There is something a bit different and unusual about a Ph.D. in Architecture. First, is the rarity of the degree; currently there are only 35 programs in the United States that offer the degree (PhDiA website, 2009). Second, the core of architectural education will always remain professional preparation as found in accredited degree programs whether they are Bachelor, Master or Doctor of Architecture. This makes a Doctor of Philosophy, whose core mission is always the production of original research that advances the body of knowledge of the discipline, caught in the eternal debate between profession and discipline in architecture (e.g. Piotrowski & Robinson, 2001). The schism between profession and discipline is at times acute within architecture faculty, so much so that Gutman (1995) refers to the relationship as “two discourses,” implying that the two discourses run parallel, never meeting.

This bifurcated nature of architectural education as a learning enterprise is unhealthy for both the discipline as it is for practice for clearly the discipline needs to inform and be informed by issues confronted in practice and vice versa. Current trends suggest the profession increasingly recognizes the need for research to inform better design practice as many large firms have created Research Director positions. Unfortunately, this may also indicate that the knowledge produced within academia has not proven as informative as one may hope. This chapter will argue that the intellectual efforts within the Ph.D. in Architecture program at the University of Wisconsin-Milwaukee (UWM) to confront the epistemological gap between practice and discipline has been of significant import and is a distinguishing characteristic of the program.
Four prevailing contributions have informed advancements in this regard: a move towards a pragmatic epistemological position; consideration of the consensual realm; adoption of a social-ecological perspective; and the need to take action to further understanding. Each contribution is considered and then discussed in regard to work associated with the Ph.D. in Architecture program at UWM. In particular, the activities of the Institute on Aging and Environment (IAE) are used to illustrate the growth in thinking regarding the gap between the “two discourses” in architecture. The chapter concludes with thoughts about the importance of this uniqueness to the realm of doctoral education in architecture.

**Contribution 1: Toward a Pragmatic Epistemology**

Diaz Moore and Geboy (2010) suggest that from their review of the literature, there are five predominant epistemologies at work in architectural inquiry: interpretivism, intuitionism, traditional science (what will here be referred to as hard science), technical rationality, and pragmatism. Interpretivism and Hard Science are epistemologies that generally inform disciplinary inquiry while Intuitionism and Technical Rationality are associated with inquiry in practice. A Pragmatic epistemology strikes a middle ground between the two discourses as is illustrated below. First, each epistemology will be briefly described.

**Epistemologies of the Discipline of Architecture: Hard Science and Interpretivism**

**Hard Science**

In the hard science worldview, the nature of knowledge is objective, which is to say it is related to an existent phenomenon which can be measured through direct observation via the senses. The purpose of inquiry within the hard science worldview is to provide an explanation of a given phenomenon; causal explanations garnered through tightly controlled experiments are of highest interest. Truth lies in causal laws based in findings, which are produced from data generated using agreed-to methodologies of research and analysis.
**Interpretivism**

The worldview of interpretivism covers qualitative research approaches such as hermeneutics, grounded theory, and critical theory (Neuman, 1997). The focus of interpretivism is on meaning (which is therefore the primary source of knowledge) and developing a contextually-grounded, idiographic understanding of an existing phenomenon in question. The nature of knowledge is subjective, as being possessed within each individual’s perception, although in some modes within this worldview, multiple perspectives are triangulated by which knowledge becomes constructed. Since the goal is to maintain as whole and complete an understanding of the phenomenon as possible (i.e., the nature of the problem is holistic), synthesis is the exemplary habit of mind.

**Epistemologies of the Practice of Architecture: Intuitionism and Technical Rationality**

**Intuitionism**

Intuitionism is often declared to be the primary epistemological position within architectural design practice (Rowe, 1982; Johnson, 1994; Zumthor, 2006). As regards this worldview, intuition is considered the source of knowledge, which is to say that complete, integrated knowledge may be intuited—gained in a flash of insight. Within the professions these “flashes of insight,” in which various types and rules are assembled into an intuited synthetic whole (Schon, 1988). As knowledge is complete and holistic, so, too, is the nature of the problem. This linkage is effectively described by Rowe (1982) in which he characterizes architectural problems as “ill-defined,” demanding heuristic reasoning that is embedded with a priori knowledge.

