placelessness. London: Pion Limited.
- Relph, E. (1997). Sense of place. In S. Hanson (Ed.), *Ten geographic ideas that changed the world*. New Brunswick, NJ: Rutgers University Press.
- Saegert, S., & Winkel, G. H. (1990). Environmental psychology. Annual Review of Psychology, 41, 441–477.
- Seamon, D. (1987). Phenomenology and environment-behavior research. In E. H. Zube, & G. T. Moore (Eds.), *Advances in environment and behavior design*, Vol. 1. New York: Plenum Press.
- Seamon, D. (1993). Dwelling, seeing, and designing: Toward a phenomenological ecology. New York: State University of New York Press.
- Seamon, D. (2000). A way of seeing people and place: Phenomenology in environment-behavior research. In S. Wapner, J. Demick, T. Yamamoto, & H. Minami (Eds.), *Theoretical perspectives in environment-behavior research: Underlying assumptions, research problems,* and methodologies (p. 581). New York: Kluwer Academic/Plenum Publishers.
- Shamai, S. (1991). Sense of place: An empirical measurement. *Geoforum*, 22, 347–358.
- Soja, E. (1989). Postmodern geographies: The reassertion of space in critical social theory. London: Verso.
- Soja, E. (1996). Thirdspace: Journeys to Los Angeles and other real-andimagined places. Cambridge: Blackwell.
- Stedman, R. C. (1999). Sense of place as an indicator of community sustainability. *Forestry Chronicle*, 75(5), 765–770.
- Stedman, R. C. (2002). Toward a social psychology of place: Predicting behavior from place-based cognitions, attitude, and identity. *Environment and Behavior*, 34(5), 561–581.
- Stedman, R. C. (2003). Sense of place and forest science: Toward a program of quantitative research. *Forest Science*, 49(6), 822–829.
- Tuan, Y.-F. (1977). Space and place: The perspective of experience. Minneapolis, MN: University of Minnesota Press.
- Twigger-Ross, C. L., & Uzzell, D. L. (1996). Place and identity processes. Journal of Environmental Psychology, 16, 205–220.
- Ulrich, R. S., Simons, R. F., Losito, B. D., Fiorito, E., Miles, M. A., & Zelson, M. (1990). Stress recovery during exposure to natural and urban environments. *Journal of Environmental Psychology*, 11, 201–230.
- Valle, R., King, M., & Halling, S. (1989). An introduction to existentialphenomenological thought in psychology. In R. Valle, & S. Halling (Eds.), *Existential phenomenological perspectives in psychology*. New York: Plenum Press.
- von Eckartsberg, R. (1981). Maps of the mind: The cartography of consciousness. In R. Valle, & R. von Eckartsberg (Eds.), *The metaphors of consciousness* (pp. 287–311). New York: Plenum Press.
- von Eckartsberg, R. (1998). Introducing existential-phenomenological psychology. In R. Valle (Ed.), *Phenomenological inquiry in psychology: Existential and transpersonal dimensions* (pp. 3–20). New York: Plenum Press.
- Wachterhauser, B. R. (1986). History and language in understanding. In B. R. Wachterhauser (Ed.), *Hermeneutics and modern philosophy* (pp. 5–61). Albany, NY: State University of New York Press.
- Wertz, F. J. (1989). Approaches to perception in phenomenological psychology: The alienation and recovery of perception in modern culture. In R. Valle, & S. Halling (Eds.), *Existential phenomenological perspectives in psychology* (pp. 83–97). New York: Plenum Press.
- Williams, D. R. (2002). Social construction of Arctic wilderness: Place meanings, value pluralism, and globalization. In A. E. Watson, L. Alessa, & J. Sproul (Eds.), Wilderness in the circumpolar north:

Searching for compatibility in ecological, traditional, and ecotourism values. Proceedings of RMRS-P-26 (pp. 120–132). Ogden, UT: USDA Forest Service, Rocky Mountain Research Station.

- Williams, D. R., & Kaltenborn, B. P. (1999). Leisure places and modernity: The use and meaning of recreational cottages in Norway and the USA. In D. Crouch (Ed.), *Leisure/tourism* geographies: Practices and geographical knowledge (pp. 214–230). London: Routledge.
- Williams, D. R., & Patterson, M. E. (1999). Environmental psychology: Mapping landscape meanings for ecosystem management. In H. K. Cordell, & J. C. Bergstrom (Eds.), *Human dimensions in assessment*, *policy, and management* (pp. 141–160). Champaign, IL: Sagamore Press.
- Williams, D. R., Patterson, M. E., Roggenbuck, J. W., & Watson, A. E. (1992). Beyond the commodity metaphor: Examining emotional and symbolic attachment to place. *Leisure Sciences*, 14, 29–46.