**Technical Rationality**

Technical-rationality is the worldview that views professional practice as the instrumental application of scientifically-developed knowledge and theory to confronted problems. Schon (1995) argues that technical-rationality is the predominant espoused epistemology of the professions, whereby professional practice is instrumental, consisting in adjusting technical means to ends that are clear, fixed, and internally consistent. He goes on to suggest that instrumental practice becomes professional when it is based on the science or systematic knowledge produced by schools of higher learning. In the contemporary context, we see technical-rationality clearly reflected in the evidence-based design movement (c.f. Hamilton, 2006; Ulrich, et al., 2004).
Though consistent with hard science regarding the nature of the problem, which is seen as discrete and reducible, technical-rationality diverges from hard science in order to apply that knowledge to a world of projection. The logic of application is linear, with clear beginning and ending points, resulting in a procedural habit of mind.

**An Epistemology of the Third Kind: Pragmatism**

Pragmatism contrasts with the positivistic stance of the hard sciences and technical-rationality in three important ways: truth is mutable not absolute; experiential knowledge gained through professional practice is valued rather than disregarded; and the significance of an idea is gauged on the basis of its practical utility (c.f. Fishman, 1999; Polkinghorne, 1992). Knowledge is constructed within pragmatism and therefore is always subject to re-view and re-construction. Problems are seen as systemic, a perspective that demands a synchronized focus on the relationships between the discrete and the holistic. Likewise, the nature of problems is considered concomitantly existent as well as projectional. Thus, the exemplary habit of mind is to be operational in one’s thinking, well-informed by, but not overly devoted to, theoretical constructions, and thus utility is the ultimate purpose of inquiry.

One of the core differences between these five worldviews lies in the fundamental nature of the problems that they address. There are two particularly salient vectors for describing these differences—problems range from discrete to holistic, natures range from existent to projectional. Figure 1 maps the five worldviews into a matrix where the abscissa (nature vector) spans from discrete to holistic and the ordinate (problem vector) ranges from existent to projectional. Diaz Moore and Geboy (2010) report that the hard science worldview regards the nature of the problem as discrete and the problem as existent, which positions hard, or traditional, science in the lower left quadrant of the matrix. Within the technical-rationality worldview, while the nature of the problem remains discrete, the problem is viewed as projectional, positioning technical-rationality in the upper left quadrant. The worldview of intuitionism also regards the problem as projectional, but the nature of the problem is holistic, positioning intuitionism in the upper right quadrant. The worldview of interpretivism views the nature of the problem as holistic but the problem itself as existent, positioning interpretivism in the lower right quadrant. Pragmatism is inclusive of both discrete and holistic positions, crafting a systemic view of problems. Similarly, Pragmatism accepts the problem as concomitantly existent and projectional, thereby being positioned centrally in the matrix.
The utility of Pragmatism as a bridging epistemology inclusive of both practical and disciplinary orientations stems not only from its inclusive attitude regarding the two vectors described above but also from the forms of knowledge generated. As Fishman (1999) suggests, understanding within the Pragmatic perspective takes the form of “patterns” that, like the phenomenon itself, may be related to elemental components of the system and to the system as a whole. While the nature of knowledge differs between intuitionism and pragmatism (a priori versus constructed based on experience, respectively), the form of knowledge in both these types of design-oriented knowledge are patterns. Pragmatic design research tends to be translational, converting research findings into practical forms such as patterns, design guidelines, design principles, or case studies. Incidentally, case studies are the most common form of conducting and reporting post-occupancy evaluations (POEs), a well-established and respected environment-behavior approach (i.e., Preiser & Vischer, 2004). Perhaps not coincidentally, all these translational forms of pragmatic research also happen to be customary knowledge forms of intuitionism. In other words, intuitive designers and pragmatic researchers share a Rosetta stone of patterns and case studies, mutually-understood modes of communication that facilitate the translation of research to practice.
Upon reflection, it seems quite appropriate that the first dissertation completed in the Ph.D. program was addressing the issue of the “two discourses” in architecture and comparing one community (research and practice integrated) and two community (research and practice as separate) approaches (Min, 1988). Much of the subsequent work completed in the Ph.D. program to date wrestles with this fundamental issue in one way or another, illustrating the rejection within the culture of the Ph.D. program at Milwaukee of the parallel, never meeting assumption identified by Gutman (1995).

**Contribution 2: The Consensual Realm - Program, Patterns, Places**

The second proposition that has been an advance for environment-behavior studies I would suggest is the acceptance of the consensual realm. Rather than get caught in the polemics of hard science and its desired objective, discrete, causal knowledge or the subjective, holistic, persuasive understanding of interpretivism, much research at UWM's Ph.D. in Architecture program addresses not only the subjective, or objective but also the consensual realm of understanding. This advancement is based upon Lawton’s (1986) extension of Lewin’s classic ecological equation from $B = f(P, E)$ to $B = f(P, E, PxE)$, wherein it is necessary to take into account

> “the interface between the two elements, exemplified in the internal representation of the external environment...this interface is similar to what the statistician calls an “interaction”; the combination of subjective experience and external environment may have an effect on behavior that is in addition to and independent of either the person or the “objective” environment. (Lawton, 1986: 17).”

Lawton recognized that this new PxE component could not be thought of as solely constituted of the individual’s idiosyncratic understanding of their environment, but rather are informed by internalized, social schemata used to understand and evaluate one’s context which are developed through the processes of socialization and enculturation. In 1997, Lawton and colleagues referred to such data as consensual in nature, inspiring the term “consensual realm” referred to herein.

Barker (1968) discusses settings as having a “program:” a set of shared expectations or rules regarding the activities which are to occur there and how a particular activity is likely to be evaluated by others. Within the Milwaukee School, Rapoport (1990a:
12), for instance, incorporated this concept in his definition of setting as “a milieu which defines a situation, reminds occupants of the appropriate rules and hence the ongoing behaviors appropriate to the situation defined by the setting, thereby making co-action possible.” Over time, a significant program of research with its genesis in the Milwaukee School came to view the milieu created by people (and their activities), program (the set of shared expectations or rules), and the physical setting as “Place” (Chapin, 2008; Chaudhury, 2001; Childress, 1996; Diaz Moore, 2000a; Geboy, 2005; Lackney, 1996). This research has illustrated the utility of the concept in place types ranging from environments for aging to environments for learning.

Beginning with Childress’ (1996) work, the recognition of the powerful role the “hidden program” plays in defining place and thereby shaping place experience has received increasing attention. Stemming from the work of practicing architects Silverstein and Jacobson (1985: 10), the hidden program refers to “the system of relationships, usually taken for granted, that give the building its basic socio-physical form and connect it to the rest of society.” They go on to suggest that the hidden program of a place is constituted of about a half dozen patterns. Diaz Moore (2000a) and Geboy (2005) developed an interpretive approach for linking the idea of program to patterns through the use of “place rules,” a concept central to the theory of place developed by David Canter (1991). Place rules are consensually-held, typically implicit understandings regarding the expectations for behavior in a place as discussed above. These place rules may be informed through triangulation of different data ranging from observation to interviews to physical traces. Place rules have proven to be a particularly felicitous construct as they are readily understood by all research participants, including children (see Wood & Beck, 1994).

The power of such consensual rules or schemata may also be found in in the important strand of inquiry conducted by Ahrentzen & Groat (1994) into the “hidden curriculum” of architectural education which they define in a manner sympathetic to the hidden program: “The hidden curriculum includes those tacit values, norms, and attitudes embedded in the social milieu of the course or studio which shape and determine the course content as well as the process or method of instruction and learning of that content.” These tacit constructs - norms, habits, rules - have often been overlooked, hence the repeated use of the word hidden as in “hidden curriculum” and “hidden program.” Yet, these various research efforts illustrate the powerfully coercive nature of such implicit constructs, and thereby the importance of excavating them to more fully understand experience.
Together, the Milwaukee School has developed a particularly robust approach to understanding the consensually-held aspects of place in a way that is integrative to many seminal lines of thinking within environment-behavior studies. As importantly, the manner in which this approach toward place has developed is felicitous for its ability to communicate in an effective manner with those in practice. As has been established, patterns are the Rosetta Stone linking pragmatic inquiry with the intuitionism often argued to be preeminent in practice and patterns are the heart of this conceptualization of place. The acceptance of the consensual realm has much greater potential resonance in practice which operates in a socially-negotiated world and attempts to develop propositions in built form in response to what Cuff (1991) refers to as “negotiated hypotheses.”

Contribution 3: A Social-Ecological Perspective

Embracing the consensual dynamic of place implies the importance of the social ecology in understanding place experience for such consensual, or socio-normative, understandings are manifested in the activities of the various social systems. Informed by the ecological thinking of Bronfenbrenner (1976), over time the Milwaukee School reflects an appreciation for the nested, and interconnected nature of the social systems in which human experience occurs. Much early environment-behavior work focused on the individual as the level of analysis. Reflective of this premise is the conceptual framework in *Holding on to Home* (Cohen & Weisman, 1991). In this framework, the resident is either acting upon or being impacted by “the environment” which is viewed as being constituted of social, organization and physical contexts. This was a natural response to exploring the question “In what manner should the environment impact the person with dementia of the Alzheimer's type?” This led to the development of 19 patterns to inform the design of the physical setting for facilities serving this population presented in that same publication. However, even though the conceptual framework identified three contexts of the environment (social, organizational, physical), the proposed patterns focus solely on the physical setting. This focus was intentional as this effort was aimed at facilitating better architectural design, yet as is found in practice (See Contribution 4 below), better design may make for a better physical environment, but not necessarily a better “place.” Particularly in long-term care settings it is abundantly clear that organizational practices are tremendously important in shaping the experiential quality such places possess.
This led to a more integrative revision of the model by Calkins and Weisman (1999) (See Figure 2). With this revision, the focus shifted to a more systemic focus on the "environment as experienced" composed of a complex system of relationships among four distinct dimensions: individuals, social context, organizational context, and physical setting. Within the Institute on Aging and Environment, investigation moved beyond the individual and began to focus on the organizational level of analysis. Diaz Moore (2000a) examined both properties (e.g. structure, philosophy) and attributes (e.g. organizational culture) of the organization component of each adult day service facility studied. Organizational culture was assessed through the use of the Organizational Culture Inventory (Cooke & Lafferty, 1989) which categorizes responses into twelve different cultural profiles ranging from Self-Actualizing to Oppositional. This proved very helpful in interpreting the underlying orientation guiding many of the manifested place rules in each facility.

Ahrentzen (2001) presents a model with similarities to the Calkins and Weisman (1999) model but with critical, ecological advancements. This model focused

![Integrative Model of Place](image)

**Figure 2: Integrative Model of Place** [Adapted from Figure 8.1 in Calkins, M. & Weisman, G.D. (1999). Models for environmental assessment. In B. Schwarz & R. Brent (Eds.), Aging, Autonomy and Architecture: Advances in Assisted Living. Baltimore, MD: Johns Hopkins University Press].
on “experiential qualities” involving the social context, the physical environment and the activity that is manifested (See Figure 3). This makes it explicit that it is the transaction between human activity occurring in a social context and a physical environment that gives rise to qualities of experience. Additionally, in the ecological spirit of Bronfenbrenner, she defines the social context as including four *interdependent* levels: the individual, the social, the organizational, and the institutional. Ahrentzen continues by classifying activity largely in terms of shared understandings such as rituals/routines, symbolic characteristics and social purpose consistent with the consensual realm discussed above. Thus the processes by which the various social systems are connected may be understood as manifest through human activity.

Geboy and Diaz Moore (2005) integrated this ecological approach into their theoretical extension of Lawton and Nahemow’s (1973) Ecological Model of Aging (EMA). The

![Figure 3: Model illustrating production of experiential qualities of the environment](image-url)

Figure 3: Model illustrating production of experiential qualities of the environment [Adapted from Figure 1 in Ahrentzen, S. (2001). Socio-behavioral qualities of the built environment. In Dunlap, R. & Michelson, W. (Eds.), *Handbook of Environmental Sociology*. Santa Barbara, CA: Greenwood Press].
EMA is a classic environment-behavior model relating individual competence and the demand quality or “press” of the environment. Geboy and Diaz Moore (2005), posited a theoretical extension to the organizational level of analysis, which they referred to as the Organizational Competence Press Model (OCPM). In developing this model, the authors conceptualized organizational competence as having five domains (structure, functions, knowledge, resource use, and interrelationships) and, building upon the work of Drejer (2000), define each domain as having five levels of competence (novice, advanced beginner, proficient, expert, and world class). In adopting the ecological perspective, the organizational environment is viewed as an exosystem (c.f. Bronfenbrenner, 1976), hence environmental press at the organizational level of analysis is conceptualized as stemming from both external (institutional contexts such as regulation and financing) and internal environments (people, program, physical setting). The model suggests the outcome of the interrelationship between organizational competence and environmental press is organizational performance. As applied to long-term care organizations, the model also hypothesizes three zones of performance:

- the zone of underperformance, wherein an organization’s provision of care fails to meet the needs of the purpose it is trying to serve;
- the zone of overperformance, wherein the organization may provide a level of care exceeding the need, thereby contributing to the loss of abilities due to atrophy; and
- the zone of adapted or optimal performance, where organizational levels of care are calibrated to the needs of the individual receiving care.

The OCPM builds upon the parsimony and accommodation found in the Ecological Model of Aging and portends a coherent means by which to conceptualize the relationship between the organization and the various other systems at play by the inspiration provided by Ahrentzen’s ecological approach. It is clear that by the beginning of the 21st century, the Milwaukee School had adopted Proshansky and colleagues (1995: 94) truism that “there is no physical environment that is not also a social environment, and vice-versa.”
Contribution 4: Taking Action to Further Understanding

The three previous contributions—adoption of pragmatism, a focus on the consensual realm, the integrated nature of different levels of aggregation—all have been stimulated by a unique facet of the Milwaukee School and that is its desire to link the discipline and the practice. This is particularly expressed in the Institute on Aging and Environment (IAE) and its significant consulting efforts of the past two decades. IAE was funded by the Helen Daniels Bader Charitable Trust in 1990 to promote research, scholarship and service concerning environments for older persons, particularly those suffering from cognitive impairments. Through its initial four years of existence, the Institute largely conducted itself in the research sphere of what Schneekloth (1987) calls “Information Transfer,” whereby researchers play the role of developing new knowledge which may then be applied by practitioners as in the “technical rationality” epistemology described previously. During this time, the Institute produced programming guides (Weisman, Cohen & Day, 1990), design guidelines (Cohen & Weisman, 1991) and case study illustrations (Cohen & Day, 1993).

Increasingly, the co-directors of the Institute were asked to consult on long-term care environments for people with dementia given this developed expertise. One particularly important consulting project was for the Helen Bader Center at the Milwaukee Jewish Home; a 24-bed special care unit for people with dementia. On this project, the Institute consulted directly with the architects of record to assist in both programming and design of the facility. The project opened in 1994 and was the site of several Institute research evaluations (Betrabet, 1996; Diaz Moore, 1999; Kovach, et al., 1997). These evaluations led to recognition that while the physical design held up well to the initial goals by which it was created, incongruencies in other components of place were evident.

It was clear that focusing solely on the physical environment, while impactful, had limitations on improving the quality of life experience for people with dementia. Rather than a focus on the physical setting, a more systemic, integrative approach toward “place” was pursued as discussed above. The Institute drew upon the wisdom of Kurt Lewin who said, “If you want truly to understand something, try to change it.” With this in mind, the Institute began the National Alzheimer’s Design Assistance Project (NADAP) in 1996 wherein the Institute conducted a national workshop educating care providers and architects across North America and then from those participating, selected eighteen organizations to receive technical consulting from
the Institute funded by the Helen Bader Foundation and the Retirement Research Foundation. Among these 18 were a facility that advanced the state of the art of a prototype facility (Woodside Place) in Edmonton, Alberta called McConnell Place and a replacement assisted living and skilled care facility for the Philadelphia Geriatric Center which came to be known as the Madlyn and Leonard Abramson Center for Jewish Life (See Figure 4). Both of these facilities have served as model facilities for the contemporary generation of dementia care design across the globe. Part of this stems from some of their innovation in architectural design, but additionally, each facility has been the site of numerous studies (e.g. Malott & Milke, 2002; Meeks, Teri, Van Haitsma & Looney, 2006; Milke, Beck & Danes, 2006; Ruckdeschel & Van Haitsma, 2004; Saperstein, Calkins, Van Haitsma & Curyto, 2004) furthering our understanding of the integrative nature of place. Other notable consultations in which the IAE participated include:

- the first Wellspring model in Seymour, Wisconsin which has been found to have lower rates of staff turnover, lower operating costs, and higher assessed quality of life (Stone, et al., 2002)
- the Longhouses for the Oneida, illustrating the importance of cultural responsiveness in place-making (Cohen & Day, 2000)
- the Hope Alzheimer’s Center (formerly the Louis Feinstein Center) in Cranston, RI serves as a national model for adult day service design
- and Creekview, in Oshkosh, Wisconsin which has been an inspiration to the Pioneer Network.

This work resulted in a felicitous model of place (See Figure 5) and a unified process model that guided the development of a program of research directed at developing patterns for the making of places for adult day services (Diaz Moore, Geboy & Weisman, 2006). At the heart of this inquiry were the parallel questions of “What is and What should be the nature of the ill-defined place type of adult day services?” Central to answering these questions were the consensual concepts of program, patterns and place. Program was explored through the concept of place rules, which proved felicitous not only because they were understandable, but because they addressed the different aspects on which action could be taken, such as staff, policies and the physical setting. This research stimulated action-taking ranging from re-staffing, to changing activity program, to physical remodeling to funding additional research - all evidence that this research was worth “paying attention to.” In one case, Geboy (2005) greatly furthered this research by engaging in a program of action research with
one particular organization. This involvement in the practice of place-making greatly increased the robustness and relevance of the inquiry conducted in the Institute on Aging and Environment and by extension the Milwaukee School.

Figure 4: Floor Plan of one cluster in the Madlyn and Leonard Abramson Center for Jewish Life, Horsham, PA.

Figure 5: Model of Place [Adapted from Figure 4.4 in Diaz Moore, K., Geboy, L.D. & Weisman, G.D. (2006). Designing a better day: Guidelines for adult and dementia day services centers. Baltimore, MD: Johns Hopkins University Press].
Conclusion

The Milwaukee School embodies an ambitious, highly impactful mission for doctoral education in architecture; one that accepts a strong value position that places are significant agents for social and cultural change. Over the course of 30 years, the Ph.D. program in Architecture at the University of Wisconsin-Milwaukee has largely overcome the “one community/two community” discussion by insisting on both rigor and relevance. While dissertations by their very nature are situated in the “two community” sphere, increasingly, dissertations are reports of engagement in action research, or, have been significantly informed by participation in reflective practice efforts. This has resulted in research that may inform practice in an instrumental manner, as in technical rationality, but I would suggest most research associated with the Milwaukee School has been informative at the conceptual level. Whether that be the importance of considering values and lifestyle in architectural design (Cohen & Diaz Moore, 1999; Rapoport, 1990a), how and why practitioners ought to consider the place of people in architectural design (Weisman, 2001), why issues of axiology and praxeology are important to architectural theory (Moore, 1997), or understanding the hidden values in housing (Ahrentzen, 1995), each is conceptually informative due to its very clear value base regarding the social responsibility of the profession.

The program has eschewed the strictures of the Environment-Behavior nomenclature with which it was born, and many of the assumptions associated with it, to concern itself with Place and Experience; that in the end what architecture is about is creating places that enhance the quality of life for people and the planet. The spirit of the Milwaukee School is not to solely inform practice but to empower change in practice. Rapoport (1990b: 81) captures this spirit when he writes of seeking in his own work “major changes in ways of defining the domain, of thinking and working, of approaching problems.” It is quite clear that some of the major work of the Milwaukee School has resulted in some of these major changes. Changes in design for the elderly were greatly informed by work emanating out of the Institute of Aging and Environment since the early 1990’s and continues two decades later. Architectural education was profoundly informed of its significant gender issues by the work of Ahrentzen and colleagues (Ahrentzen & Anthony, 1993; Ahrentzen & Groat, 1994). Rapoport’s own program of research on culture and the environment has had profound effects across disciplines (c.f. Diaz Moore, 2000b).
These outcomes portend several significant lessons for Ph.D. programs in Architecture, which over the past decade have proliferated. From having four doctoral programs in architecture in 1969 to 23 by the end of the 1990s (Moore, 1998) to 35 programs as of 2008, one can see that the interest in these programs is only growing and new programs should glean lessons from those that have come before. First is the importance of having a shared value base to underpin the culture of the doctoral community. The willingness to move beyond the hard science assumptions in which most of the faculty were trained to embrace the importance of relevance and perspective in inquiry was profoundly important to the development of the program. All too often, Ph.D. programs are quite comfortable in the ivory tower of academia and yet the spirit of the Milwaukee School was to always be engaged. The second lesson is to allow the challenges of the specific to inform the general and vice versa. The significant advancement evident through the 1990’s in terms of conceptualizing place and experience as the primary foci for inquiry was remarkable. This advancement was only due to constant, iterative cycles of using a framework, evaluating its utility, rediagnosing issues and advancing the framework. This leads to the third lesson which is to embrace practice. As this chapter has attempted to portray, without the testing and refinement of frameworks and understandings through practice, it is difficult to imagine that the work would have advanced as quickly and as robustly as it did in the Milwaukee School. The fourth and final lesson is to recognize the nascent status of doctoral education in architecture and that therefore, it remains a work in progress. If we assume there were 6 PhD graduates in the country in 1969 and that each year we have added two more than the previous year, this would estimate slightly less than 2000 dissertations in Architecture have been completed over 40 years. While perhaps impressive, that number also suggests that architectural doctoral research still remains quite small and embryonic as the National Science Foundation reports over 7000 engineering doctorates were earned in the year 2006 alone (National Opinion Research Council, 2006)!

The 21st century is bringing a great convergence of forces together: sustainability, human longevity, globalization with an increasing value for the creative, design mind to address these concerns in an integrative, critical way (e.g. Gardner, 2006; Pink, 2005). Taken together, PhD programs in architecture will be challenged to pursue meaningful inquiry into the implications of these various issues. Embracing the social responsibility of the profession to understand these complex phenomena and to respond in an ethical manner must be at the core of our pursuits to advance the discipline and the profession. I would suggest that the Milwaukee School has plowed fertile ground in creating a doctoral program focused in both rigor and relevance.
References


